

# Gender Gaps in Performance: Evidence from Young Lawyers

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This paper documents the gender gap in performance among high-skilled professionals in the United States. On the basis of widely used performance measures in law firms, we find that male lawyers bill 10 percent more hours and bring in more than twice as much new client revenue as female lawyers. The differential impact across genders in the presence of young children and differences in aspirations to become a law firm partner account for a large share of the difference in performance. We show that accounting for performance has important consequences for gender gaps in lawyers' earnings and subsequent promotion.

## I. Introduction

The reasons for gender gaps in career outcomes, particularly among high-skilled workers, remain unclear. We still do not know the extent to which gender gaps in career outcomes are attributable to differences

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in performance, as objective measures of performance have been unavailable to researchers. This question must be addressed because gender gaps in career outcomes could partly be the result of differences in performance. Firms reward higher individual performance either directly, through performance pay, or indirectly, through promotion and hiring decisions. In highly skilled professions in particular, higher pay and promotion are often associated with explicit performance evaluations (Lazear and Shaw 2007; Lemieux, MacLeod, and Parent 2009). Therefore, to understand gender gaps in the career outcomes of high-skilled professionals, it is crucial to examine gender differences in performance and what could be driving them.

In this paper, we document the existence of gender differences in performance in the legal profession and examine their determinants. Moreover, we analyze the link between gender gaps in career outcomes and gender performance gaps. As with many other high-skilled professions, the legal profession exhibits persistent gaps in career outcomes and earnings. However, unlike many other sectors, the legal profession traditionally evaluates performance using measures that are transparent and homogeneous across firms and areas of specialization: annual hours billed and the amount of new client revenue brought to the firm. These measures are widely used not only to compensate lawyers but also to evaluate them for promotion decisions (Heinz et al. 2005; Cotterman 2010). In our analysis, we exploit comprehensive, nationally representative information on young lawyers in the United States, including information on career outcomes and the measures used to evaluate their performance, to analyze the link between them as well as the determinants of gender differences in performance.

We start by presenting the substantial gender differences in annual performance measures and examining their determinants. We first explore the more traditional explanations of discrimination, child rearing, and human capital differences. We also consider alternative hypotheses that might reflect gender differences in both cognitive and noncognitive traits. In particular, we consider differences in areas of specialization, the inclination toward overbilling, networking behavior, and career aspirations. We find that the presence of preschool-aged children in the household has a crucial differential effect on the performance of male and female lawyers. However, differences across men and women in their aspirations to be promoted in the law firm are also a key determinant of the

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Placement and the American Bar Foundation for sponsoring the After the JD study. The views and conclusions stated herein are ours and do not necessarily reflect the views of individuals or organizations associated with the After the JD study. Financial support by the Spanish Ministry of Economy and Competitiveness (ECO2013-43011-P, ECO2011-30323-C03-02, ECO2010-15052, ECO2008-01116, and SEV2011-0075) and the government of Catalonia is gratefully acknowledged. Data are provided as supplementary material online.

performance gap. In particular, such aspirations affect the amount of new client revenue, the performance measure that is particularly relevant for long-term career outcomes. To address potential reverse causality between career aspirations and performance, we proxy for aspirations using pre-labor experience variables, which were determined prior to the conditions and feedback that lawyers might have encountered. Although these pre-labor experience variables could reflect gender differences in aspirations shaped by social norms, they should not capture any type of feedback from their specific employers. We provide further evidence of preexisting gender gaps in career aspirations by looking at young individuals who later study law.

In contrast, other explanations that we consider are less relevant in explaining gender performance gaps. For instance, female lawyers are less likely to report “overbilling” clients, and although overbilling has (positive) consequences in terms of performance, it has a negligible effect in explaining gender performance gaps. In a similar vein, the amount of time spent networking is significantly higher for male lawyers but does not explain a large share of the gender performance differences. With respect to discrimination, it is possible that the main determinants of performance differences—child rearing and career aspirations—are associated with subtle forms of discrimination, such as compliance with social norms. However, a key finding of the paper is that the gender performance gaps do not appear to be correlated with measures of explicit discrimination at the firm level.

We also analyze the extent to which gender performance differences explain the gender gap in earnings and promotion. We contribute to the analysis of gender gaps in career outcomes by using the main measures of performance in the legal profession, which are transparent and comprehensive measures of on-the-job performance. This is a considerable step forward relative to previous literature that relies on indirect proxies for performance, such as differences in hours of work and absenteeism, to understand gender gaps in labor market outcomes (Altonji and Blank 1999; Ichino and Moretti 2010). As in other professions and industries, the legal profession has a persistent gender earnings gap. Figure 1 illustrates the gender difference in lawyers’ salaries in the United States.<sup>1</sup> Moreover, it shows that there is no evidence that this difference has decreased over the last decade as the male-dominated cohorts have retired.<sup>2</sup> Similarly, in the legal profession, although women constitute 43 percent of associates at large law firms, only approximately 20 percent

<sup>1</sup> The patterns hold with and without controlling for important individual (age, marital status, number of children, ethnicity) and work (full-time status, type of organization, firm size) characteristics.

<sup>2</sup> It was not until the 1980s that the expansion of the legal profession attracted a large number of women (Rosen 1992).

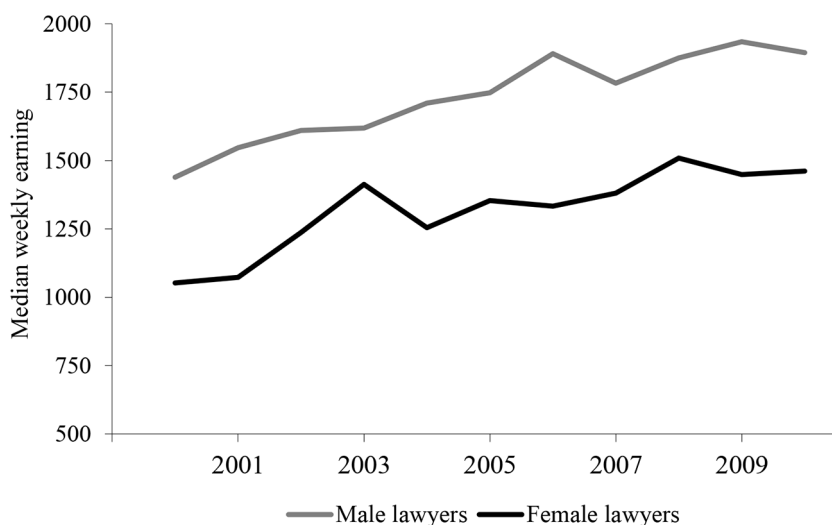


FIG. 1.—Evolution of lawyers' gender gap in earnings, 2000–2010. Median weekly earnings for lawyers in the period 2000–2010. Source: Current Population Survey.

are law firm partners. This divergence also appears to persist over time as the male-dominated cohorts have retired, according to the Ninth Annual Survey of the National Association for Women in Law (2015). Therefore, our paper also contributes to the literature that studies the underrepresentation of women in senior high-skilled positions, frequently referred to as the glass ceiling (e.g., Bertrand and Hallock 2001; Bertrand et al. 2014).

Previous research has shown that a sizable gender gap among lawyers' earnings remains even when controlling for the range of individual characteristics (Wood, Corcoran, and Courant 1993; Dinovitzer, Reichman, and Sterling 2009).<sup>3</sup> Gender gaps in earnings have also been largely unexplained in other industries (see Altonji and Blank [1999] for a review of the literature). In our data, the raw earnings gap between male and female lawyers is 18 log points. Individual and firm characteristics explain 50 percent of this initial gap. We find that the two measures of performance used in the legal profession explain a substantial share—approximately half of the remaining gender gap. Our analysis therefore shows that previously unexplainable gender earnings gaps are partly explained by performance differences.

<sup>3</sup> Wood et al. (1993), using Michigan Law School graduates (1972–75), and Dinovitzer et al. (2009), using a nationally representative sample of lawyers who graduated from law school in 2000, show that a substantial gender earnings gap remains unexplained after controlling for individual and firm characteristics.

In addition to examining the effect of performance on the gender gap in lawyers' earnings, we can also analyze the link between performance and gender gaps in career advancement. Our measure of career advancement is whether lawyers have achieved partnership status 12 years out from law school. In our raw data, there is a sizable gender gap in partnership status of approximately 10 percent. We show that performance measured earlier in the lawyers' career is positively and significantly associated with the likelihood of becoming partner, explaining approximately 40 percent of the gap. Moreover, once performance is accounted for, the gender gap in partnership status is no longer statistically significant. These findings are key, as they suggest that performance is important not only for explaining gender differences in current earnings but also for future earnings, through promotion to partner status.

The legal profession is among the highest-paid professions in the United States, along with physicians and chief executive officers, and law firm earnings account for a significant share of US GDP.<sup>4</sup> In 2007, there were approximately 1 million professional lawyers in the United States, of whom roughly one-third were female.<sup>5</sup> Moreover, the highly skilled nature of these professions suggests that women and men have similar skills, training, and motivation. Here, we focus on a generation of lawyers that has experienced virtual gender equality in law school admissions and no prominent gender differences in law school performance.<sup>6</sup> There has been increased interest in why large earning gaps exist among the more able and career-driven women in high-skilled professions (Manning and Swaffield 2008; Bertrand, Goldin, and Katz 2010).<sup>7</sup> Our paper demonstrates that performance gen-

<sup>4</sup> Physician and CEO earnings are taken from national cross-industry wage estimates from the US Bureau of Labor Statistics. Over the last decade, legal expenses have accounted for nearly \$300 billion annually, which accounts for more than 1 percent of US GDP. Compared with other large economic sectors, we observe that this amount was \$30 billion more, on average, than that for educational services and nearly two times more than that for air transportation services (Bureau of Economic Analysis, US Department of Commerce).

<sup>5</sup> Lawyers account for roughly 0.8 percent of the US labor force, which is comparable to other high-skilled professions, such as physicians and surgeons (0.7 percent) and CEOs (1.3 percent). Females in these professions also account for roughly one-third of the total (Current Population Survey, Women in the Labor Force Databook, 2007). In addition, law school graduates represent approximately one-third of the individuals who in the last decade earned a professional degree (i.e., business administration and management master's, law degrees, and medical degrees), and approximately 45 percent of these graduates with a professional degree are women (Digest of Education Statistics, 2007, 2012).

<sup>6</sup> In that period, female lawyers accounted for approximately 50 percent of law school graduates (Digest of Education Statistics) and 45 percent of law firm associates (National Association for Law Placement 2008).

<sup>7</sup> Manning and Swaffield (2008) and Bertrand et al. (2010) find that there is no gender-based earnings gap at the outset of young professionals' careers but that their earnings diverge 10 years after graduation. Bertrand et al. focus on master of business administration graduates from the University of Chicago and attribute growing earnings gap differences to career disruptions, training choices prior to MBA graduation, and weekly hours worked. Manning and Swaffield focus on graduates in the United Kingdom and find that differences

der gaps have important consequences for earnings. As in Manning and Swafeld (2008) and Bertrand et al. (2010), we also find that gender gaps in labor supply explain part of the gaps in earnings. However, labor supply—more specifically, hours of work—alone is not a sufficient proxy for performance. We show that performance differences are more powerful explanatory variables for earnings and explain a more substantial part of the earnings gap.

Our analysis sheds light on the gender differences in earnings and career progression observed among high-skilled professionals in general.<sup>8</sup> In other high-skilled professions, the patterns of earnings and promotion gaps are similar to those in the legal profession. For instance, the literature has noted persistent gender gaps in earnings and career outcomes among CEOs, physicians, and university professors (see, e.g., Bertrand and Hallock 2001). Even in professions such as medicine, accounting, and pharmacy, which are viewed as relatively more female-oriented, there are gender differences in salaries and a significant underrepresentation of women in top career positions (Flynn, Leeth, and Levy 1996; Jagsi et al. 2006; Goldin and Katz 2012). Given the similarity in labor force dynamics in these other sectors, our paper suggests that performance gaps may also be present in these other high-skill professions and could explain the existence of persistent earnings and career gender gaps. Performance measures in many professions, such as in the financial sector, are heterogeneous across firms within the sector, making it difficult to compare gender performance differences. An important advantage of the legal profession is that the comparability of the performance measures allows us to study gender performance gaps across firms and areas of specialization. We find that these performance gaps, which we link to earnings gaps, have similar patterns in different legal areas and law firm types. Moreover, because we use a nationally representative sample of professional graduates, we can draw from a wider population of highly skilled professionals. Relative to settings that look at one specific firm or educational institution, this representation of high-skill individuals with diverse educational backgrounds allows for greater external validity.

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in human capital and psychological factors explain a share of the wage growth gap, but most of the gap remains unexplained.

<sup>8</sup> For the purposes of extrapolation, we examined performance on professional school admission tests. In general, men tend to outperform women on standardized tests (American Association of University Women Educational Foundation, 1998); however, compared with other professions, the distributions of scores on law school standardized admission tests (the LSAT) are fairly similar for males and females. Male LSAT test takers have slightly higher performance, by approximately 2 percent, compared with female test takers (Dalessandro et al. 2010). On the standardized Medical College and Graduate Management Admission Tests (MCAT and GMAT), which apply to health and management studies, respectively, gender gaps also exist and are larger than those for the LSAT, at approximately 8 percent.

The results of our paper not only are applicable to the legal and other high-skilled professions but also provide a possible explanation for the overall male-female wage gap for a broader set of professions and skills. The gender wage gap literature makes inferences about the unexplained gender gaps. We show that without accounting for performance differences, the residual earnings gap might be misinterpreted. Thus, being able to document gender performance gaps constitutes an important part of our paper's added value. In addition, the expansive set of variables included in the data allows us to perform a comprehensive analysis to understand the determinants of performance. In particular, our findings regarding career aspirations and the impact of child rearing highlight the influence of gender roles, even among the most career-oriented individuals.

The rest of the paper is organized as follows. Section II provides background information about the legal profession and the two widely used performance measures. Section III describes the data and the main descriptive statistics. Section IV presents the results on gender performance gaps along with the analysis of their possible determinants. Section V shows the link between gender performance gaps and the gender earnings gap. Finally, Section VI presents conclusions.

## II. Performance Measures in the Legal Profession

The legal profession provides an ideal framework for studying gender differences in performance. Unlike other high-skilled professions, it uses widely accepted, objective methods to measure and reward lawyers' productivity, namely, the hours billed to clients and new client revenue raised. The use of performance pay has increased since the 1970s throughout different economic sectors and has become pervasive in professional activities and high-skilled occupations.<sup>9</sup> In contrast to the legal sector, the methods to measure performance in other professions and industries are heterogeneous across firms, making it difficult to make comparisons within an industry. However, as is common in other high-skilled professions, lawyers' performance, and thus decisions about their earnings and promotions, is based on these annual performance measures rather than on performance per hour worked. This is typically justified by job indivisibilities, lower substitutability among workers, and increasing returns to cu-

<sup>9</sup> Recent research has explored the importance of performance pay in inequality across economic sectors. Lemieux et al. (2009) study the evolution of performance pay and wage inequality in the US labor market from the 1970s to the 1990s. Heywood and Parent (2012) use the same period but focus on the white-black wage gap. They find that the white-black earnings differential is larger in the share of the income distribution in which performance pay is more prevalent. Finally, comparing Spanish industries, De la Rica, Dolado, and Vegas (2015) find that the gender gap is considerably larger for workers whose salaries include a variable component than for those who have just a fixed salary.

mulative experience. In the remainder of this section, we provide further information on the two annual performance measures commonly used in the legal profession.

#### A. *Hours Billed*

Standard practice among law firms in the United States is to determine the value of legal services by computing hourly fees multiplied by the number of hours devoted to a case. Commonly known as billable hours, this method was first introduced in the 1950s and has become a widely used management tool within law firms over the last several decades.<sup>10</sup>

As billable hours directly determine firms' revenues, they are also their preferred way to measure lawyers' productivity.<sup>11</sup> Most law firms use billable hours to determine bonus compensation and have annual billable hours requirements for their associate lawyers (Fortney 2005; Cotterman 2010). To compute the number of hours a client should pay for, lawyers keep detailed records of the time they devote to each case (e.g., using time-tracking software). It is important to note that the number of hours that a lawyer bills does not generally coincide with the number of hours he or she worked. In general, the number of hours lawyers work is larger than the number of hours billed because there are broad tasks, such as meetings, review of general correspondence or legal updates, networking activities, and training time, that cannot be assigned to specific clients or cases.

While the firm is concerned with the number of hours its attorneys bill, as this is a direct determinant of the firm's revenue, the firm is also concerned with the quality of the work done in a billed hour. Better quality brings future revenue, and the firm maximizes a discounted flow of profits and not just current revenue. Partners in law firms monitor the quality of hours billed by junior lawyers and will "write down" (or discount) hours that they feel are inadequate. Typically motivated by reputational or even legal concerns, discounting hours is relatively common. For example, 13 percent of lawyers in our sample report that they had hours discounted by a partner in the previous year. Moreover, lawyers also have their own clients and reputations to uphold and are likely to internalize, at least partially, the long-term costs of billing poor-quality hours.

<sup>10</sup> The practice of time recording became routine in the 1950s. By the end of the 1960s, "most mid-sized and large law firms had shifted to hourly billing" (American Bar Association 2002, 3). Exceptions include personal injury litigation, in which contingent fees are more prevalent, and the use of flat fees for some specific services. In legal areas that use contingency or flat fees, firms frequently record billable hours as a method to record lawyers' performance, although, strictly speaking, they are not actually billed to the client.

<sup>11</sup> A more accurate term is perhaps "perceived productivity" or "perceived performance." Throughout the paper, we refer to them as "performance," as these are widely established performance measures in the profession, and law firms use them to evaluate lawyers' annual productivity.



In this paper, we use the annual number of hours billed by lawyers as the first measure of lawyers' performance. As is common in other high-skilled professions (academia, management, etc.), employers are more concerned with overall performance than with the number of hours worked. Ultimately, the annual number of hours billed is most relevant for law firms, as it will determine annual revenues. In 2006, the median hourly billing rate for associate lawyers was \$200 per hour, and the median number of hours billed was 1,704 (Altman Weil 2007). In turn, the median associate lawyer generated revenues in excess of \$300,000. There is substantial variability across firms in the billing rates and lawyers' billable hours requirements. Typically, these are increasing in the size of the law firm and also vary depending on the area of the law considered.<sup>12</sup>

The use of billable hours has proven persistent over time. Advocates of billable hours argue that this method serves to calculate the value of the service, minimize transaction costs between clients and law firms, and eliminate uncertainty and arbitrariness regarding lawyers' bonuses (American Bar Association 2002).<sup>13</sup> While the hours billed are accountable, such that they reflect quality and not only quantity, some critics argue that this method may not reflect all aspects of the services provided to the client and it discourages the use of technology that might increase productivity. Others remark that measuring performance based on hours billed may induce associate lawyers to overbill clients. Law firms' short-term revenues could benefit from overbilling practices; however, partners also have incentives to control billing abuses due to competition between law firms, the fear of losing clients, reputational and ethical concerns, and potential punishment.<sup>14</sup>

### *B. New Client Revenue*

A second measure of lawyers' performance commonly used in the legal profession is whether lawyers personally bring new clients to their firms in a given year, measured by how much revenue these new clients generated. There are two main differences between new client revenue and hours billed. First, new client revenue exclusively refers to revenues gen-

<sup>12</sup> The areas of law with larger billing rates are antitrust, municipal finance, securities, mergers and acquisitions, and intellectual property. The average number of hours billed also varies across areas: Lawyers working on trusts and real estate, e.g., billed 1,507 hours on average in 2006 (Altman Weil 2007).

<sup>13</sup> For a summary of the debate, see American Bar Association (2002). The report argues that "the hourly billing method has endured virulent criticism over the past two decades, [although the criticisms] have not displaced hourly billing or even reduced its dominance as the most common form of law firm billing" (7).

<sup>14</sup> The Rules of Professional Conduct for lawyers forbid unreasonable fees. Violation of the rules constitutes professional misconduct and could potentially constitute fraud. Such disputes between lawyers and clients can be taken to court or the Legal Fee Arbitration Committee at the corresponding state bar association.

erated from new business, excluding revenues from hours billed to previously established clients of the firm. Second, if a lawyer brings a new client to the firm, she will receive credit for the revenue that the client generated, including revenue from hours billed by other lawyers in the firm.

Together with hours billed, the origination of client revenue—also known as “rainmaking”—is the most used objective criterion to measure lawyers’ performance (Heinz et al. 2005). Cotterman (2010) finds that more than half of law firms—more frequently in large ones—use formal origination credit scoring systems to reward lawyers’ ability to attract new clients. It is common for law firms’ client bases to constitute only between 40 and 60 percent of stable clients (Heinz et al. 2005); thus, firms rely heavily on partners and associate lawyers to generate new business for the firm.

New client revenues make it possible to further capture information on the quality dimension of lawyers’ performance: Lawyers who provide higher-quality work will establish a good reputation with clients, who will then be more likely to recommend their services. Although sources of new client revenue are diverse, considerably important sources are referrals from previous clients and other lawyers (Spurr 1988; Garicano and Santos 2004). Therefore, this performance measure captures a lawyer’s ability to create personal connections, reputation, and visibility. These skills are crucial in promotion decisions because they provide information on lawyers’ potential performance as law firm partners. The likelihood of becoming a law firm partner will depend on the individual’s historical productivity level (billable hours history); the individual’s ability to sustain high productivity at a partner’s billing rate; and the individual’s ability to support himself or herself as a partner, which is related to the ability to develop and originate new clients for the firm (Rose 2011).

### III. Data Description

Our analysis uses data from *After the JD*, a nationally representative, longitudinal survey of lawyers in the United States. The *AJD* study is a project of the American Bar Foundation and other legal associations. Lawyers in the sample are representative of all lawyers first admitted to the bar in 2000. Participants are primarily employed in private practice (54 percent)—the focus of the survey questions—as well as government jobs and nonprofit organizations (25 percent), private industries other than law firms (18 percent), and academic institutions (3 percent).<sup>15</sup>

<sup>15</sup> The category government jobs and nonprofit organizations includes positions such as prosecutor, judge, and public defender. The private industry category includes all lawyers working for consulting firms, in Fortune 1,000 industries, and in investment banking. The academic category includes academic administrators as well as tenured and nontenured professors.

The survey was first conducted in 2002, and the same lawyers were interviewed again in 2007.<sup>16</sup> Survey participants respond to detailed questions on job characteristics, employment history, educational background, and family status. Dinovitzer et al. (2009) use the first wave of the AJD study data (2002), when the lawyers were 2 years out of law school, and conduct a descriptive analysis of gender gaps in earnings.<sup>17</sup> In 2007, the survey also included questions on hours billed and other relevant variables such as aspirations to be promoted, which is why this period will be the focus of our analysis.

We focus on lawyers who bill hours—the large majority of whom work for private law firms.<sup>18</sup> Table 1 reports descriptive statistics for this core sample in 2007. The first measure of performance, hours billed, corresponds to lawyers' total number of hours billed during the year before the survey, 2006. As shown in table 1, male lawyers bill, on average, 1,826 hours per year, while female lawyers bill 1,677 hours, on average. Respondents are also asked about their annual target hours in their firm and position, which is their billable hour requirement. This requirement typically reflects the type and size of the firm. From table 1, we observe that the gender difference in target billable hours is considerably smaller than that in the actual number of hours billed. Male lawyers, on average, have a target of 1,827 hours, while female lawyers have a target of 1,759 hours, on average.

For the second measure of performance, new client revenue, we use responses about the revenue attributed to new clients “personally brought” by the lawyers to their law firm in the year before the survey, 2006. The gender difference in annual new client revenue originated is nearly \$30,000. Both performance measures enter into the firms' objective function and jointly determine the firms' current and future profits, but originating new clients and legal work do not necessarily require the same set of skills. In our data, we examine the correlation in performance using these two measures and find that it is small and is, if anything, a positive relationship, although not statistically significant.

Because the AJD data are self-reported by lawyers, it is possible that respondents misreport on how they perform. Although the survey was conducted anonymously and there were no incentives to misreport, we

<sup>16</sup> The response rate in 2002 was approximately 70 percent. Among those responding in 2002, more than 85 percent also responded in 2007. In Sec. VI, we use the currently available data from a third wave in 2012, which has a response rate of approximately 80 percent.

<sup>17</sup> Dinovitzer et al. (2009) find a gender earnings gap, after controlling for individual and firm characteristics. Then, they perform an Oaxaca decomposition using individual demographic and workplace characteristics and conclude that only part of the wage gap would be narrowed if women resembled men across observable endowments, while a substantial part of the gender gap remains unexplained.

<sup>18</sup> Among those who bill hours, more than 93 percent work for law firms, and the remaining lawyers work in solo practices.

TABLE 1  
DESCRIPTIVE STATISTICS

	MALE LAWYERS			FEMALE LAWYERS		
	Observations	Mean	Standard Deviation	Observations	Mean	Standard Deviation
Total earnings (\$)	684	150,667	74,531	441	132,685	70,282
Hours billed (annual)	684	1,826	535	441	1,677	520
New client revenue (\$)	684	53,346	171,965	441	23,349	68,892
Target hours to bill	458	1,827	144	304	1,759	201
Hours worked (per week)	684	54.09	12.80	441	48.83	13.84
Age	684	36.12	4.98	441	35.29	4.92
Marriage	684	.81	.39	441	.75	.43
Children	684	1.22	1.24	441	.82	.91
White	684	.83	.38	441	.75	.43
Tenure (years)	684	5.18	2.49	441	5.26	2.44
Private law firm	684	.92	.27	441	.93	.26
Size of workplace > 100	684	.48	.50	441	.51	.50
Law school ranking	597	4.95	1.08	392	5.05	1.10
Undergraduate university ranking	662	12.89	3.50	435	13.04	3.62
Judicial clerk	684	.02	.15	441	.03	.17
Moot court	684	.32	.47	441	.35	.48
General journal	684	.22	.42	441	.20	.39
Specific journal	684	.20	.40	441	.25	.44

NOTE.—Total earnings are calculated as a sum of straight salary and bonus (expressed in US dollars). Hours billed (annual) is the number of hours billed last year (2006). New client revenue is the approximate amount of new client revenue (expressed in US dollars) generated last year (2006). Target hours to bill is the total number of hours the lawyer was expected to bill in the previous year (2006) by the law firm for which the lawyer worked, conditional on having a strictly positive number of target hours. Marriage takes the value one if the lawyer is married, remarried after divorce, or in a domestic partnership and zero if single, divorced or separated, widowed, or other. Children refers to the lawyer's number of children. White takes the value one if the lawyer is Caucasian and zero if the lawyer is a member of a minority group (black, Hispanic, Native American, and Asian). Tenure is the number of years that the lawyer has been working for the current employer. Private law firm takes the value one if the lawyer works in a private law firm and zero if the lawyer works for another organization. Size of workplace > 100 takes the value one if the number of individuals employed in the organization is greater than 100 and zero otherwise. Hours worked (per week) is the number of hours spent working last week (at the office or away from the office). Undergraduate university ranking and law school ranking are bracketed rankings based on the *U.S. News and World Report* of 1996 and 2003 for undergraduate and law school studies, respectively. Both variables are redefined such that the higher the value, the more prestigious the educational institution. Judicial clerk takes the value one if the lawyer has held a position as a judicial clerk in state or federal courts and zero otherwise. Moot court takes the value one if the lawyer participated in simulated mock trials as a student and zero otherwise. General (specific) journal takes the value one if the lawyer participated in law journal editorial activities as a student and zero otherwise.

complement our data with external, firm-reported data sources on key variables from a number of alternative sources.<sup>19</sup> The sources conform to our study and exhibit patterns overall and by gender similar to those found in our data. We discuss the sources and main findings in the online appendix.

With respect to total earnings, which refer to lawyers' reported annual salaries including bonus components, we see that male lawyers earn, on average, \$150,000 and female lawyers \$132,000. As is commonly known in the legal profession, total earnings and performance expectations are highly positively correlated with the size of the law firm. However, the fraction of female lawyers working in large organizations is not significantly different from the fraction of males. There are also no significant gender differences in the average number of years in the current job. Female lawyers are, however, slightly younger and less likely to be married and have considerably fewer children. They are also more likely to belong to a minority group. The descriptive statistics are very similar when compared to the lawyers in the sample who do not bill hours.<sup>20</sup>

The data set contains detailed educational variables. We use the bracketed ranking of the institutions that respondents attended as undergraduates and law students, as well as their reported grade point averages in both institutions.<sup>21</sup> We also use information on whether, as law students, they participated in simulated mock trials (moot court) and law journal editorial activities (general journal and specific journal), as these activities help build skills relevant to practicing law and obtaining jobs. In addition, we also have information on whether respondents held positions as judicial clerks in state or federal courts. Because judicial clerkships are prestigious internships through which outstanding students assist judges—usually for the 2 years immediately following graduation—having held a position as a clerk captures additional skill information. All of these education-related variables serve as proxies for ability.

Finally, we also have information on the region in which lawyers live. After accounting for regional mobility, there are 30 regions in the sample.<sup>22</sup> Most of the regions are at the state level, but for those living in major urban areas, information is disaggregated at the city level.

<sup>19</sup> We use firm-reported data on target hours, hours billed, new client revenue, and earnings using the National Association for Law Placement, Survey of Law Firm Economics, National Association of Women Lawyers, and the Major, Lindsey & Africa's Partner Compensation Survey; additional details are provided in the online appendix.

<sup>20</sup> The raw earning gap is higher (\$25,000) for the overall sample, which seems driven by a larger gender gap among those working in professional service firms other than law firms (e.g., investment banking, consulting).

<sup>21</sup> The rankings are based on 1996 and 2003 *U.S. News and World Report* articles on undergraduate and law school studies, respectively.

<sup>22</sup> To account for regional mobility between 2002 and 2007, we update the information on lawyers' residence available for 2002 with information on whether lawyers were last admitted to practice law by a state bar's authority in a different location.

#### IV. Gender Gaps in Performance

This section presents the main results of the paper. First, we document a sizable gender gap in performance. We demonstrate that controlling for detailed individual and firm characteristics does not close the gap in performance. Then, we investigate a number of hypotheses for why female lawyers may not be billing as many hours or raising as much new client revenue as male lawyers. In online table A.3, we summarize our hypotheses and highlight their relative importance. In this section, we primarily focus on three hypotheses—employer discrimination, the presence of children, and career concerns—and briefly discuss some others.

From column 1 of table 2, we see that, on average, male lawyers bill 153 more hours per year than female lawyers, which is equivalent to approximately 10 percent more hours billed. In column 2, we control for individual and firm characteristics, including marital status, age, the number of children, the presence of children of preschool age (i.e., under 4 years of age), ethnicity, years of tenure, working full-time, the size of the firm, and the type of organization.<sup>23</sup> Some of these factors, such as experience in the current firm and working full-time, have a significant effect on hours billed; however, these factors explain only a small share of the performance gap. In addition, column 3 indicates that including detailed educational variables as proxies for ability has a negligible effect on the gender gap. Having participated in editorial activities for law journals, for example, has a positive effect on hours billed; however, including them as a control, once the other individual and firm characteristics are included, does not affect the gender gap. Overall, a gender gap of nearly 100 annual hours billed remains unexplained.

Regarding the second measure of performance, new client revenue, we see from columns 4, 5, and 6 that male lawyers bring in more than twice as much new client revenue as female lawyers (\$30,000). After controlling for firm and individual characteristics, together with proxies for ability, the gender gap in revenue remains approximately the same. Having held a judicial clerkship has a considerable effect on raising new client revenue; however, it does not help explain the gap.<sup>24</sup>

In figure 2, we plot the percentiles for the performance measures. The figure presents the gender coefficient from quantile regressions at different points in the distribution. For hours billed, we find that the gender gap in performance is relatively stable throughout the distribution. For client revenue, however, there is some evidence that the gender gap is largest at the top of the distribution—especially above the 60th percentile.

<sup>23</sup> If we include only the presence of children, without separating by the number of children, the results are qualitatively similar.

<sup>24</sup> In Sec. IV.B, we discuss the performance results when interacting gender with the presence of children. Interacting gender with other demographic characteristics, such as marriage, does not change the baseline findings.

TABLE 2  
PERFORMANCE GAPS

	HOURS BILLED			NEW CLIENT REVENUE		
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-.153*** [.0329]	-.103*** [.0315]	-.0971*** [.0319]	-.299*** [.0916]	-.293*** [.102]	-.324*** [.104]
Age		-.0132*** [.0032]	-.0116*** [.0033]		-.0091 [.0102]	-.0118 [.0109]
Married		.0595 [.0396]	.0645 [.0401]		.242* [.127]	.243* [.131]
1 child		-.0174 [.0510]	.0001 [.0520]		.0531 [.164]	.0927 [.170]
2 children		.0016 [.0501]	-.0169 [.0512]		-.0357 [.161]	-.074 [.168]
3+ children		-.0953 [.0625]	-.0785 [.0635]		-.107 [.201]	-.119 [.208]
Child aged < 4		-.0159 [.0454]	-.0164 [.0462]		-.147 [.146]	-.188 [.151]
White		-.0127 [.0377]	-.0277 [.0389]		.0319 [.122]	.0153 [.127]
Tenure		.0141** [.0059]	.0126** [.006]		.0388** [.0190]	.0413** [.0197]
Full-time		.500*** [.0623]	.498*** [.0629]		.165 [.200]	.126 [.206]
Undergraduate university ranking			-.00124 [.0042]			-.0113 [.0138]
Law school ranking			.0097 [.0156]			.0461 [.0511]
Judicial clerk			.114 [.0889]			.732** [.291]
Moot court			.0098 [.0301]			.0737 [.0986]
General journal			.0833** [.0353]			-.002 [.116]
Specific journal			.0761** [.0352]			-.0026 [.115]
Constant	1.842*** [.0205]	.683 [.478]	.584 [.487]	.527*** [.0571]	.168 [1.540]	.311 [1.593]
Firm controls	No	Yes	Yes	No	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,039	1,014	974	1,039	1,014	974
R <sup>2</sup>	.021	.301	.311	.01	.066	.08

NOTE.—Hours billed is the annual number of hours billed (expressed in 1,000s of hours) last year (2006), and new client revenue is the approximate amount of new client revenue (expressed in 100,000s of US dollars) generated last year (2006). Firm controls include the type of organization (solo practice, private law firm, other Fortune 1,000 industry/service, other business/industry, labor union, trade association, other) and the size of the organization, which are bracketed (0–5, 6–10, 11–25, 25–50, 51–100, 101–150, 151–200, 201–250, 251–500, 501–1,000, and 1,000+). For definitions of other variables, see table 1.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

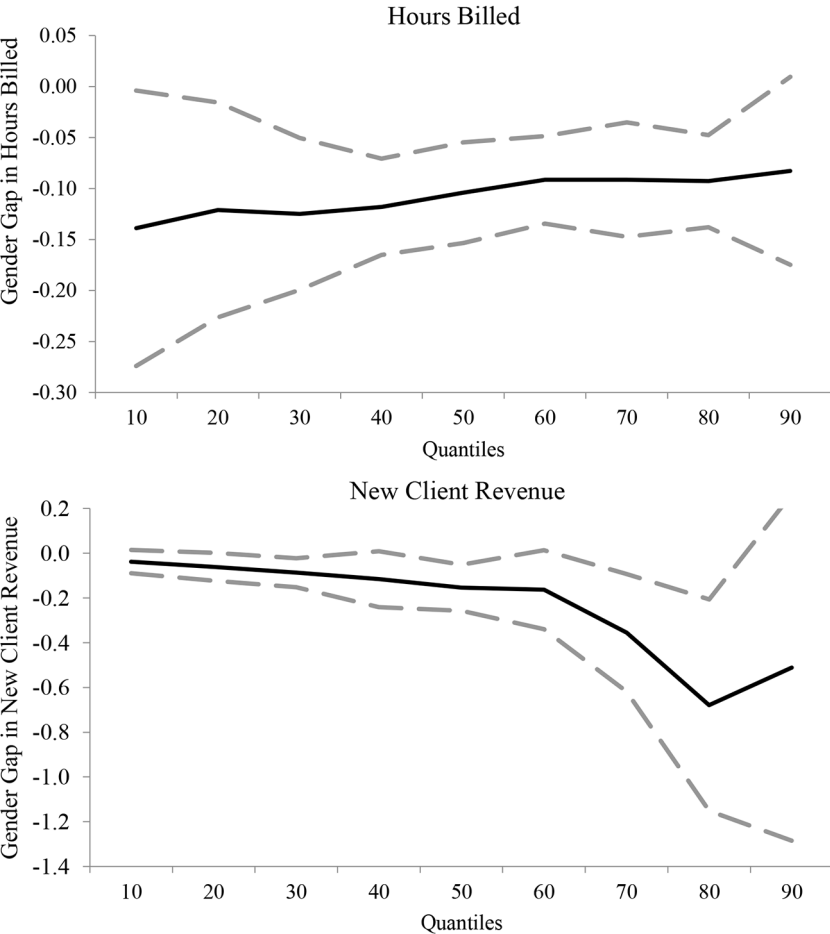


FIG. 2.—Percentiles of the gender gaps in performance. This figure provides the gender coefficient of the quantile regressions ranging from 0.10 to 0.90 for hours billed (expressed in 1,000s of hours) and new client revenue (expressed in 100,000s of US dollars) greater than zero, after controlling for individual, education, and firm characteristics, as well as region fixed effects. Confidence intervals (dashed line in gray) are at the 5 percent confidence level.

However, with the exception of the 10th and 90th percentiles, the gender gap in raising new client revenue is always significant.

A possible explanation for gender differences in performance is unobserved firm effects that relate to the required number of target hours to bill; for example, it could be that male and female lawyers select (or are selected) into firms that have different billing requirements. We explore this using the hours that firms expect their lawyers to bill (i.e., the “target hours” to bill), which could be related to gender differences in hiring



TABLE 3  
TARGET HOURS

	Target Hours (1)	Target Hours Including Zero Target Hours (2)	Prob(Zero Target Hours) (3)
Female	-.0277 [.0245]	-.0481 [.0472]	.0188 [.0258]
Age	-.0057* [.0031]	-.0135*** [.0051]	.0057** [.0028]
Married	-.0041 [.0313]	.0231 [.0596]	-.0062 [.0325]
1 child	.0594 [.0409]	.19** [.0778]	-.0899** [.0425]
2 children	.0111 [.0403]	.123 [.0763]	-.0701* [.0416]
3+ children	.0014 [.0487]	.1902** [.0931]	-.127** [.0508]
Child aged < 4	.0005 [.0357]	-.139** [.0692]	.0810** [.0378]
White	-.0062 [.0309]	-.0022 [.0595]	-.0007 [.0324]
Tenure	.0032 [.0047]	-.0094 [.0091]	.0069 [.0050]
Full-time	.400*** [.0495]	.307*** [.0940]	.0157 [.0513]
Constant	1.021*** [.355]	1.799** [.717]	-.455 [.391]
Firm controls	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes
Education controls	Yes	Yes	Yes
Observations	652	770	770
R <sup>2</sup>	.308	.343	.244

NOTE.—Target hours are the annual hours (expressed in 1,000s of hours) the lawyer was expected to bill last year (2006). Zero target hours refers to when the lawyer reports zero for the number of hours expected to bill last year. For definitions of other variables, see table 1.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

outcomes or in job assignments. Column 1 of table 3 shows that there is no gender gap in the target hours to bill.<sup>25</sup> Some lawyers in the sample (15 percent) who report billed hours do not have billable hours requirements (i.e., they report target hours of zero).<sup>26</sup> Including those who report zero target hours (col. 2), we find that the gender gap is not significant but the coefficient is larger. Importantly, however, from column 3,

<sup>25</sup> Not all respondents report their target hours (only 770 out of 974). However, the gender gaps in performance are similar when we restrict the sample to respondents who report target hours.

<sup>26</sup> Among these lawyers without billable hours requirements, 70 percent work in firms that have fewer than 10 employees.

we see that there is no gender difference in the probability of reporting zero target hours.

Differences in annual performance could be due to differences in hours worked or in the output produced per hour worked. Studying the ratio of performance to hours of work may help determine whether there are gender differences in productivity per hour worked. In table 4, we find that, on average, the gender coefficient of the ratio between hours worked and hours billed is not statistically significant, implying that female lawyers do not work more hours per hour billed than males do. However, when mapping client revenue to hours worked, the gender coefficient is negative and significant (col. 2). In column 3, we combine

TABLE 4  
RATIO OF HOURS WORKED TO PERFORMANCE

	Hours Billed/ Hours Worked (1)	Client Revenue/ Hours Worked (2)	Aggregate Performance/ Hours Worked (3)
Female	.0005 [.0144]	−12.3412*** [3.9637]	−.0612** [.0247]
Age	−.0027* [.0016]	−.5353 [.4264]	−.0054** [.0026]
Married	.0206 [.0184]	9.4761* [5.0519]	.0679** [.0315]
1 child	−.0166 [.0241]	5.3890 [6.6328]	.0104 [.0413]
2 children	−.0092 [.0237]	−1.1202 [6.5106]	−.0148 [.0405]
3+ children	−.0206 [.0291]	−2.179 [7.9856]	−.0315 [.0497]
Child aged < 4	.0172 [.0215]	−9.1147* [5.8975]	−.0283 [.0367]
White	.0100 [.0181]	.2707 [4.9709]	.0114 [.0310]
Tenure	.0058*** [.0028]	1.6154** [.7703]	.0139*** [.0048]
Constant	.5060*** [.1020]	25.8856 [27.8949]	−.0884 [.3690]
Firm controls	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes
Education controls	Yes	Yes	Yes
Observations	903	903	903
R <sup>2</sup>	.182	.091	.08

NOTE.—For definitions of variables, see table 1. Ratios are computed for full-time workers. We calculate the annual hours of work, assuming a 50-week work year. New client revenue is expressed in 100,000s of US dollars. Aggregate performance is calculated using a conversion rate of \$200 to transform client revenue dollars into an hours billed equivalent. We then sum lawyers’ hours billed and (hours billed equivalent) client revenue. Online app. table A.4 presents results for the range of conversion rate between \$50 and \$500.

\* Significant at the 10 percent level.  
\*\* Significant at the 5 percent level.  
\*\*\* Significant at the 1 percent level.

both performance measures using the median hourly billing rate for associate lawyers in the United States (\$200) as a conversion rate to transform client revenue into hours billed equivalent units. Overall, we find that there are gender differences in the ratio of aggregate performance to hours worked. This implies that there are gender differences in performance that are not due to differences in the total hours worked.<sup>27</sup>

We next explore whether a lawyer's specialty affects performance. Although our results are within the same profession, one may relate differences in the area of specialization to the literature on occupational segregation.<sup>28</sup> Differences in nonpecuniary benefits across firms could be reflected in the size of the law firm and the number of hours it expects its lawyers to bill, as well as in the areas of law in which the firm specializes. We control for lawyers' area of specialization using the percentage of their time that respondents devote to 27 different areas of law listed in the survey. Of the 27 specialties listed, we find that, compared to the overall sample, male lawyers are more significantly represented in intellectual property and criminal law, while family law, probate (wills and trusts), employment law (management), workers compensation, insurance law, civil rights, and public utilities/administrative law have a significantly larger number of female lawyers.<sup>29</sup> However, table 5 shows that areas of law explain only a small share of the gender performance gap. The gender coefficient decreases slightly for hours billed (col. 1), while it increases slightly for client revenue (col. 2). Moreover, we do not find evidence of female lawyers systematically sorting into areas with lower hours billed (see table A.5).

Therefore, the question remains unresolved: What is causing the gender differences in performance? We explore a number of factors to understand the determinants of the performance gap. We begin by investigating the traditional explanations for gender gaps in earnings: discrimination and child rearing. We then investigate alternative hypotheses, in-

<sup>27</sup> Since the output equivalence of hours billed and client revenue is likely to be heterogeneous across firms as it will depend on the cost structure of the firm and on the likelihood that new clients become regular, we perform robustness checks on a broad interval of conversion rates (from \$50 to \$500), as shown in table A.4. The performance per hour difference is negative for the entire interval and statistically significant from \$50 up to conversion rate \$400.

<sup>28</sup> While occupational segregation has declined over time, there still appears to be a tendency for women and men to choose different types of jobs and different specialized training within a given profession. See, e.g., Blau, Simpson, and Anderson (1988), Goldin (1990), Altonji and Blank (1999), Blau and Kahn (2000), Bertrand et al. (2010), and Adda, Dustmann, and Stevens (2017).

<sup>29</sup> Lawyers in the sample report the percentage of time that they devote to each of the legal areas. We do not find either men or women to be overrepresented in the remaining areas of specialization: antitrust, general practice, bankruptcy, civil litigation, commercial law, employment law (unions), environmental law, general corporate law, immigration law, municipal law, personal injury (plaintiff or defense), real estate (commercial or personal), securities, tax, health, and "other" areas.

TABLE 5  
AREAS OF LAW

	Hours Billed (1)	New Client Revenue (2)
Female	−.0818** [.0321]	−.3281*** [.108]
Age	−.0094*** [.0033]	−.015 [.0111]
Married	.064 [.0394]	.2885** [.132]
1 child	.0041 [.051]	.0837 [.1714]
2 children	.001 [.0506]	−.1146 [.170]
3+ children	−.0547 [.0625]	−.1608 [.210]
Child aged < 4	−.0208 [.0454]	−.1711 [.1527]
White	−.0308 [.0381]	.0147 [.1281]
Tenure	.0133** [.0059]	.0409** [.0199]
Full-time	.4804*** [.0623]	.131 [.209]
Constant	.436 [.472]	.533 [1.586]
Firm controls	Yes	Yes
Region fixed effects	Yes	Yes
Education controls	Yes	Yes
Areas of law	Yes	Yes
Observations	974	974
R <sup>2</sup>	.373	.116

NOTE.—For definitions of variables, see table 1. Online table A.5 presents all 27 areas of law separately. Areas of law refers to the proportion of time devoted to each the following legal disciplines: general practice, antitrust, bankruptcy, civil litigation, civil rights, commercial law, criminal law, employment law (management), employment law (unions), environmental law, family law, general corporate law, immigration law, insurance, intellectual property, municipal law, personal injury (plaintiff), personal injury (defense), probate (wills and trusts), public utilities and administrative law, real estate (commercial), real estate (personal), securities, tax law, health law, workers' compensation, and other areas.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

cluding differences in career aspirations, to determine if they contribute to the gap.

A. *Discrimination*

If employers (partners of the firm) can “interfere” with the number of hours that associate lawyers bill, there could be scope for discrimination.

In particular, there could be some form of discrimination in the assignment of cases when more senior colleagues or firm partners assign the cases for which associates bill hours. To investigate this possibility, we first study whether receiving enough assignments from the partner explains lower performance. We also investigate whether partners interfere with the way hours billed are measured by not awarding associate lawyers full credit for the hours that they bill, that is, by writing down hours billed. We also use information on self-reported discrimination to assess whether there are gender differences and if this reporting affects performance. In addition, we investigate other potential sources of discrimination, such as whether differences in the gender and seniority of mentors or the tasks assigned to the lawyers play a role in explaining gender differences in performance.

The two main reasons that lawyers find it difficult to bill hours that could be connected with discrimination are, first, not receiving enough assignments and, second, partners discounting hours (see table A.2). While both explanations seem to be quantitatively important—accounting for approximately 30 percent of the difficulty in meeting billable hours—male and female lawyers report them at similar frequencies. In table 6, we observe that not receiving sufficient assignments implies that the lawyer bills fewer hours, suggesting constraints on performance. However, the gender gap remains unchanged after including this variable, while the interaction term demonstrates that there is no significant gender difference in the hours billed for these “constrained” female and male lawyers. In other words, a female lawyer who claims that she has not received enough case assignments does not bill less than a similarly situated male lawyer. The results are similar for partner-discounted hours. Not only does this variable have no effect on the gender gap, but it also has no significant effect on lawyers’ hours billed in general. One might argue that male and female lawyers have different thresholds at which they are constrained; that is, they feel that they do not receive enough assignments. If that is the case, then there may still be scope for discrimination in case assignment. In table 7, we observe that lawyers billing between 1,600 and 1,800 hours, between 1,800 and 2,100 hours, or more than 2,100 hours report being less constrained than those billing 1,600 or fewer hours.<sup>30</sup> The coefficient is significant only for the two upper intervals. In column 2, when we interact gender with the different thresholds, we do not find any significant gender difference. This is reassuring, as it suggests that the likelihood of being constrained is the same for both men and women at different points in the hours billed distribution.

The mentoring activities of senior partners represent a channel through which they could discriminate. Mentors are common in the legal

<sup>30</sup> These cutoffs are in line with the quartiles of the distribution.

TABLE 6  
PERFORMANCE: DISCRIMINATION

	HOURS BILLED		NEW CLIENT REVENUE		HOURS BILLED		NEW CLIENT REVENUE	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-.0929*** [.0317]	-.0808** [.0347]	-.321*** [.105]	-.340*** [.114]	-.0969*** [.0320]	-.0824** [.0335]	-.322*** [.104]	-.326*** [.110]
Not enough assignments	-.146*** [.0375]	-.120** [.0483]	-.117 [.123]	-.159 [.159]				
Female $\times$ not enough assignments		-.0645 [.0744]		.103 [.245]				
Partner discounted hours					-.0253 [.0495]	.035 [.0653]	-.153 [.162]	-.167 [.214]
Female $\times$ partner discounted hours						-.139 [.0981]		.0314 [.321]
Constant	.616 [.484]	.622 [.484]	.337 [1.594]	.327 [1.595]	.588 [.488]	.588 [.487]	.338 [1.594]	.338 [1.595]
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Education controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	974	974	974	974	974	974	974	974
R <sup>2</sup>	.323	.323	.08	.081	.311	.313	.08	.08

NOTE.—Hours billed is expressed in 1,000s of hours. New client revenue is expressed in 100,000s of US dollars. Not enough assignments takes the value one if the lawyer reports that not enough assignments are the reason why he or she had difficulty meeting billables and zero otherwise. Partner discounted hours takes the value one if the lawyer reports that partner discounted hours (or lack of full credit) is the reason why he or she had difficulty meeting billables and zero otherwise. The summary statistics for these variables can be found in online table A.2. For definitions of other variables, see table 1.

\* Significant at the 10 percent level.  
 \*\* Significant at the 5 percent level.  
 \*\*\* Significant at the 1 percent level.

TABLE 7  
 PERFORMANCE: DISCRIMINATION  
 (Gender Differences in Constraint Threshold)

	CONSTRAINED	
	(1)	(2)
Female	.0001 [.0276]	.0011 [.0569]
1,600 < hours billed < 1,800	.0483 [.0402]	.0534 [.0551]
1,800 < hours billed < 2,100	-.122*** [.0388]	-.120** [.0509]
2,100 < hours billed < 3,000	-.245*** [.0442]	-.250*** [.0562]
Female × (1,600 < hours billed < 1,800)		-.0093 [.0778]
Female × (1,800 < hours billed < 2,100)		-.0068 [.0699]
Female × (2,100 < hours billed < 3,000)		.0182 [.0827]
Constant	.269 [.415]	.267 [.416]
Individual controls	Yes	Yes
Firm controls	Yes	Yes
Region fixed effects	Yes	Yes
Education controls	Yes	Yes
Observations	974	974
R <sup>2</sup>	.122	.122

NOTE.—The dependent variable, constrained, takes the value one if the individual responds that she does not have enough assignments. Hours billed is expressed in 1,000s of hours. The omitted category is  $800 \leq \text{hours billed} \leq 1,600$ , where 800 is the lowest number of hours billed in our sample. Each category represents quartiles in the hours billed distribution. For definitions of other variables, see table 1.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

profession. For instance, nearly 90 percent of lawyers in our sample report having had at least one mentor. There may be a tendency for lawyers to be mentored by senior lawyers of the same gender; if there were some sort of favoritism toward male lawyers in mentorship assignments, this could affect performance. In our data, we observe a tendency for senior male partners to mentor male lawyers, as 85 percent of male lawyers are mentored by male partners, compared to 69 percent of female lawyers. As shown in table 8, columns 1 and 2, having a senior male partner has a positive but not statistically significant effect on hours billed and does not affect raising client revenue. In addition, it does not explain away the gender difference in either performance measure.

Another potential channel for discrimination is the extent to which lawyers interact with the firm's clients. For instance, if women are less involved in tasks that involve direct contact with clients, this could jeopardize their

ability to obtain future referrals or create their own reputations. We exploit the detailed information on the types of tasks lawyers perform. Using a comprehensive list of tasks, lawyers are asked to report the frequency with which they have performed each over the last 3 months. Overall, we do not find gender differences in most tasks, neither in more menial tasks, such as drafting transactional documents or conducting routine research, nor in more appealing tasks such as appearing in court as first or second chair on a case (see table A.2). In table 8, columns 3 and 4, we focus on the four tasks related to interacting with clients, that is, the frequency with which a lawyer was involved in face-to-face meetings with clients, was responsible for keeping the client updated on a matter, was involved in formulating strategy, and traveled to meet clients or witnesses or to make court appearances. We find that one of the tasks in particular—being involved in face-to-face meetings with clients—has a positive effect on the ability to attract new clients. However, controlling for these variables does not help explain the gender gap in performance.

Finally, we explore direct, self-reported measures of discrimination. Lawyers are asked whether they experienced demeaning comments or other types of harassment, missed out on a desirable assignment, had a client request that someone else handle a matter, and/or had a colleague or supervisor request that someone else handle a matter over the last 2 years because of their race, religion, ethnicity, gender, disability, or sexual orientation. From table A.2, we see that a fraction of respondents report some type of discriminatory experience. While there are some gender gaps in these measures of perceived discrimination, as shown in table 8, columns 5 and 6, controlling for these measures does not appear to affect performance or the gender gap in performance. Moreover, the interactions of these measures with gender are not statistically significant.

### *B. Child Rearing*

Gender differences in earnings are often attributed to women having children and gender differences in child care responsibilities (Altonji and Blank 1999). We now investigate whether the presence of children affects performance and whether there is a differential impact on female lawyers.

Columns 1 and 3 in table 9 present the gender gaps in hours billed and client revenue, respectively, controlling for regional fixed effects and individual and firm characteristics. We observe that neither children nor the presence of preschool-age children has any effect on hours billed or new client revenue generated, respectively. In columns 2 and 4, when we interact the number of children with gender for each performance measure, we see that there is no differential effect of children on hours billed and client revenue, respectively. However, there is a differential effect of the presence of young children on hours billed. Having young



TABLE 8  
PERFORMANCE: OTHER DISCRIMINATION CHANNELS

	Hours Billed (1)	New Client Revenue (2)	Hours Billed (3)	New Client Revenue (4)	Hours Billed (5)	New Client Revenue (6)
Female	-.0992*** [.0323]	-.329*** [.106]	-.105*** [.0322]	-.368*** [.105]	.0881*** [.0329]	-.326*** [.105]
Senior mentor	.0066 [.0529]	.0141 [.173]				
Male mentor	-.119*** [.0589]	-.0486 [.193]				
Senior mentor $\times$ male mentor	.122 [.0748]	.0065 [.245]				
Task:						
Client meeting			.004 [.012]	.108*** [.0391]		
Keep client updated			.012 [.0105]	.0617* [.0342]		
Formulate strategy			.01 [.01]	.021 [.0327]		
Traveling to court/clients			.0164 [.0112]	-.0291 [.0364]		



TABLE 9  
PERFORMANCE: CHILD REARING

	HOURS BILLED		NEW CLIENT REVENUE	
	(1)	(2)	(3)	(4)
Female	-.0971*** [.0319]	-.0569 [.0449]	-.324*** [.104]	-.342** [.148]
1 child	.0001 [.0520]	-.0305 [.0681]	.0927 [.170]	.184 [.224]
2 children	-.0169 [.0512]	-.0643 [.0625]	-.074 [.168]	-.0436 [.205]
3+ children	-.0785 [.0635]	-.0996 [.0731]	-.119 [.208]	-.141 [.240]
Child aged < 4	-.0164 [.0462]	.069 [.0558]	-.188 [.151]	-.255 [.183]
Female × 1 child		.0945 [.101]		-.221 [.331]
Female × 2 children		.142 [.0995]		-.088 [.327]
Female × 3+ children		.0022 [.140]		.249 [.459]
Female × child aged < 4		-.256*** [.0896]		.197 [.294]
Constant	.584 [.487]	.635 [.487]	.311 [1.593]	.318 [1.600]
Individual controls	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes
Education controls	Yes	Yes	Yes	Yes
Observations	974	974	974	974
R <sup>2</sup>	.311	.32	.08	.081

NOTE.—Children aged < 4 takes the value one if the lawyer has a child 3 years of age or younger. For definitions of the other variables, see table 1.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

children results in female lawyers billing fewer hours but does not affect male lawyers. In particular, we find that female lawyers with young children bill approximately 200 fewer hours per year, while male lawyers with young children do not experience a significant decline in the number of hours billed. This suggests that female lawyers may shoulder a greater share of household responsibilities than male lawyers with respect to raising preschool-age children, and this is reflected in their performance. Column 4, however, shows that child rearing does not help explain the gender gap in new client revenue.<sup>31</sup>

<sup>31</sup> The presence of children of 1 year of age or below also helps explain the gap in hours billed (but not in new client revenue); however, the effect is less substantial than the cumulative effect of children under age 4. In app. table A.6, we show that the effect of children is robust to different specifications. In particular, the results are similar when we use a less disaggregated measure for children.

There are several explanations that could potentially be consistent with why the presence of young children helps to explain gender difference in hours billed but not client revenue. Billing a persistently large number of hours may be difficult for female lawyers with young children because women tend to shoulder a greater share of child-rearing responsibilities. In contrast, raising new client revenue might not be as affected by young children because this performance measure appears to be related to a broader set of variables than hours billed. In particular, raising new client revenue is related to factors such as the lawyer's reputation, the quality or importance of the referrals obtained, and the ability to use networking hours effectively. These factors are less intrinsically associated with both hours billed and hours worked. For instance, we find that having held a judicial clerkship, which generally helps in building a reputation in the legal profession, has a significant positive effect on client revenue but is not significant for hours billed.

There are two selection issues regarding fertility and performance that could be a concern: first, there may be cross-sectional selection, such that there are types of women who are more or less productive, and their productivity might induce them to have children (or more children). Second, there may be timing selection, such that women may decide to have children at particularly unproductive moments of their careers.

To address the cross-sectional selection concern, we follow a strategy similar to that of Bertrand et al. (2010) and use pre-labor market information to predict the performance (and earnings) of men and women with children.<sup>32</sup> In line with the results obtained by Bertrand et al. on labor supply and earnings, we find that there is no evidence that women with children (or women with children of preschool age in 2007) are drawn from the lower part of the female performance and earnings distribution (see table A.7). Women and men with children have slightly higher predicted earnings than women and men without children (although this difference is not significant), as well as slightly higher predicted hours billed (significant at the 10 percent level) and higher predicted client revenue (although this is not significant). With respect to client revenue, from column 3, men with children are predicted to bring more business to the firm than all other groups (men without children and women with and without children), but the gap is smallest when comparing men with children and women with children, suggesting that they are more similar. Finally, focusing on the group of women with younger children (under preschool age), compared with women without children and women with older children,

<sup>32</sup> To address endogenous fertility, the literature has also used natural experiments (e.g., Rosenzweig and Wolpin 1980), instrumental variable techniques (e.g., Angrist and Evans 1998), and structural models of life cycle fertility (e.g., Hotz and Miller 1988). For a survey, see, e.g., Browning (1992) and Hotz, Klerman, and Willis (1997).

there is no statistically significant difference in predicted performance or earnings.

To address the timing selection concern, we again follow a strategy similar to that in Bertrand et al. (2010). Using the 2007 survey, we calculate the date of the first birth of a child and use the 2002 responses to compute the client revenue, hours worked, and earnings associated with the years prior to the first birth. We then compare these outcomes in the years prior to the pregnancy associated with the first birth; we are able to assess outcomes as far as 6 years earlier. Table A.8 shows that there is no “dip” in performance in the years prior to the first birth for either men or women, suggesting that neither men nor women seem to time first births on the basis of poor performance in previous years.

### *C. Additional Hypotheses*

To complement more traditional arguments regarding gender gaps, the recent literature has focused on the effect of gender differences in other channels, such as preferences (see Croson and Gneezy 2009) and non-cognitive traits (Cunha et al. 2006; Heckman, Stixrud, and Urzua 2006). In this section, we study a number of additional hypotheses that could help to explain the gender gap in performance. As the literature does not provide results that clearly indicate the origin of gender differences in behavior or personality, which could be innate, social, or both, we abstract from this debate and focus on whether these differences determine lawyers’ choices in a way that affects performance. First, we focus on factors that appear to be crucial in explaining the performance gap (i.e., differences in career aspirations), and then we address other potential factors that do not appear to play a major role (i.e., willingness to overbill, networking behavior).

#### *1. Career Aspirations*

Gender differences in the career aspirations of young lawyers may contribute to differences in performance. When asked to rate, on a scale from 1 to 10, their aspirations to become an equity partner in their firm, 60 percent of male lawyers answered with 8 or more, compared to only 32 percent of female lawyers (see fig. 3). Similar gender patterns hold when we look at female and male lawyers with and without children.

Being able to measure career aspirations is relevant because, following the career concerns literature (Fama 1980; Holmström 1999), agents who assign greater importance to their future earnings have stronger incentives to contribute effort, which affects performance. This is particularly true for workers at an early stage of their careers, as higher uncertainty from the firm’s point of view regarding workers’ skills, paired with career

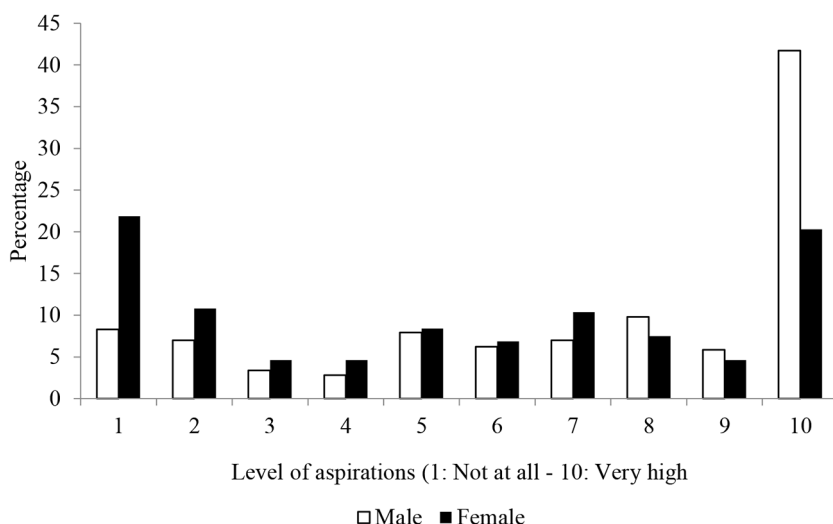


FIG. 3.—Aspirations to become partner. Percentage of responses by gender to the question “How strongly do you aspire to attain an Equity Partner position within your firm?” with possible answers ranging from 1 = not at all to 10 = very high (After the JD study, 2007).

concerns, increases workers’ incentives to perform better. Even in the presence of explicit monetary rewards for performance, such as bonus compensation, career concerns may play a considerable role in workers’ effort decisions (Gibbons and Murphy 1992).

Columns 1 and 3 of table 10 show that individual career aspirations have a strong positive effect on the hours billed and the new client revenue generated.<sup>33</sup> Interestingly, although differences in aspirations do not fully explain the gender differences in hours billed (col. 1), they do explain differences in new client revenue, as the gender coefficient, although still negative, is much smaller and no longer significant when we control for aspirations (col. 3). This shows that the gender differences in aspiration levels explain the remaining gender difference in the new client revenue generated by lawyers. This is intuitive, as new client revenue can be regarded as lawyers’ long-term investment in their firms. Identifying and initiating relationships with new clients require time and effort, but career concerns may make it worthwhile. From columns 2 and 4, we observe that there is no differential effect of aspirations with respect to gender on hours billed or client revenue, respectively. In other words, when male and female lawyers have the same level of aspirations, there is no difference in the hours they bill or revenue they generate.

<sup>33</sup> Not all lawyers responded to the question on aspirations. There is little difference in the gender coefficient on performance for the lawyers who did and did not respond to the question.

TABLE 10  
PERFORMANCE: CAREER ASPIRATIONS

	HOURS BILLED		NEW CLIENT REVENUE	
	(1)	(2)	(3)	(4)
Female	−.0848** [.0344]	−.133* [.0722]	−.146 [.129]	−.0803 [.272]
Aspirations	.0224*** [.0050]	.0188*** [.0069]	.0662*** [.0190]	.0711*** [.0260]
Female × aspirations		.0075 [.0098]		−.0103 [.0371]
Constant	.509 [.500]	.539 [.501]	−.927 [1.883]	−.968 [1.891]
Individual controls	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes
Education controls	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes
Observations	617	617	617	617
R <sup>2</sup>	.31	.311	.075	.075

NOTE.—Hours billed is expressed in 1,000s of hours. New client revenue is expressed in 100,000s of US dollars. Aspirations refers to how strongly the lawyer aspires to obtain an equity partnership. The variable takes values from 1 to 10, where 1 represents not at all and 10 represents very high. For definitions of other variables, see table 1.

- \* Significant at the 10 percent level.
- \*\* Significant at the 5 percent level.
- \*\*\* Significant at the 1 percent level.

In figure 4, we plot the distribution for the performance measures, controlling for individual and firm characteristics (including children), discrimination indicators, and career aspirations. The figure presents the gender coefficient from quantile regressions at different points in the distribution, and the different lines in the figure represent the gender coefficient after controlling (separately) for various determinants. As shown in figure 2, for client revenue, the gender gap is largest at the top of the distribution. Interestingly, and in line with the main analysis, we find that although the gender gaps have similar distribution patterns when controlling for individual, firm, and discrimination indicators, they close throughout the distribution and become statistically insignificant when we control for aspiration measures (in addition to firm and individual characteristics). This indicates that aspirations are important in explaining gender performance gaps, not just on average but throughout the distribution.

Career aspirations are likely to be influenced by both cognitive and noncognitive individual characteristics. Although it is often difficult to disentangle cognitive from noncognitive components, the gender gap in career aspirations is likely to have a noncognitive component and to be influenced by social values. Additionally, the gap in career aspirations may be influenced by the expectation of facing discrimination. However, as shown throughout the paper, the data permit controlling for a number of contemporaneous workplace factors potentially affecting aspirations. More-

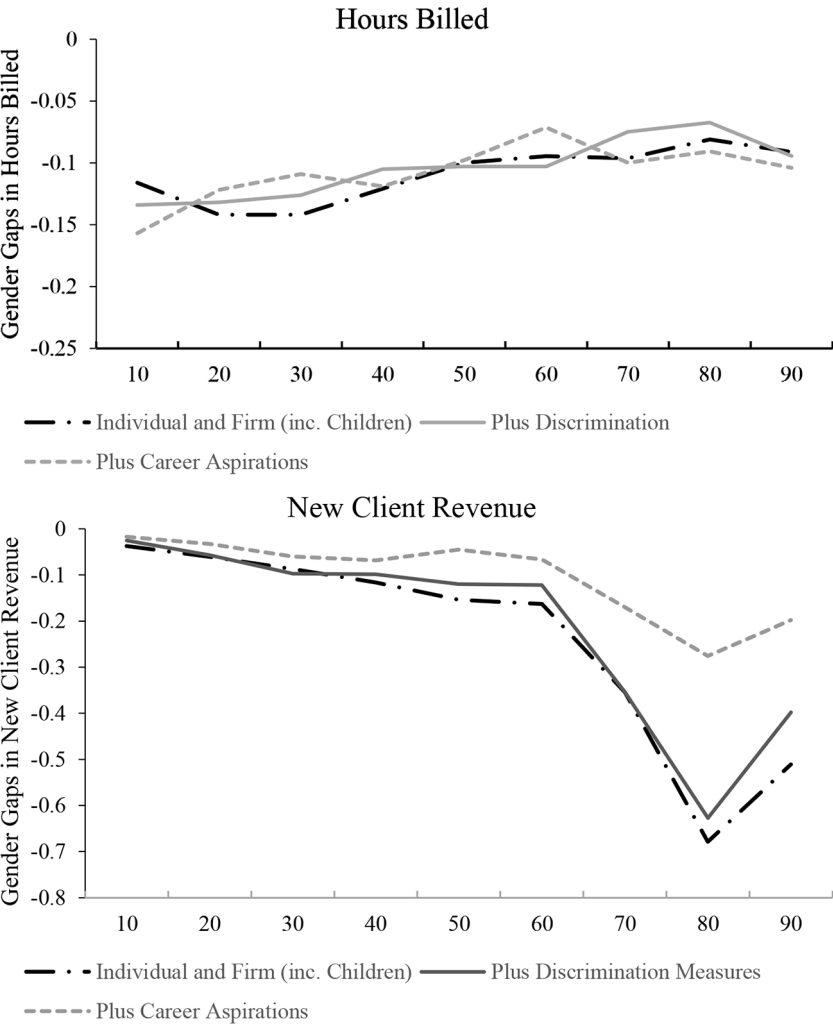


FIG. 4.—Percentiles of the gender gaps in performance with controls. This figure provides the gender coefficient of the quantile regressions ranging from 0.10 to 0.90 for hours billed (expressed in 1,000s of hours) and new client revenue (expressed in 100,000s of US dollars). The gaps presented are for (i) after controlling for individual, education, and firm characteristics and region fixed effects; (ii) controlling for all factors in part i as well as measures of discrimination; and (iii) controlling for all factors in part ii as well as for long-term aspirations.

over, our analysis below suggests that aspirations formed earlier on in life have an impact on performance gaps.

Evidence from young individuals indicates that from an early stage there are already significant gender gaps in the importance assigned to money and work and other traits related to career aspirations (Heckman



et al. 2006; Fortin 2008). Using the National Longitudinal Survey of Youth 1979 for a cohort of young persons aged between 14 and 22 at their first interview in 1979, Heckman et al. (2006) find gender gaps in traits such as self-determination among individuals who later obtain a college education. Fortin (2008) uses the National Education Longitudinal Study (NELS), a nationally representative sample of eighth graders in 1988, which was resurveyed through subsequent follow-ups to study the gender differences in cognitive and noncognitive skills. Fortin finds that gender differences in the value of money and work are particularly relevant. Using the same data set, we find that the gender gap in the importance of money and work also exists when we narrow the NELS sample to those male and female young individuals who later pursue a law degree.

When studying the effect of aspirations on performance, part of our analysis focuses on factors that precede lawyers' labor market experience. This helps to overcome the concern that aspirations could partly be determined by expectations formed at the workplace (Carneiro, Heckman, and Masterov 2005). In particular, we study the effect of aspirations on performance in three ways. First, we exploit the richness of our data and examine the effect of aspirations on performance conditional on variables that account for the most prominent channels that could codetermine aspirations. Second, when measuring the effect of aspirations on outcome variables measured 7 years after joining the firm, part of our analysis focuses on the share of current aspirations explained by respondents' traits that predate most of the lawyers' time in the legal profession. Finally, we look directly at whether lawyers become partners later in their careers to see whether, conditional on performance, there are residual gender gaps in partnership decisions that lawyers might have anticipated. We find that performance measures explain a sizable share of the unconditional gender gap in promotions. This latter point is discussed in detail in Section VI of the paper.

While it is virtually impossible to perform a comprehensive analysis of all possible variables that codetermine aspirations and outcomes, we can explore a number of prominent alternative explanations. In addition to controlling for firm and individual characteristics, we control for case assignments, partner discounting hours, perceived discrimination, mentoring by senior and/or male partners, and tasks performed by the lawyer (in particular, those involving direct contact with clients). As described in Section IV.A, these variables should correspond to discriminatory practices and should reflect the expectation of discrimination, but they can also control for other potential unobserved factors, such as differences in skill. Table 11 shows that controlling for all variables simultaneously does not affect the significance or explanatory power of aspirations. Moreover, there remains a large and significant gender gap in new client revenue when controlling for all these variables without measures of aspirations (col. 2).

Next, we exclude the possibility that career aspirations are not driven—at least not exclusively—by lawyers' contemporaneous feedback on their performance and show that the predetermined component of current aspirations explains a large share of the gender gap in client revenue. To do so, we predict current aspirations to become a partner using measures that are correlated with aspirations but predate most of the lawyer's time in the firm or in the legal profession, that is, when the lawyer had just joined the firm. We proxy for aspirations to be a partner using the response the lawyer gave regarding how satisfied the lawyer was with his or her decision to become a lawyer and how much longer he or she would like to remain with his or her current employer. All questions were asked in the first wave of the survey, and because the responses refer to when the lawyer had been employed in the field for only 2 years, they should not be affected by current feedback from the employer on partner prospects. Although we would expect (and do observe) these variables to be correlated with current partner aspirations, they are not affected by the information that the lawyers learn between 2002 and 2007. Table 12 shows that a fraction of the aspirations is explained by these proxies and that the results using these proxies for predetermined aspirations are in line with the results using aspirations in 2007. We observe that aspirations play an important role in explaining the gender differences in client revenue. The gender coefficient is still negative, but it is no longer statistically significant. Although aspirations are important for the number of hours billed, they explain only a small share of the gender difference in this variable.

## 2. Overbilling, Networking, and Working Weekends

In this subsection, we examine other explanations that could affect performance. Overall, we find that while there may be important gender gaps in these factors, they contribute very little to explaining performance gaps.

First, we explore gender differences in overbilling behavior. Table A.2 shows that female lawyers are 4 percent more likely to select this reason as a difficulty in meeting billable hours requirements than male lawyers. This might suggest that female lawyers bill fewer hours because they are less willing than their male colleagues to overbill clients. While some overbilling is likely to exist, there are also incentives for lawyers not to overbill (Rules of Professional Conduct of the legal profession, lawyers' and law firms' reputations, law firms' internal mechanisms that monitor overbilling and write down hours that are considered inadequate; see Sec. II for more discussion on overbilling). A thorough analysis of differences in billing behavior shows that, unlike career aspirations, it does not explain gender differences in performance. In particular, table 13 shows that lawyers who report that they are less likely than their colleagues to

TABLE 11  
PERFORMANCE: MULTIVARIATE ANALYSIS

	Hours Billed (1)	New Client Revenue (2)	Hours Billed (3)	New Client Revenue (4)	Hours Billed (5)	New Client Revenue (6)
Female	-.115*** [.0349]	-.280** [.132]	-.0848** [.0344]	-.146 [.129]	-.0832** [.0357]	-.1924 [.1366]
Aspirations			.0224*** [.0050]	.0662*** [.0190]	.0188*** [.0054]	.0514** [.0206]
Not enough assignments	-.1515*** [.0366]	-.073 [.14]			-.1339*** [.0365]	-.0248 [.14]
Partner discounted hours	-.0099 [.0480]	.01 [.1825]			.0061 [.0478]	.0537 [.1825]
Senior mentor	-.0280 [.0559]	.1845 [.2122]			-.058 [.0560]	.1027 [.2138]
Male mentor	-.0823 [.0693]	-.0218 [.2632]			-.085 [.0686]	-.2920 [.262]
Senior mentor $\times$ male mentor	.1117 [.0846]	-.099 [.3214]			.12 [.0838]	-.0767 [.32]
Perceived discrimination: Demeaning comments	-.0957* [.0539]	-.0394 [.205]			-.0941* [.0534]	-.035 [.204]
Missed desirable assignment	.0655 [.0627]	-.0456 [.2382]			.0641 [.062]	-.0494 [.2371]
Client request another	-.0772 [.0574]	.3725 [.2182]			-.0892 [.057]	.2946 [.2176]
Supervisor request another	.0886 [.0753]	-.0932 [.2862]			.1017 [.0747]	-.0573 [.2852]
Other	.0618 [.0894]	-.0755 [.34]			.0845 [.0887]	-.0136 [.3388]



TABLE 12  
PERFORMANCE: PREDICTED CAREER ASPIRATIONS

	HOURS BILLED		NEW CLIENT REVENUE		HOURS BILLED		NEW CLIENT REVENUE	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-.0848** [.0344]	-.0847** [.0352]	-.146 [.129]	-.199 [.139]	-.0574 [.0438]	-.0541 [.0454]	-.0188 [.163]	-.0457 [.178]
Aspirations	.0224*** [.00504]	.0218*** [.00537]	.0662*** [.0190]	.0520*** [.0212]				
Predicted aspirations					.0359** [.0162]	.0396** [.0182]	.149** [.0603]	.161** [.0713]
Constant	.509 [.500]	1.713*** [.427]	-.927 [1.883]	-1.114 [1.684]	.382 [.507]	.539 [.511]	-1.819 [1.940]	-2.247 [2.047]
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Education controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls from table 11	No	Yes	No	Yes	No	Yes	No	Yes
Observations	617	617	617	617	587	587	587	587

NOTE.—Hours billed is expressed in 1,000s of hours. New client revenue is expressed in 100,000s of US dollars. Aspirations refers to how strongly the lawyer aspires to obtain an equity partnership. The variable takes values from 1 to 10, where 1 represents not at all and 10 represents very high. Predicted aspirations refers to aspirations as predicted by the following questions: (1) How satisfied are you with your decision to become a lawyer? (2) How much longer would you like to stay with your current employer? Both questions were asked in the first wave (2002). See tables 1, 6, 8, and 10 for definitions of all variables.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

TABLE 13  
PERFORMANCE: OVERBILLING, NETWORKING, WEEKENDS

	HOURS BILLED		NEW CLIENT REVENUE		HOURS BILLED		NEW CLIENT REVENUE		HOURS BILLED		NEW CLIENT REVENUE	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Female	-.0898*** [.0320]	-.0990*** [.0348]	-.315*** [.105]	-.337*** [.114]	-.0905*** [.0342]	-.127*** [.0392]	-.370*** [.110]	-.326*** [.126]	-.0930*** [.0326]	-.130*** [.0400]	-.312*** [.109]	-.270*** [.133]
Less than others												
Female × less than others												
Network time												
Female × network												
Weekend time												
Female × weekend												
Constant	.587 [.486]	.59 [.486]	.316 [1.594]	.322 [1.594]	1.350*** [.495]	1.369*** [.494]	.611 [1.591]	.589 [1.592]	.573 [.490]	.575 [.490]	.412 [1.633]	.411 [1.634]
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Education controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	974	974	974	974	903	903	903	903	930	930	930	930

NOTE.—Hours billed is expressed in 1,000s of hours. New client revenue is expressed in 100,000s of US dollars. Less than others takes the value one if the lawyer responds that he or she is less likely to bill for actual hours worked compared to colleagues as a reason for the difficulty in meeting billables and zero otherwise. Network time is the amount of time a lawyer spends attending networking functions and/or participating in recreational activities (e.g., golf) for networking purposes with other lawyers or clients. Weekend time is the amount of time a lawyer spends working away from the office or firm on weekends.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

bill for actual hours worked bill fewer hours. Nevertheless, the gender gap persists, and the interaction with gender is insignificant, suggesting that male and female lawyers who respond in the same way do not differ in the hours they bill. These results hold for the gap between expected hours and actual hours billed.

In addition, we find that the other possible explanations listed in table A.2 do not have a significant effect on the gender gap. There is no gender difference in the hours billed for those reporting difficulties in meeting billable hours due to spending too much time on pro bono or administrative tasks. Regarding health issues, we observe in table A.2 that female lawyers are 10 percent more likely than males to select this reason. In our analysis, however, health issues related to difficulties in billing additional hours do not appear to have an effect on either the gender gap or performance. Also, female lawyers are slightly more likely to report personal choice than male lawyers, but we again find no effect on the gender gap or performance.

Another potential explanation concerns gender differences in networking behavior. The willingness to spend time attending networking functions or participating in recreational activities with other lawyers or clients for networking purposes may differ by gender. On average, in a typical week, male lawyers attend networking events 11 percentage points more than female lawyers and are 40 percentage points more likely to participate in recreational activities (e.g., golf) for networking purposes with other lawyers or clients (see table A.2). Nevertheless, as shown in table 13, we do not find that these differences are a relevant source of the gender gap in performance. Networking could affect the gender gap in performance in two ways: first, if female lawyers devote less time to networking and, second, if networking affects male and female lawyers differently. For instance, the previous literature found differences in the type of networks that male and female managers develop (Ibarra 1997). As shown in table 13, networking does not affect hours billed but has important consequences for raising new client revenue. An additional hour a week spent networking is associated with raising an additional \$2,800. However, column 7 shows that controlling for networking does not reduce the gender coefficient for new client revenue. Thus, the amount of time devoted to networking does not explain the performance gap. In addition, we analyze whether networking affects male and female lawyers differently for a given number of networking hours. In columns 6 and 8, the interaction term between networking and gender is not significant for either hours billed or client revenue. Therefore, an additional hour spent networking has the same performance return for male and female lawyers.

We obtain similar results for working on weekends. In table 13, columns 9 and 11 show that time spent working on weekends has important consequences for both hours billed and client revenue. In particular, one additional weekend hour worked per week is associated with an increase

of 14 hours billed per year and an additional \$2,800 in new client revenue. Although time worked on weekends has a substantial effect on performance, it does not seem to explain the gender gap in performance. Moreover, time worked on weekends does not affect female and male lawyers differently, as shown in columns 10 and 12.

## **V. The Role of Performance in the Earnings Gender Gap**

As there are considerable differences in performance, in what follows, we analyze how these differences translate into differences in earnings. In the subsequent analysis, we demonstrate that while traditional individual and firm controls explain approximately 50 percent of earning differences by gender, performance measures explain nearly the entire remaining gap. We present results comparing the analyses with and without controlling for performance measures.

### *A. Gender Gap in Earnings without Controlling for Performance*

We begin by estimating (log) annual earning equations, as shown in table 14, with and without controlling for individual and firm characteristics.

The raw gap in mean log earnings between male and female lawyers is 18 log points (col. 1). In column 2, we control for individual characteristics, including marital status, age, the number of children, the presence of children under age 4, ethnicity, years of tenure, and working full-time. The inclusion of these characteristics explains a considerable fraction of the gender gap; however, 10 log points are still unexplained. Marriage and the presence of children do not seem to directly affect log earnings, but working full-time instead of part-time and the years of tenure affect wages. Note that if we use annual hours worked instead of full-time status, we observe a similar effect on the gender gap (col. 3). In figure A.1, we show the distributional gender gaps in hours worked (after controlling for individual and firm characteristics) and find that a gender gap in hours worked persists in a linear fashion throughout the distribution. Age appears to have an effect on log earnings; however, as all workers are from the same cohort, there is little variation in age. When we add the quadratic terms, age is no longer significant.

In column 4, we control for important firm characteristics: the size of the firm and the type of organization. While these factors play an important role in explaining earnings, they do not explain the gender earnings differential. In general, working in a larger firm, working in a private law firm, or working in the private sector in general all correspond to higher earnings.

In addition, we control for a wide range of educational variables that proxy for ability (col. 5). While some of the variables—namely, law school



TABLE 14  
EARNINGS: OVERALL

	LOG (ANNUAL EARNINGS)				
	(1)	(2)	(3)	(4)	(5)
Female	-.181*** [.0343]	-.0997*** [.0359]	-.119*** [.0342]	-.100*** [.0307]	-.100*** [.0313]
Age		-.0151*** [.00351]	-.0136*** [.0035]	-.0041 [.0031]	-.0023 [.0033]
Married		.0262 [.0452]	.0189 [.0445]	-.0076 [.0386]	.0042 [.0393]
1 child		-.0047 [.0583]	-.0281 [.0574]	.0067 [.0497]	.0251 [.0509]
2 children		.0034 [.0570]	-.0197 [.0559]	.039 [.0488]	.0302 [.0502]
3+ children		.107 [.0712]	.129* [.0701]	.0825 [.0609]	.0961 [.0622]
Child aged < 4		.0121 [.0517]	7.88E-03 [.0508]	.0019 [.0443]	-.017 [.0453]
White		.0597 [.0427]	.0808* [.0421]	.0297 [.0368]	.0313 [.0381]
Tenure		.0414*** [.0066]	.0385*** [.0065]	.0195*** [.0057]	.0175*** [.0059]
Full-time		.519*** [.0697]		.488*** [.0607]	.504*** [.0616]
Hours worked			.228*** [.0244]		
Constant	11.81*** [.0214]	11.53*** [.156]	11.39*** [.154]	11.59*** [.466]	11.31*** [.477]
Region fixed effects	Yes	Yes	Yes	Yes	Yes
Firm controls	No	No	No	Yes	Yes
Education controls	No	No	No	No	Yes
Observations	1,039	1,014	1,014	1,014	974
R <sup>2</sup>	.027	.131	.158	.388	.403

NOTE.—Hours worked is expressed in 1,000s of annual hours worked. For definitions of the variables, see table 1.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

ranking and participation in law journal editorial activities—are significant after controlling for other individual and firm characteristics, they neither change the gender coefficient nor help to explain the gender gap. The positive and significant effect of law school ranking is consistent with results by Oyer and Schaefer (2009), who find that attending a prestigious school has a considerable effect on annual salary.

The individual and firm characteristics together explain 50 percent of the raw gender gap, but the other 50 percent remains unexplained. Interestingly, Wood et al. (1993), in a study of University of Michigan Law School graduates from the classes of 1972–75, find a similar gender gap in annual earnings of 12.4 log points when controlling for similar characteristics. The proportion of female lawyers in the 1970s was considerably lower; in their study, female lawyers make up only 9 percent of the sample.

In figure 5, we plot the percentiles for earnings after controlling for individual and firm characteristics. We find that the gender gap in earnings persists throughout the distribution. There is some evidence that the gender gap is largest at the top of the distribution—especially from the 70th percentile. This seems consistent with the distributional analysis presented for performance, where gender gaps persisted throughout the distribution and were especially striking at the top of the distribution. In figure A.1, we show the distributional gender gaps in hourly wage rate and find a consistently negative gender wage gap.

Next, we address the possibility of selection differences between men and women into jobs that require lawyers to bill hours. We find that female lawyers are, on average, 3 percent less likely to enter a job that requires billing hours. However, we find that the more able male and female lawyers, rather than the less able lawyers, tend to select into jobs that bill hours. Therefore, we can exclude the possibility that more able women are self-selecting out of jobs that require them to bill hours. Overall, lower hours billed by female lawyers do not seem to be due to a selection of less able women into jobs that require them to bill hours (see table A.9).

*B. Gender Gap in Earnings When Controlling for Performance*

In this section, we analyze the effect of performance on earnings differences. In table 15, we include the main performance variables: hours

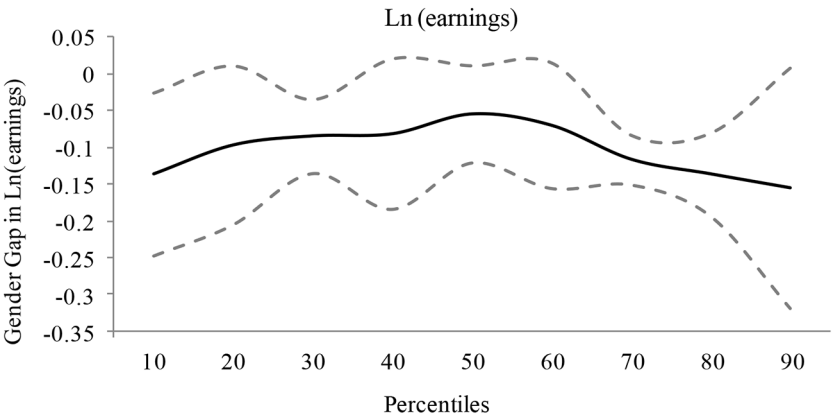


FIG. 5.—Percentiles of the gender gaps in earnings. This figure provides the gender coefficient of the quantile regressions ranging from 0.10 to 0.90 for  $\ln(\text{earnings})$ , after controlling for individual, education, and firm characteristics, as well as region fixed effects. Confidence intervals (dashed line in gray) are at the 5 percent confidence level.

TABLE 15  
EARNINGS: INCLUDING PERFORMANCE MEASURES

	LN(ANNUAL EARNINGS)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	-.100*** [.0313]	-.0581* [.0297]	-.0492* [.0296]	-.0682** [.0307]	-.0245 [.0292]	-.0293 [.0292]	-.0273 [.0293]
Hours worked			.0932*** [.0228]	.1435*** [.0230]	.084*** [.022]	.0840*** [.0220]	.0841*** [.0220]
Hours billed		.303*** [.0305]	.271*** [.0313]		.2892*** [.0314]	.485*** [.0932]	.6604*** [.2077]
New client revenue		.0400*** [.0093]	.0380*** [.0092]	.03917*** [.0096]	.0330*** [.009]	.0722*** [.0186]	.0587** [.0284]
Hours billed (squared)						-.0657** [.0292]	-.2013 [.1469]
New client revenue (squared)						-.0026** [.0011]	-.0002 [.0045]
Hours billed (cubic)							.0292 [.0307]
New client revenue (cubic)							-.0001 [.0002]
Constant	11.31*** [.477]	11.12*** [.449]	10.96*** [.447]	10.21*** [.193]	9.179*** [.437]	8.952*** [.442]	11.13*** [.427]
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Full-time control	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Education controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Areas of law	No	No	No	No	Yes	Yes	Yes
Observations	974	974	974	974	974	974	974
R <sup>2</sup>	.403	.472	.482	.44	.544	.55	.55

NOTE.—Hours billed is expressed in 1,000s of hours. New client revenue is expressed in 100,000s of US dollars. Hours worked is expressed in 1,000s of annual hours worked. For definitions of the variables, see table 1.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

billed and the amount of new client revenue generated. To compare the results, in column 1, we report the gender gap when controlling for only individual and firm characteristics. Controlling for performance (col. 2) explains a considerable share of the remaining gender gap. In particular, the number of hours billed has a strong and positive effect on earnings: we find that billing 100 additional hours per year leads to a 3.2 percent increase in salary. Bringing in \$100,000 in new client revenue implies an increase of approximately 4.0 percent in earnings. Including performance measures explains a sizable share of the gender gap in earnings, nearly half of the remaining gap (5.8 log points), and is significant only at the 10 percent level.

In column 3, we show that there is only a small additional contribution in explaining the gender gap when controlling for hours worked in addition to the performance measures (from 5.8 log points to 4.9 log points). Similarly, controlling for hours worked instead of hours billed (col. 4) explains a smaller proportion of the gap. Overall, the performance measures explain a significant portion of the earnings gap beyond hours worked, suggesting that hours worked is a less precise measure of performance. Moreover, compared with the hours worked, the coefficient for hours billed is larger and more significant (the *t*-statistic is double in size).

We investigate the effect of area of specialization on earnings (col. 4). The coefficients on the areas of law are jointly statistically significant, and the areas account for a share of gender differences in earnings, such that the gender gap, together with the performance measures, falls to 3.8 log points; although still negative, it is no longer significant. Although sorting into areas of law does not seem to be a major explanation for performance and earning differences across lawyers, it does lend some support to the hypothesis that the gender difference in sorting into areas is part of the explanation for the gaps in performance and earnings. However, it does not seem to be as important as performance. In columns 5 and 6, we also include the squared and cubic terms, respectively. There seems to be a nonlinear relationship among these variables, but these terms do not affect the gender coefficient.

To study the difference in earnings per unit of performance, in table 16, we show that there is no gender difference in the rewards for each hour billed for each dollar of client revenue raised by the lawyers. This evidence is in line with the Survey of Law Firm Economics (2012), which does not observe gender differences in the billing rates of associate lawyers. The survey shows median billing rates of \$225 for male associate lawyers and \$224 for female lawyers.

Hours billed and new client revenue are good summary statistics for productivity. Our analysis reveals a strong relationship between earnings

TABLE 16  
EARNINGS: RETURNS TO PERFORMANCE

	Annual Earnings
Female	-29.48** [13.41]
Hours billed	26.482*** [4.851]
Female $\times$ hours billed	10.90 [7.12]
New client revenue	5.67*** [1.254]
Female $\times$ new client revenue	5.025 [4.186]
Constant	27.82 [28.49]
Individual controls	Yes
Firm controls	Yes
Region fixed effects	Yes
Education controls	Yes
Observations	974
$R^2$	.424

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

and the two performance measures. Overall, the analysis shows that it is crucial to control for differences in workers' performance.

## VI. The Role of Performance in the Promotion Gender Gap

In this section, we use a structure similar to that in Section V to analyze the impact of performance on promotion. Performance is key not only for current earnings but also for future earnings, through the prospect of being promoted to partner status. We link the performance data from 2007 with data on partnership status by 2012.<sup>34</sup> In the subsequent analysis, we show the following findings. First, there is a sizable gender gap in promotion, and it remains unaffected by the inclusion of a comprehensive set of individual and firm characteristics. Second, there is a very strong and positive relationship between the probability of being a partner and earlier performance in the lawyer's career. Third, as with earnings, the inclusion of the performance measures can explain a large part

<sup>34</sup> Since there is some attrition from the sample over time, app. tables A.10 and A.11 present the main descriptive statistics and main performance and earnings regressions, respectively, for those who respond to both waves 2 and 3 (i.e., 2007 and 2012). We find that the samples are comparable as the gender differences in performance and earnings present in our main findings persist when we restrict the overall sample to those who respond to the wave 3 survey.

of the gender gap in promotion that remains after controlling for individual and firm characteristics. Finally, hours worked do not seem to explain the gender gap in earnings as much as performance measures do.

In table 17, we analyze the likelihood of becoming a partner. The unconditional gap in the partnership likelihood between male and female lawyers is nearly 10 percent (col. 1). In column 2, after controlling for individual characteristics, educational variables, and firm characteristics, the gap remains very similar. Similarly, in column 3, we show that controlling for hours worked in 2007 explains only a small part of the gender gap (shrinking from 10.5 percent to 9.5 percent).

In columns 4 and 5, we control for our measures of performance: hours billed and the amount of new client revenue generated. Controlling for performance explains a considerable share of the gender gap, such that the point estimate falls to 5.9 percent (col. 4). Moreover, although the gender gap in promotion is still negative, it becomes statistically insignificant once differences in performance are accounted for. Therefore, the number of hours billed and the amount of client revenue raised both have a strong and positive effect on promotion, explaining up to 40 percent of the gap remaining after controlling for individual and

TABLE 17  
PARTNERSHIP

	PARTNERSHIP					
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-.0913** [.0393]	-.105** [.0468]	-.0948** [.0473]	-.0596 [.0488]	-.0581 [.0491]	-.012 [.0630]
Hours worked			.0733* [.0408]		.0143 [.0430]	.0361 [.0582]
Hours billed				.239*** [.0563]	.235*** [.0580]	.251*** [.0818]
New client revenue				.0772*** [.0241]	.0762*** [.0243]	.0458 [.0288]
Aspirations						.0553*** [.0100]
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Individual controls	No	Yes	Yes	Yes	Yes	Yes
Firm controls	No	Yes	Yes	Yes	Yes	Yes
Education controls	No	Yes	Yes	Yes	Yes	Yes
Observations	689	655	655	655	655	454

NOTE.—Partnership takes the value one if the lawyer is an equity partner or shareholder in the law firm in which he or she works in 2012 and zero otherwise, using responses from the third wave of the AJD data. Hours billed is expressed in 1,000s of hours. New client revenue is expressed in 100,000s of US dollars. Hours worked is expressed in 1,000s of annual hours worked. For definitions of the variables, see table 1.

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

firm characteristics. Furthermore, the added value of the performance measures is also brought out by the fact that performance explains a more substantial part of the gap in promotions than hours worked. As with earnings, there is only a small additional contribution in explaining the gender gap when controlling for hours worked in addition to the performance measures (from 5.9 percent in col. 4 to 5.8 percent in col. 5). Since we found that promotion aspirations explain an important part of the gender gap in performance, it is natural to also examine the link between career aspiration and the promotion to partnership. In column 6, we see that early career aspirations (in 2007) are positively and significantly related to becoming partner. We also find that, even after including aspirations, the performance measures remain positive and significant.

## VII. Conclusion

We examine gender differences in performance among high-skilled individuals. Our focus is on the legal profession, which allows us to draw on well-defined and homogeneous measures of workplace performance. We find large gender gaps in workplace performance and that these gaps have substantial consequences for gender gaps in earnings and promotion.

We explore three main hypotheses to explain gender gaps in performance: (i) factors correlated with possible discrimination in the workplace; (ii) the presence of children in the household, particularly young children; and (iii) career concern factors. Possible channels of direct discrimination in law firms—whereby, for instance, senior lawyers (i.e., law firm partners) could interfere with performance—are not strong determinants of performance gaps. The presence of preschool children in the household contributes to the gaps in performance; however, it is not the only key determinant. A substantial share of the gender gap in performance is explained by aspirations to become a partner, which are likely to reflect more general career concerns as well as traditional gender roles.

We find that the distribution of career aspirations differs across genders, which is reflected in the differences in performance. Aspirations to become a partner continue to play a role for the gender performance gap even after taking into account contemporaneous reverse causality concerns—addressed by predicting current aspirations to become a partner using measures that are correlated with aspirations but predate most of the lawyers' time in the legal profession. Gender differences exist in other dimensions, such as area of specialization, time spent networking, and time spent working on weekends. While these factors influence performance, they do not appear to explain the gender gaps in performance.

An important next step would therefore be to examine in greater detail why career aspirations and the effects of raising children differ across gender, affecting even the most elite professional men and women.

Our results reveal the central role of gender gaps in performance for the analysis of gender differences in career outcomes and its determinants. Traditionally, the lack of data on workplace performance, especially in skilled or nonmanual jobs, would leave it to speculation whether gender gaps in career outcomes might be explained by differences in performance. We demonstrate that a considerable share of gender gaps in earnings and promotion to partnership in the legal profession can be explained by including direct measures of a commonly omitted variable: workplace performance. One potential implication is that gender-based inequality in earnings and career outcomes might not decrease in the near future—and could even increase—as more high-skilled workers are explicitly compensated on the basis of performance.

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