

# Gender Promotion Gaps: Career Aspirations and Workplace Discrimination

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## Abstract

Using a representative survey of U.S. lawyers, we document a sizeable gender gap in early partnership aspirations, which explains half of the later gender promotion gap. We propose a model to understand aspirations and then empirically test it. We show that aspirations induce greater effort and increase regret if a promotion is not obtained. Furthermore, aspirations are linked to fertility choices and workplace experiences (mentoring and discrimination). Facing harassment or demeaning comments at an early career stage affects later promotion, mediated via a change in aspirations. We highlight that measuring aspirations, and understanding how they are formed, is key to explaining gender career gaps.

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# 1 Introduction

Professional gender gaps are persistent, despite the strong efforts in recent years to close them. While a large share of academic and popular attention has focused on the existence of gender wage gaps, gender differentials persist in many other professional dimensions. In particular, there are sizeable gender promotion gaps. For instance, among S&P500 companies, women account for only 5% of CEOs, 21% of board members and 26% of managers.<sup>1</sup> In other professions, women account for 20% of law firm partners;<sup>2</sup> and 32% of university professors.<sup>3</sup> Naturally, wage gaps and promotion gaps are highly linked, as promotions are typically accompanied by an increase in pay. However, the consequences of promotion are broader than simply monetary. For instance, promotions often represent a change in status and power within an organization.

In this paper, we highlight the importance of early career aspirations in explaining gender promotion gaps. We study this in the context of the legal profession in the U.S., using a nationally representative sample of U.S. lawyers who are tracked during their professional careers. We document that, among those lawyers who enter private law, when asked early in their career, there is a sizeable difference between men and women in their aspirations to eventually become a partner. While approximately two-thirds of male lawyers have high career aspirations, this is the case for only one-third of female lawyers. This aspiration gap helps explain a large fraction (approximately 50%) of the gender promotion gap in the profession—a gap that is explained neither by detailed entry-level characteristics that are broadly similar for men and women nor by self-declared expectations of being promoted.

We propose a formal model that captures the conventional view of aspirations as the desire to achieve feasible personal goals. The framework allows us to understand the role played by aspirations in career outcomes, and to understand their interactions with other relevant choices and factors, such as effort, expectations, fertility, and work experiences, including mentoring and discrimination, early in the career. We then empirically test the predictions of the model, allowing us to shed light on the mechanism behind the gender gap in aspirations and promotion. The analysis offers important insights into how corporate culture, as well as trade-offs in work-life balance, affect men and women differently, influencing their career goals and, ultimately, leading to differences in eventual promotions.

The legal profession is particularly well suited to understanding the determinants of pro-

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<sup>1</sup>Catalyst, Women CEOs of the S&P500 (2017)

<sup>2</sup>A current Glance at Women in the Law, American Bar Association (2016)

<sup>3</sup>National Center for Education Statistics, IPEDS Data Center, Fall Staff 2015 Survey (2016)

promotion gaps for several reasons. First, like many other highly skilled professions, it exhibits persistent gender promotion gaps; unlike many other professions, however, the process of promotion to partner in the legal profession is well defined and has a similar structure across firms, with the division between partners and nonpartners reflecting most of the relevant hierarchy in a firm. Second, the legal profession traditionally evaluates performance using measures that are transparent and homogeneous across firms (hours billed) and effort measures (hours worked). Third, in recent years, male and female lawyers entering private law firms after completing law school are similar on most observable variables (for instance, performing equally well in law school, equally entering top law school programs, similarly obtaining positions in leading law firms), which raises the question of why promotion gaps persist among the younger cohorts.

Using a nationally representative cohort of lawyers who are tracked over twelve years from law school completion, we begin by documenting a significant gender gap in promotions. Twelve years after joining a law firm, women are 14% less likely to become partners than men. This is a sizeable gap when we consider that there is gender equality at the entry level into the partnership track and that the unconditional probability for men to become partners is 52.9%. The gender promotion gap is virtually unaffected when controlling for other pre-existing demographic, educational, and firm traits, consistent with the finding that these characteristics, when entering the law profession, are very similar between men and women for a given cohort.

This gender gap in promotion echoes a different gap between men and women in terms of career aspirations. We document that, when asked at an early stage of their careers (approximately 6-7 years after taking the bar exam) about their aspiration to eventually make partner on a scale from 1–10, while 60% of men report having high career aspirations (eight or more) to become partners, only 32% of women report similar aspirations. Similarly, while only 13% of men have low career aspirations (three or less), this is the case for 31% of women. These gender differences in career aspirations explain more than 50% of the gender promotion gap. The difference in the promotion gap is largely attributed to differences in the distribution of aspirations between men and women. For a given level of aspirations, however, men and women have the same chances of promotion.

We show that, at the entry level into their career, professional aspirations do not appear to be different between male and female lawyers. As with education or initial firm choices, there are no significant differences in the desire by men and women to be powerful in the profession or to change profession, suggesting that aspirations evolve after some exposure to the profession. Similarly important, we show that career aspirations are connected to

the contemporaneous self-reported probability of becoming a partner in a law firm (i.e., the expectation of becoming a partner). However, aspirations are generally a much better predictor of later promotion and contain information that predicts becoming a partner over and above these corresponding self-reported probabilities. We show that aspirations explain the observable covariate-adjusted difference in the gender promotion gap approximately 1.5 times more than expectations.

To understand the role of aspirations and the mechanisms behind it, we set out an analytical framework to specify testable implications. Aspirations are conventionally defined as the desire to reach an attainable goal. Consistent with this definition, following Genicot and Ray (2017), aspirations are modeled as a kink (or threshold) in the utility function. If the realized outcome crosses the threshold, the individual obtains an additional payoff, increasing in the distance between the outcome and the goal. Our theoretical contribution is to use this concept within a dynamic model where aspirations are endogenously set. Specifically, we analyze a three-period model, where individuals differ in their disutility of labor. We allow aspirations to be endogenously set by a time-inconsistent agent to self-motivate to exert effort. In this sense, it is natural to think that the aspirations for promotion and the effort to obtain it are codetermined and that they are both a function of preferences and cost of effort. In the first period, after the disutility of labor has been drawn, aspirations are chosen. In the second period, the lawyer chooses how much effort to exert. In the final period, promotions are determined as a function of effort.

The model offers three main predictions. First, under broad conditions, aspirations and effort are positively correlated. Higher aspirations create incentives to exert effort to benefit from the additional payoff. A lower disutility of effort is associated with higher endogenous aspirations while a higher level of aspirations also induces greater effort. Second, aspirations are decreasing in the disutility of labor (or, equivalently, increasing with how much one likes to work as a lawyer). Indeed, when disutility of labor is high, even high aspirations are not sufficient to incentivize effort. Third, higher aspirations increase the regret of not achieving the final goal.

We then extend the model to understand the mechanisms that can explain gender aspiration and promotion gaps. In the model, we allow men and women to differ along several dimensions. First, they differ in the initial distribution of the disutility of labor. In particular, early workplace experiences of discrimination (that are more prevalent for women than men) increase the disutility of exerting effort toward achieving promotion. In the case of women, this will induce less effort and lead to a lower inclination to strategically set high aspirations. Second, aspirations, when they are strategically set, reflect future anticipated

constraints, such as family responsibility. If having children increases the cost of effort and, therefore, increases the disutility of labor for women more than for men, it leads women to have fewer children, especially when they have high aspirations. More importantly, anticipating these constraints can induce women to set lower aspirations on average. Fertility choices can, therefore, be an additional source of the aspiration and promotion gaps.

We empirically explore these predictions in the data. First, we show that higher early career aspirations are indeed correlated with early “inputs” that determine promotion, as described in the analytical model by effort. High-aspiring individuals work longer (regular and weekend) hours, bill more hours, and are less likely to switch firms in their early or mid-career. Second, consistent with our model, aspirations are greater among those individuals who report higher levels of satisfaction with being a lawyer at early (and later) stages of their careers. Finally, consistent with the idea of aspirations as a kink in the utility function, the gap in regret for entering the profession among lawyers who make partner versus those who do not make partner, is larger in the case of those lawyers who had reported higher aspirations earlier on in their careers.

The baseline model and this first set of results highlight that aspirations summarize a large share of the relevant information about the desire and the commitment to become a partner at a law firm. The gender difference in aspirations, measured early in lawyer’s career, explains approximately half of the later gender promotion gap. Male and female lawyers are highly similar in terms of performance and observable characteristics when they finish law school. They are also very similar in their educational and professional aspirations at the onset of their career. However, career aspirations measured after a few years of work experience show striking differences between men and women. The large gap in aspirations contrasts with the lack of pre-existing differences across men and women when they join the firm, suggesting that aspirations evolve differently for men and women while working. In the last part of the paper, we test the channels suggested by the model to explain gender aspiration and promotion gaps: early workplace experiences and fertility choices.

The model predicts a gender promotion gap, if, on average, women have a higher disutility of labor early in their careers due to different early workplace treatment and experiences. We focus on two prominent early experiences: discrimination and mentoring. The role of early experiences—of discrimination—within the profession has received little attention in the literature. There are various forms of discrimination, which we classify as “organizational” and “social” discrimination. Organizational discrimination, in its simplest form, would assign different pay for the same work. In the case of lawyers, it could also be attributed to a senior partner assigning a differential caseload assignment to some (equivalently able) lawyers

compared with others based on other characteristics, such as gender. Social discrimination, on the other hand, can be thought of as the interaction with colleagues and the corporate culture of the firm. It may, for instance, include experiencing harassment and derogatory comments by virtue of one's characteristics. It might also be reflected, more generally, in the workplace environment. Moreover, since junior lawyers are often assigned mentors at an early stage in their careers, we additionally investigate the importance of role models and, in particular, the importance of their level of seniority and gender.

We explore both organizational and social forms of discrimination. We find little evidence that promotions are influenced by explicit or implicit organizational discrimination in pay, tasks or case assignment. We do, however, find that social discrimination matters, in particular, for explaining demeaning comments or other types of harassment. Among young lawyers, 25% of the women in our sample experience social discrimination at the start of their careers, compared with only approximately 5% of men. We show that early experiences of discrimination by colleagues strongly affect one's career aspiration to become a partner and, ultimately, are linked to actual future promotion outcomes, consistent with the mechanism suggested by the model. This is a central result, as it shows that small changes in one's labor experiences can have strong and persistent effects. We also show that these comments, which are gender specific, are unrelated to the ex ante characteristics of the lawyer targeted. In this sense, they can be considered as the consequence of a negative shock of being paired with discriminatory colleagues. As such, they provide useful random variation to study the effects of discrimination and more generally with negative shocks that affect aspirations.

A commonly used policy by law firms is to assign junior lawyers to a mentor. This early experience in the workplace might also potentially influence the aspirations of lawyers and the characteristics of their mentor could play an important role. When the lawyers are at an early stage in their career, we observe the seniority and gender of their mentors, finding that the seniority of the mentor is, indeed, positively linked to the career aspirations of the junior lawyers. This is the case for both male and female lawyers. The gender of the mentor, however, does not play an important role. Similarly, the gender-matching of lawyers does not seem relevant for career aspirations.

Finally, to explore the second channel highlighted by the model to explain gender aspiration and promotion gaps, we study the links with fertility choices. The model predicts that if the presence of children has a higher professional cost for women than men, high-aspiration women will have fewer children than high-aspiration men. More generally, the difference in the child penalty could lead to women, on average, setting lower aspirations. We start by documenting a positive selection of both women and men into having children; we do

not observe *ex ante* differences between men and women who have children, nor between men and women who do not. However, *ex post*, women have an 8% lower likelihood than men of having children. Moreover, high-aspiration women are significantly less likely to have children than high-aspiration men. These results are consistent with the predictions of the model, suggesting that female lawyers face a stronger trade-off between family and work than their male counterparts, and the desire to have a family can help explain why some female lawyers may strategically set lower career aspirations.

Our paper contributes to a growing 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., 2019). While there is growing literature on gender gaps in wages and the dynamics of the gender wage gap among the high-skilled (Manning and Swaffield, 2008; Bertrand, Goldin and Katz, 2010; Azmat and Ferrer, 2017), there has been relatively less focus on promotions (see Altonji and Blank, 1999, and Bertrand, 2011, for reviews of the literature). Although the two are highly linked, promotions entail a broader set of implications beyond pay. While studies have shown that women are promoted less than men (Cobb-Clark, 2001; Blau and DeVaro, 2007), recent studies (Bosquet, Combes and Garcia-Penalosa, 2018; and Hospido, Laeven and Lamo, 2020) find that a gender gap in promotion is no longer significant when accounting for gender differences in applying for promotions. Our study documents a gender gap in promotion that is largely explained by differences in career aspirations, suggesting a mechanism for differential promotion seeking.

In the context of the legal profession, when analyzing the performance of young lawyers early in their career, Azmat and Ferrer (2017) show that male lawyers perform better in terms of hours billed and the generation of new client revenue, which, in turn, explains a sizeable part of the gender wage gap. In this paper, we focus on a different labor market outcome: promotion to law-firm partner. We directly link promotions to early career aspirations, highlighting their relevance to making partner and exploring how aspirations are formed. An important goal of our paper is to show, theoretically and empirically, how career aspirations determine “inputs”, such as hours worked, and performance, such as hours billed, which then determine later career outcomes. We argue that aspirations can be strategically set to induce effort but can also be affected by early workplace discriminatory experiences.

A number of studies have shown that the presence of children can be an important obstacle for career progression (see, for instance, Bertrand, 2013). In our study, we show that there is no gender difference in the decision to have children—both women and men exhibit an equally positive selection of having children. However, while the aspirations of female lawyers do not affect their choice to have children, for male lawyers, aspirations are

strongly (positively) correlated with having children. This suggests that, given their level of aspirations, if men and women have a similar desire for children, the trade-off between children and career aspirations is more negative for women.

Another important explanation for gender differences in promotions is often attributed to gender-based discrimination. Goldin and Rouse (2000), for instance, show that women are more likely to be selected in gender-blind contests. Even within the workplace, due to firm culture, men might benefit from socialization in ways that women cannot. It is argued that the “old boys’ club” persists in the workplace and generates lower promotion rates for women who are, *de facto*, excluded (Cullen and Perez-Truglia, 2019). Similarly, harassment is a firm culture-related issue predominantly affecting women, especially in male-dominated environments (Folke et al., 2020), which are likely to discourage women from seeking leadership positions and prompt women to exit male-dominated sectors (Folke and Rickne, 2020). In our paper, we explore in detail the importance of gender-based discrimination on promotion. Focusing on early employment experiences, including both organizational and social discrimination, we find that experiencing sexual harassment or derogatory comments by virtue of one’s gender has a crucial impact on shaping career aspirations and, subsequently, promotion.

Our paper also relates to the theoretical literature on aspiration formation (Ray, 1998; Ray, 2006; Genicot and Ray, 2017) and adaptation (Simon, 1957; Selten, 1998; Karandilur et al., 1998), which highlights, mostly in the context of poverty traps, the importance of aspiration gaps. Several studies have empirically examined the effect of educational interventions on the educational aspirations of children from disadvantaged backgrounds (Heckman et al., 2013; Guyon and Huillery, 2021; and Rizzica, 2019). In our study, we elicit aspirations in a very different context of high-achieving young professionals, focusing on gender differences in aspirations. Similar to the existing literature on poverty and education, our results suggest that early interventions in the workplace (either driven by firm policies or public programs) could have a major and long-lasting impact in narrowing gender gaps in promotions.

Our study focuses on a cohort of similar individuals simultaneously starting homogeneous jobs. Moreover, both the definition of promotion and the procedures to achieve a promotion are well defined within the profession. We observe detailed information on initial conditions (e.g., educational background, proxies for ability, and aspirations) and lawyers’ on-the-job performance, and we follow each individual in their new position for ten years, including if they decide to leave private law or the legal profession completely. While the findings are highly relevant for other high-skilled professions and sectors, the structure allows us to overcome issues that arise when more broadly examining a population of individuals who

may be affected by composition effects and by the lack of comparability of promotions across roles and industries.

Our paper highlights the key role played by the aspirations gap. The analysis of aspirations is important not only insofar as they are a good way to aggregate information about individual preferences, expectations and goals but also because they can be influenced and shaped. What aspirations capture, and how they are formed, is key to understanding the “glass ceiling”. Arguably, our results are externally valid for other high-skilled professions, as well as for understanding other promotion gaps. Policies that shape aspirations can, potentially, have a persistent influence on promotion gaps, for instance, by the adoption of family-friendly policies aimed at better equalizing the demands associated with parenthood across gender or through the design of policies and schemes that target firm culture.

## 2 Institutional Setting and Data Description

The legal profession is among the highest-paid professions in the U.S., along with physicians and CEOs (National Cross-Industry wage estimates, U.S. Bureau of Labor Statistics), and it constitutes a substantial share of U.S. GDP. Legal expenses account for more than 200 billion dollars, which represented 1.5% of U.S. GDP (Bureau of Economic Analysis, U.S. Department of Commerce, 2008).

There was a dramatic expansion of the legal profession in the 1980s that attracted a large number of women. Women now comprise 50% of law graduates, compared with only 22% in 1980. On entry into the labor market, women constitute approximately 45% of large law firms’ associates. Associate lawyers are employees of the firm with the prospect of becoming a partner; they enter the firm on the partnership track. Law firm partners are joint owners and business directors of the legal operation. As such, partners share the risks and the decision-making of the firm and expect to have, on average, higher earnings than salaried lawyers. Partners also have higher levels of responsibility and are expected to manage the firm and bring business to it. The process of making partner is highly prestigious and often very competitive. In many firms, the associate-to-partner ratio is approximately 2:1. Bound by the “up or out policy”, associates who do not make partner are often required to resign from the firm.

As in many high-skilled professions, there is a growing concern about gender earnings and promotion gaps in the legal profession. The gender earnings gap among lawyers persists at approximately 33% (Bureau of Labor Statistics, 2016), with little progress observed over

the past two decades. In terms of promotion, across cohorts, currently only 20% of partners are female. However, although these gaps are smaller when we restrict attention to those who graduated in an era with gender equality in law school graduation (as in our data), we continue to observe important and persistent gaps. Within our sample, men have an approximately 14% greater likelihood than women of making partner twelve years after graduation.

Our analysis is conducted using data from *After the JD*, a nationally representative, longitudinal survey of lawyers in the U.S. The *After the JD* 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 the year 2000 and are subsequently followed at five-year intervals. The survey was first conducted in 2002, and the same lawyers were interviewed again in 2007 and then in 2012.<sup>4</sup> The data include information on relevant job characteristics, employment history, education, family background and family status. Importantly, the survey also includes objective measures of performance and hours of work (both regular and additional), as well as detailed information on workplace experiences, career goals and perceptions, and satisfaction.

At entry in the law profession, participants are primarily employed in private practice (54%), as well as in government jobs and nonprofit organizations (25%), private industries other than law firms (18%), and academic institutions (3%). We primarily focus on those who enter into private law since these are the lawyers who will follow the “partnership track”. We can, however, explore mobility across firms and sectors (within or out of the legal profession), as well as movement out of the labor market (into unemployment or inactivity). Our main outcome variable of interest, the promotion to partner, measures whether the individual obtained partner status by 2012—12 years after joining the law profession, which is enough time to measure the standard partnership track in most firms. We can measure promotion within the firm where the lawyer was initially working, as well as in a different firm. With respect to their aspirations to “making” partner, lawyers are asked, on a scale from 1 to 10, about their aspirations to eventually become a partner in their firm. They are similarly asked about their predicted probabilities (expectations). Promotion aspirations and expectations are directly measured in 2007, approximately seven years after passing the bar. While the same aspiration question is not asked in the earlier, 2002 survey, there are several questions that are closely connected to the aspiration level at the end of law school. For instance, they are asked about the extent to which, after finishing law school, they had the goal to become powerful in the profession, as well as their desire to practice law and their desire to stay in

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<sup>4</sup>The response rate in 2002 was approximately 70 percent. Among those responding in 2002, more than 85 percent also responded in 2007, and in 2012, there was a response rate of approximately 80 percent.

the profession.

In Table 1, we report the pre-labor-market and early-labor-market descriptive statistics among the lawyers, using responses to the 2002 survey, separately by men and women. Overall, we find that men and women have observably similar individual characteristics, educational achievement, and early work-related characteristics and experiences. Female lawyers tend to be slightly younger and are less likely to be married. They also have considerably fewer children. With respect to educational achievement (undergraduate college, rank of law school, one’s own rank within law school year, amount of student debt), there is no significant difference. Similarly, with respect to measures linked to initial professional aspiration, we do not find significant gender differences (whether they considered other careers during law school, the goal to become powerful in the profession, the desire to practice law after school, and the desire to stay a lawyer). Moreover, with respect to firm characteristics (size of firm, type of organization, proportion of women in the firm), characteristics of mentors (gender, seniority), and the types of tasks (and their degree of responsibility), there is no significant difference. However, one striking difference emerges: women receive significantly more demeaning comments than their male counterparts—an important difference that we will explore in detail later in the paper.

### 3 Gender Promotion Gaps and Early Aspirations

#### 3.1 Gender Promotion gap

We begin our analysis by documenting a sizeable gender promotion gap among lawyers twelve years after law school completion. From Column (1) of Table 2, we see that the baseline, unconditional gender promotion gap is on the order of 12.2%, suggesting that women who have been working in law firms have a substantially lower chance than men of making partner. Within a cohort of lawyers on a partnership track, in which close to half are women, this suggests that among those who eventually make partner, 36% will be female, compared with 64% male.

While our focus is on individuals within the same profession and sector, carrying similar educational requirements, there may still be heterogeneity within the profession, such that the gap in promotions could potentially be due to ex ante differences in the characteristics of men and women. These differences could be, for instance, the quality of the undergraduate university or law school or differences in sorting across firms. In columns (2) to (5) of Table

2, we control for individual characteristics, pre-labor-market educational characteristics, and entry-level firm characteristics (Table A1 presents the full set of coefficients). In column (2), when controlling for age and race, we find that the gender promotion gap remains on the order of 12%. When controlling for educational background (university and law school rank, one’s own class rank in law school, the number of job offers, the amount of debt at law school completion) in column (3); marital status, the presence (and age) of children in column (4); and job characteristics (size of firm, type of organization, proportion of women at the firm, the types of tasks) in column (5), the promotion gap continues to hold. In terms of magnitude, the gap actually increases to 13.2% after controlling for job characteristics, suggesting that female lawyers are matched to firms and tasks with a higher probability of promotion.<sup>5</sup> In column (6) we report the gender gap using an entropy matching reweighting procedure (Hainmueller 2012). We reweight observations to minimize the first-, second- and third-order moment differences across men and women for all the observable variables in column (5). The results are very similar to those in column (5). The matching estimator is more robust to nonlinear interactions and indicates that the ex ante observables across men and women are also largely balanced in higher-order moments. If anything, the point estimate of the gender promotion gap actually grows to 14.5% (although, it is not statistically different from the other point estimates). Throughout the rest of the paper, we include the same broad set of controls as in column (5) in all regressions.

### 3.2 Links to the Aspirations Gap

Turning next to career aspirations, we document another striking gap between male and female lawyers—the gender aspirations gap. In Figure 2, we plot lawyers’ career aspirations by gender. When asked to rate their aspirations to eventually become a partner in their firm in 2007, on a scale from 1 to 10, we see that 60% of male lawyers answered 8 or higher, compared to only 32% of female lawyers. Similarly, while 13% of men have low aspirations (3 or less), 31% of women report low aspirations. On this metric, women have on average 50% lower aspirations to be promoted than men; a figure comparable to the actual, eventual promotion gap in 2012. These graphical results are confirmed in Table 3, which echoes the analysis for the promotion gap (Table A2 presents the full set of coefficients). The aspiration gap is large and does not vary substantially when adding controls.

Do gender differences in career aspirations by lawyers contribute to differences in even-

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<sup>5</sup>With respect to individual and firm characteristics, we control for entry-level characteristics, rather than current characteristics, since decisions reflected in the current characteristics could be endogenous to the outcome.

tual promotion? In column (2) of Table 4, we include career aspirations as a continuous variable and in column (3) as a categorical variable in three aspiration bins (low for aspirations between 1 and 3, medium for aspirations between 4 and 7 and high for aspirations between 8 and 10) as a determinant of promotion. We show that the inclusion of career aspirations reduces the point estimate of the gender promotion gap by 55%. Differences in early aspirations explain a sizeable fraction of the gender promotion gap, reducing it by more than half to 6.2%, which is not significantly different from zero. As aspirations increase, the likelihood of promotion also increases linearly (from column (3)). Relative to the lowest aspiration group, those in the middle (highest) aspiration group have a 16% (36%) greater likelihood of promotion.

By examining promotions, we capture whether the lawyer was eventually promoted at any firm and not necessarily the firm where she worked when reporting her aspirations; thus, in Table 5, we consider promotions at the same firm or a better firm as the dependent variable. Men and women might differ in how they revise their expectations, and in particular, men might be more willing to seek a promotion at a worse firm if obtaining a promotion at their current workplace is unlikely. In Table 5, we show that the promotion gap continues to be sizeable and highly correlated with the aspirations gap. However, the gender promotion gap is smaller, on the order of 8.5% (column (1)), suggesting that men are more likely than women to move to a “worse” firm to be promoted. When controlling for aspirations as a continuous variable in column (2) or as a categorical variable in column (3), the gap falls to 2%, confirming again that the promotion gap is well explained by the aspirations gap. Moreover, in column (4), we interact aspirations with gender, showing that there are no significant differences between genders with regard to aspirations. This result is important, as it suggests that the gender promotion gap is largely driven by a different distribution of aspirations between men and women and that for a given level of aspirations, men and women have the same chances of promotion.

### 3.3 Aspirations and Expectations

We now focus on the potential role played by ones’ expectations of promotion. We show that while career aspirations and expectations are actually linked, they do not reflect the same information. Lawyers are asked in 2007 about how they rate their chances of making partner within their firm. The top-left panel of Figure 4 illustrates the strong correlation between aspirations and expectations in our data. The expectations question asks lawyers to report a probability from 0 to 100% in a continuous way. For parts of the analysis, we recode the answers in 10% bins from 1 to 10. We further define low (30% or below), medium (40% to

70% ), and high (80% and above) expectations. Figure 4 shows that the average reported expectation is approximately 72% for those with high promotion aspirations, compared with 23% for those with low promotion aspirations.

In Table 6, we measure how much of the gender promotion gap is explained by gender differences in expectations, measured contemporaneously with aspirations. We perform the equivalent exercise to the one performed in Table 4, showing that gender differences in expectations explain an important part of the gender promotion gap. The gap falls from 13% to 9% (column (3)). However, when examining aspirations separately (column (2)) or doing so jointly with expectations (column (4)), we see that aspirations explain the gender promotion gap over and above the effect of the expectations gap. In column (4), when controlling for both expectations and aspirations, the gap falls to 5.9%, suggesting that expectations provide little additional information to explain the promotion gap beyond that explained by differences in aspirations (where the gap is reduced to 6.5% and not statistically significant). Overall, aspirations retain explanatory power even when saturating the model by including expectations and a wide array of observable characteristics.

To formally quantify how much of the observable covariate-adjusted difference in the gender promotion gap is due to aspirations relative to expectations and other covariates, we apply a decomposition proposed by Gelbach (2016) that provides an order-invariant accounting of the effect of each set of control variables. We calculate the contribution to explaining the gender promotion gap of three groups: the role of aspirations, the role of expectations, and the contribution from all other covariates (the specification in column (4)). The total change in the coefficient between the baseline and the full specification is statistically significant for the gender promotion gap (6.2%). In percentage terms, we find that relative to the other groups, the gender difference induced by differences in career aspirations is the most relevant, explaining more than 70% of the coefficient change. Overall, these results highlight that tracking individual aspirations can be valuable in predicting future outcomes. While career goals and the expectations of success are indeed linked, promotion aspirations contain additional information about the actual probability of promotion over and above their expectations.

## 4 Understanding Aspirations: Analytical Framework

In the previous section, we showed the existence of a substantial career aspirations gap between men and women, which helps to explain the gender gap in promotions to partner.

It is important to understand what determines aspiration differences across individuals and how gender gaps can emerge. We have shown that aspirations differ from expectations and that they contain information about future promotions beyond that contained in self-declared expectations. In this section, we provide an analytical framework that presents what aspirations measure, how they affect outcomes, and how they are determined. The proofs for the model are provided in Appendix A2. In subsequent sections, we empirically test the predictions of the model.

An aspiration can be defined as a desire to attain a feasible goal. In that spirit, a common way to model aspirations in the literature is to define them as reference points or thresholds over some continuous outcome space (Genicot and Ray, 2017; Dalton et al., 2014). If the realized outcome crosses the threshold, the individual obtains an additional payoff, increasing in the extent to which the goal has been surpassed. This modeling strategy accords well with the conventional definition of aspirations.

The key novelty of our analytical framework is that we introduce this formalization of aspirations in a multiperiod model in which aspirations are set endogenously to encourage effort in further periods. In the model, we justify the need for aspirations through a time-inconsistent agent with present bias. The purpose of the model is first, to accommodate the conventional definition of aspirations as goals; second, to formalize the mechanisms driving the aspiration and promotion gap between men and women; and finally, to provide testable empirical implications in an environment in which both aspirations and promotion effort are jointly codetermined.

## 4.1 Analytical Framework

We consider a lawyer who experiences shocks in the work environment at period 0 and makes strategic decisions of how to set aspirations  $a$ . This determines how much effort  $h$  (standing for hours) she exerts in period 1. Finally, these choices determine the outcome in period 2, denoted  $z \in (0, +\infty)$ , a continuous outcome variable that represents how successful the lawyer is later on in her career.  $z$  can be viewed as a composite index of the salary, position and firm where the lawyer works at promotion time.

The lawyer has the following period utility at the end of the game:

$$u(z) = v(z) + v(\max(z - a, 0))$$

where  $a$  represents the level of aspiration. Aspirations are thus reference points or thresholds

as in Genicot and Ray (2017) over some continuous outcome space. If the realized outcome crosses the threshold, the individual obtains an additional payoff, increasing by the extent to which the goal has been surpassed. We impose more structure on this indirect utility and assume that  $v(z) = (1 - e^{-z})$ , an increasing concave function.<sup>6</sup> We illustrate the impact of aspirations on utility in Figure 1 where we draw the baseline utility without considering aspirations ( $v(z)$ ) and the total utility ( $v(z) + v(\max(z - a, 0))$ ) for two distinct levels of aspirations.

The final success  $z$  is stochastically determined as a function of the level of effort exerted by the lawyer. Specifically, we assume that  $z$  follows an exponential distribution  $f(z) = \lambda e^{-\lambda z}$  of parameter  $\lambda = 1/h$ . The expected value of  $z$  is thus naturally increasing in the effort  $h$  (number of hours). Effort is, however, costly, where the cost function is given by  $c(h) = \frac{\alpha}{2}h^2$ .

The parameter that determines the disutility of effort  $\alpha$  is drawn at the start of the game from a distribution  $F$ . It may differ across individuals because of inherent differences or because of early experiences in the workplace. For instance, derogatory comments experienced early on in the career will increase the disutility of labor.<sup>7</sup>

The timing of the game is the following:

- Period 0: the disutility of effort  $\alpha$  is drawn from distribution  $F$ . After observing  $\alpha$ , the individual sets aspiration level  $a$ .
- Period 1: the individual chooses the level of effort  $h$ .
- Period 2:  $z$  is realized and utility collected.

We assume that the lawyer exhibits present bias. Specifically, she has beta-delta preferences, with  $\delta = 1$  and  $\beta \leq 1$ . These preferences are such that for a stream of consumption  $(c_t, c_{t+1}, \dots, c_T)$ , the utility at time  $t$  is given by  $U^t(c_t, c_{t+1}, \dots, c_T) = c_t + \beta \sum_{k=1}^{T-t} u(c_{t+k})$ . Any payoff received in the future will be discounted by a factor  $\beta$ . This model implies a time-inconsistency problem. From the perspective of period 0, the costs of effort in period 1 and the benefits in period 2 are both discounted by a factor  $\beta$ . However, when the effort decision is made in period 1, costs are not discounted, while benefits are discounted at rate  $\beta$ .<sup>8</sup>

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<sup>6</sup>This choice of preferences keeps the analysis tractable, but the results naturally extend to more general preferences.

<sup>7</sup>Similarly, experiencing discrimination may change the perceived mapping between effort and promotion probabilities. This alternative modeling strategy is isomorphic to a change in  $\alpha$  and would yield the same results.

<sup>8</sup>There is a very large theoretical literature proposing models of discounting that account for behavioral

We emphasize in the model the strategic setting of aspirations. However, aspirations could also have an exogenous dimension. Some factors could be contextual and cultural or determined by the direct environment of the individual.<sup>9</sup> While our focus is on the endogenous setting of aspirations, the main forces at play in the model would also apply to a setting in which aspirations are also affected by exogenous factors.<sup>10</sup> While modeling aspirations as endogenous goals is not essential to most of our results, it is a convenient modeling strategy to emphasize that, on the one hand, aspirations are sometimes flexible and potentially affected by external factors (e.g., early career experiences) and, on the other hand, that aspirations are also sometimes rigid and cannot be changed at will, consistent with the view of aspirations as goals or reference points.

## 4.2 Results of the Model

We start by deriving the link in period 2 between aspirations and utility:

**Lemma 1** *For a given level of effort  $h$ , the lawyer's period 2 utility is decreasing in aspirations  $a$ .*

**Proof:** See Appendix A2.

Higher aspirations render the additional payoff  $v(\max(z - a, 0))$  more difficult to attain. This property is illustrated in Figure 1, where the utility function for aspirations set at 1 is below the utility function for aspirations set at 0 for all realizations of  $z$ . Hence, if effort is given, lawyers would always prefer to have low aspirations. However, aspirations may still play a role by creating incentives to exert effort. Indeed, we show in Proposition 1 below that as long as aspirations are not excessively high, the level of effort (or number of hours worked) chosen in period 1 by the lawyer is increasing in aspirations. The idea being that if

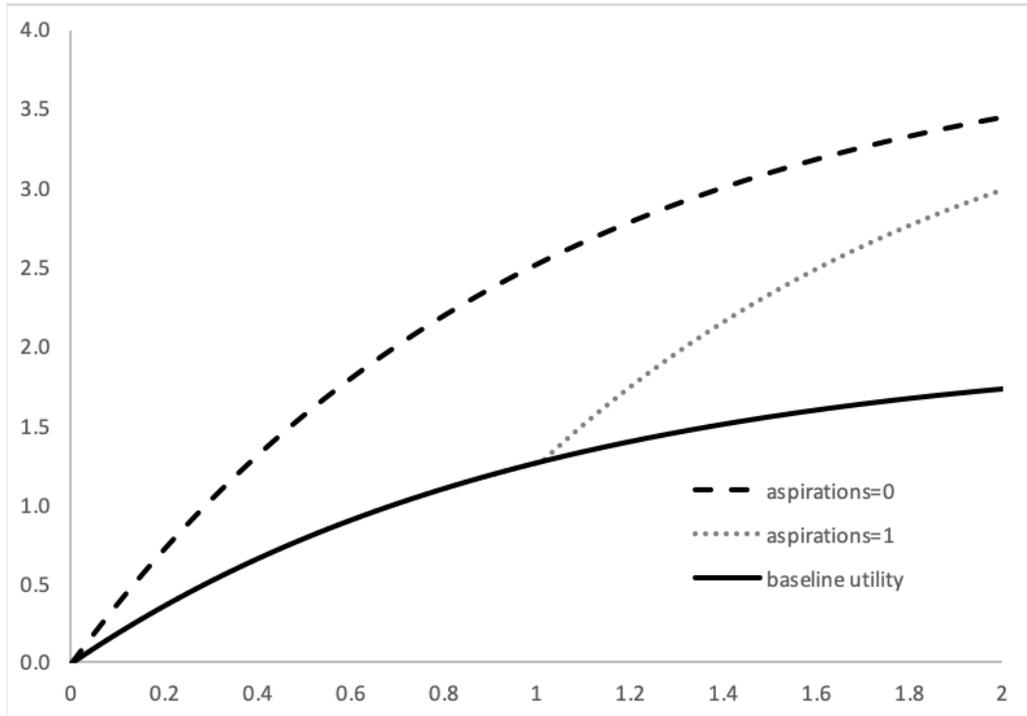
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aspects of intertemporal choice. Prominent among them is the model of hyperbolic discounting (Laibson 1997, O'Donoghue and Rabin 1999, 2001), which we use in this paper. The existence of present bias has been extensively documented in the laboratory (see Frederick, Loewenstein and O'Donoghue 2002) and more recently in the field (DellaVigna and Malmendier, 2006, Meier and Sprenger, 2010, Augenblick et al., 2015). In particular, Augenblick et al. (2015) document that present bias is particularly relevant for effort allocation, which is also the object of the current paper.

<sup>9</sup>For instance, Genicot and Ray (2017) discuss how parents affect the aspirations of their children. Similarly, Azmat and Kaufmann (2019) show how the political environment may change the aspiration to enroll in higher education. More broadly, Ray (2006) introduces the idea of an aspirations window as formed from similar "attainable" individuals.

<sup>10</sup>The results of Proposition 1 would also obviously apply if aspirations were fully exogenously set. Proposition 2 requires aspirations to be endogenous, but its main intuition would still operate in an environment in which aspirations are exogenously assigned but can be partially changed or changed at a cost.

Figure 1: Representation of the utility function



*Note:* The solid black line plots the baseline utility without aspirations. The dashed line plots total utility when aspirations are set at a low level  $a = 0$ . The dotted line plots total utility when aspirations are set at a high level  $a = 1$ . All plots are performed for  $\gamma = 2$ .

aspirations set goals that appear reasonable, they offer the promise of an additional payoff for better outcomes, and this encourages more effort. However, the opposite is also true; if aspirations are too high, such that the goal appears unrealistic, higher aspirations would discourage effort.

**Proposition 1** *There exists  $\bar{a}$  such that, in period 1, effort  $h$  is increasing in  $a$  if and only if  $a \leq \bar{a}$ . Furthermore, for  $a \leq \bar{a}$ , the expected value of  $z$  is increasing in aspirations.*

**Proof:** See Appendix A2.

Proposition 1 shows that there is a positive correlation between aspirations and expectations, understood here as the expected value of  $z$ . Indeed,  $E[z] = \frac{1}{\lambda} = h$ . Thus, when  $a \leq \bar{a}$ , increasing aspirations increases effort and, as a consequence, increases expectations. However, as we discuss in detail in Appendix A3, aspirations and expectations are distinct concepts in our framework, and aspirations can be useful to predict final promotion outcomes,

even when expectations are known.<sup>11</sup>

In period 0, the lawyer strategically sets aspirations that may serve as a commitment device as expressed in the following result:

**Proposition 2** *There exists  $\bar{\beta}$  such that, in period 0, aspirations are set strictly positive  $a^* > 0$  if and only if  $\beta \leq \bar{\beta}$ . Furthermore, if  $\beta \leq \bar{\beta}$ , aspirations are decreasing in the disutility of work  $\alpha$ .*

**Proof:** See Appendix A2.

The intuition for this result is the following. If the individual is not present biased, she will make an optimal choice of effort in the second period, and aspirations are, therefore, initially set at their lowest level since higher aspirations just decrease payoffs according to Lemma 1. However, with present bias, from an ex ante perspective, the lawyer anticipates that she will work an insufficient number of hours in period 1 because effort will involve an immediate cost for a delayed benefit. Thus, for a sufficiently high level of present bias, aspirations, even though they are indirectly costly, become useful to encourage future effort. They serve as a commitment device used by a sophisticated agent to overcome her time-inconsistency problem.<sup>12</sup>

The endogenous setting of aspirations also generates an amplification mechanism; small initial shocks in workplace conditions that affect the disutility of effort, may have large impacts on final outcomes. When a higher disutility of effort is drawn, the direct effect is that the lawyer exerts less effort since it is more costly. There is also an indirect effect because a higher expected disutility of effort induces lower aspirations (Proposition 2) creating a further reduction in effort (Proposition 1). This second reduction in effort would not occur if aspirations were exogenous or if they were set before learning about the disutility of effort. By focusing on the endogenous setting of aspirations, we highlight this important result that indicates that interventions or changes in the initial conditions in the workplace can

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<sup>11</sup>We provide in Appendix A3 an example where two individuals have the same expectations of success but different aspirations

<sup>12</sup>The literature has distinguished naïve individuals (unaware of their dynamic inconsistency) from sophisticated individuals (O'Donoghue and Rabin 2001). The latter type of person searches for commitment devices to overcome time inconsistency. For instance, there is literature showing that commitment devices are effective in encouraging savings and reducing loan defaults (Ashraf et al. 2006). In a different domain, DellaVigna and Malmendier (2006) show how gym memberships can work as a commitment to exercise, an activity that is underperformed due to present bias. Alan and Ertac (2015) show that children also use commitment devices. They show that there is no significant difference in the use of commitment devices between boys and girls.

potentially have major long-term implications if they affect promotion aspirations when they are being set. We draw on this intuition for our analysis of the effect of early work experiences in Section 6.2.

Finally, we examine how aspirations affect the regret of not having achieved a particular goal. Consider a level of success  $\tilde{z}$ , and define regret  $R(\tilde{z})$  as the derivative of the period utility  $u$  at  $\tilde{z}$ . This is a natural way to capture the notion of regret since it measures the difference in utility from just surpassing the target  $\tilde{z}$  compared to just missing it. As clearly seen in Figure 1, for values of  $\tilde{z} \geq 1$ , regret is higher for the lower utility function corresponding to the higher level of aspirations compared to the curve at the top corresponding to low aspirations. The intuition is rooted in the definition of aspirations we consider. Indeed aspirations are a reference point that create a kink in the utility curve. It is precisely because the utility sharply increases above the aspirations level that it stimulates effort, but this also implies that regret will be higher if a target in that range is not achieved. This notion is formalized in the following result.

**Proposition 3** *Regret  $R(\tilde{z})$  is increasing in aspirations for  $\tilde{z} \geq a$ .*

**Proof:** See Appendix A2.

### 4.3 Predictions for the Gender Gaps

We propose two ways through which men and women may differ from the perspective of the model and then discuss how this affects aspiration and promotion gaps in the model: the first way relates to early experiences of discrimination, and the second relates to fertility choices.

First, we assume that the initial disutility of effort at the start of the career is drawn from distribution  $G$  for women and  $H$  for men, where  $G$  first-order stochastically dominates (FOSD)  $H$ . We link this assumption to evidence that women are more likely to experience derogatory comments at the start of their career than men. Under this assumption, we obtain the following result:

**Proposition 4** *If distribution  $G$  first-order stochastically dominates  $H$ , there is an aspiration and a success gap between men and women:  $E_W[a] - E_M[a] < 0$  and  $E_W[z] - E_M[z] < 0$*

**Proof:** See Appendix A2.

This result is a direct consequence of Propositions 1 and 2. Since  $G$  FOSD  $H$ , women have on average a higher disutility of work than men. This situation leads them to set lower aspirations in period 0 and in turn to exert a lower level of effort in period 1.

In the modification of the model presented above, men and women differ due to exogenous shocks on the disutility of effort. However, this difference could also be due to endogenous choices that affect this cost of effort. One natural possibility is the decision to have children. We assume in what follows that having children increases the cost of effort, and more so for women than for men. In this environment, we obtain the following result. First, women have fewer children than men. This is a natural consequence of the fact that children have a larger effect on the disutility of effort for women than for men. Second, this difference comes from women with high aspirations. Indeed, high-aspiration individuals exert more effort, and it is for this group that the increase in disutility of effort is most relevant. Third, the possibility of having children increases the aspiration gap between men and women. For women who have children, the cost of effort increases more than for men, making it difficult for some women to incentivize high effort with higher aspirations. These women, therefore, strategically set aspirations at a lower level.

The endogenous choice of having children affects the aspirational choice of men and women and, therefore, the subsequent probabilities of promotion. Once we take into account this endogenous adjustment of aspirations, the effort choices and promotion probabilities conditional on aspirations are the same for men and women. This is an important insight for our empirical analysis: fertility choices may cause part of the promotion gap and we expect to observe a relationship between children and aspirations. Hence, once we control for aspirations, within the setting of the model, we do not expect to observe a relationship between children and promotion.

**Proposition 5** *If children increase the disutility of effort more in the case of women than of men, then (i) women have fewer children than men, and even more so if they have high aspirations and (ii) the option to have children increases the aspiration gap.*

**Proof:** See Appendix in special case of model.

## 4.4 Testable implications

Our analytical framework offers three main testable results that we present below and then empirically test in the next section (section 5). These are:

1. Aspirations are positively correlated with effort (Proposition 1).
2. Aspirations are negatively correlated with the disutility of labor (Proposition 2).
3. Aspirations are positively correlated with the regret of not obtaining a promotion (Proposition 3).

The previous section also provides possible explanations for the gender gaps in aspirations and promotions under additional assumptions. In section 6, we test the implications of these assumptions as formulated in the Propositions 4 and 5 .

4. Women have fewer children than men. This is especially the case for women who have high aspirations (Proposition 5).
5. Women have more negative experiences at the start of their career. These early work experiences explain part of the aspirations gap (Proposition 4 ).

To test the predictions of our model, it is useful to map the timing of the model to the timeline of the data. Period 2, when outcomes are realized, corresponds to the 2012 survey when promotion is measured. Period 1 corresponds to the 2007 survey when the choice of effort, measured by the number of hours worked and billed, is observed. Period 0 corresponds to a point in time between 2002 and 2007, when, on-the-job experiences affect the perceived probability of success and the disutility of labor which, then influences the development of one's aspirations.

Between completion of law school and entry into the profession (2002) and mid-career (2007), aspirations can evolve, either due to shocks experienced in the workplace or potentially to learning about constraints (a dimension that could easily be added to the model). We have indirect evidence that the aspirations gender gap does grow over time, since in 2002, the gap appears to be very small. As shown in Table 1, men and women are similarly motivated by the goal to become powerful in the profession. They are also similar with respect to educational achievement (undergraduate institution, rank of law school, one's own rank within law school year, amount of student debt). If men and women differed in terms

of aspirations at that stage, they might have invested differentially in education (the model can be extended to include educational choices). Note that neither the model nor our empirical approach requires that aspirations are similar across gender when lawyers join the firm. However, finding small aspirational gaps when lawyers join the firm is a sufficient condition for determining that part of the 2007 aspirational gap builds up over the early professional years of a lawyer.

## 5 Understanding Aspirations: Empirical Analysis

In this section, we empirically test the main predictions outlined in the analytical framework. In particular, we test i) whether aspirations correlate with the effort exerted by the lawyer (in Section 5.1), and ii) how they relate to the ex ante preference for being a lawyer, and how they relate to the satisfaction (and regret) from achieving (not achieving) a promotion (in Section 5.2).

### 5.1 Aspirations and Effort

We examine the links between aspirations and important labor market “inputs” or outcomes in early or mid-career that are relevant to determining eventual promotion and are related to the lawyer’s effort. Factors such as the number of hours worked, the number of hours billed, and the likelihood of changing firms early in one’s career are likely to be important determinants of receiving a promotion. We can consider these inputs as part of the effort exerted to achieve a promotion. The previous section highlighted that, theoretically, higher aspirations should be correlated with higher levels of effort for two reasons: first, higher aspirations induce the lawyer to exert higher levels of effort, and second, a lower disutility of effort leads to setting a higher endogenous aspiration.

In Figure 3, we graphically show that professional aspirations closely track early inputs (hours billed, hours worked, remaining at the same firm). By grouping aspirations into three bins (low, medium, and high), we see that aspirations are monotonically and strongly positively correlated with the hours worked and hours billed and negatively correlated with the probability of changing firms. This finding is consistent with the notion that high aspirations affect a lawyer’s effort, productivity and personal commitment to the firm, thus increasing the likelihood of promotion.

This graphical evidence is confirmed in Table 7. In column (1), we show that individuals with high aspirations work significantly more hours. The effect is large—those in the highest-aspiration group work 300 more hours per year than those in the lowest-aspiration group.<sup>13</sup> The effect is also monotonic, with those reporting mid-level aspirations working 100 hours more than low-aspiration individuals. Similarly, individuals with higher aspirations are significantly more likely to bill more hours, as shown in column (2), an effect of similar magnitude. There is also a large effect, visible in column (3), on the hours worked over weekends, especially among those with the highest aspirations. Finally, higher aspirations make it less likely that individuals will leave their current firm. Column (5) shows that all these “inputs” contribute to receiving a promotion. We show that an increase in hours billed per week by 1 (an increase of 2% relative to the mean) increases on average the probability of promotion by 5%. The other measures of hours worked have less power in explaining partnership; however, there is a strong correlation between hours billed and worked. Early moves from a firm reduce the chances of ending up a partner by 17%.

## 5.2 Aspirations, Preferences and Regret

In each wave of the survey, lawyers are asked about their satisfaction with becoming a lawyer. We use this measure at different points in time to proxy two elements of the model. First, the early responses of lawyers in 2002 about their satisfaction with becoming a lawyer as a proxy for their “type” in terms of their overall disutility of work as a lawyer (corresponding to  $\lambda$  in the model). Second, we look at their final utility after their promotion outcome is revealed (corresponding to the unexpected part of the realization of period utility at the end of the game in the model), to explore the links between aspiration, promotion and regret. More specifically, we use two measures: (1) late satisfaction levels in 2012 and (2) regret for having entered the profession, as measured in 2012.

The second prediction of the model is that aspirations are negatively correlated with the disutility of labor, as expressed in Proposition 2. In Table 8, column (1), we show that there is a monotonic relationship between early satisfaction (as measured in 2002) and aspirations. In particular, professional satisfaction is higher among those who have higher aspirations. Or, alternatively, we can interpret it as the inverse of the disutility of labor, which is highest among those with the highest aspirations. This holds when we include all other controls (column (2)). These results echo the findings of the analytical framework, which suggested that individuals deriving the highest utility from a promotion would be the ones strategically

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<sup>13</sup>This represents six hours more per week, for an average workweek of 50 hours.

setting higher goals.

To explore the third prediction of the model, that aspirations are positively correlated with regret if promotion is not obtained, we focus on the later period and look at their level of satisfaction, as well as a more direct measure of regret, whereby lawyers are asked the extent to which, if they had to do it over again, they would still choose to have gone to law school. In Table 9, column (1), we find that among those with the highest early aspirations, later satisfaction (in 2012) is also higher. When we interact the promotion outcome (i.e., partnership) and aspirations (column (2)), we see that satisfaction is highest for those who have the highest career aspirations and actually achieve their goal. In column (3), we control for earlier levels of satisfaction with the decision to become a lawyer (in 2007) to better isolate the impact of the promotion outcome net of any previous differences in satisfaction. Although we can see that the coefficient falls from 0.70 to 0.48, the effect remains strongly significant. In columns (4) to (6), we repeat this exercise with the measure of regret. We see that among those with the highest early aspirations, later regret (in 2012) is lower (although it is not statistically significant). When we interact promotion outcomes (i.e., partnership) and aspirations (column (5)), we see that there is a strong divergence in regret between those who had high aspirations and made it as partner, versus those who had high aspirations and did not make it as partner. Through the inclusion of earlier levels of regret (in 2007) in column (6), we see that the patterns stay the same and, if anything, get stronger.

## 6 Drivers of Gender Aspiration and Promotion Gaps

As shown in the analytical framework, the cost of improving the chances of being promoted may differ substantially between men and women, with implications for aspirations and promotion outcomes. In this section, we focus empirically on the two dimensions introduced in the model by which the costs of achieving a promotion may differ by gender. First, having children may increase labor costs more for women than for men. Second, women may suffer from discriminatory experiences more often than men, which affects the chances of being promoted *directly* and *indirectly* by lowering aspirations and effort. In the following two subsections, we empirically explore the interaction between these two factors with aspirations and the probability of a promotion.

## 6.1 Aspirations and Fertility Choices

In this section, we study fertility choices and their relationship with aspirations. The decision to have children may have differential professional implications for men and women. As shown in the model, we expect that if women face higher professional costs for having children, the relationship between aspirations and children for women will be more negative (or less positive) than for men. That is, women with higher professional aspirations will endogenously choose to have fewer children. We also expect that, after conditioning for aspirations, there should be no link between children and aspirations. That is, the choice of aspirations should absorb the differential impact of child bearing across men and women.

We show in Table 10, that the predictions of the model, based on the assumption that having children increases more the cost of effort for women than for men, are confirmed in the data. Column (1) shows that female lawyers have fewer children than male lawyers, a difference on the order of 8%. Column (2) shows that this difference is entirely driven by high-aspiration women, as predicted by the model.<sup>14</sup> Columns (3) and (4) show that having children does not affect the probability of being promoted, and this is independent of gender. Columns (5) and (6) also show that, as predicted by the model, there is no impact of children on promotion after controlling for aspirations. While children affect women and men differentially and can help to explain the promotion gap, it happens via the decision to have children and through strategically setting aspirations.

In an additional analysis, we rule out that women with lower ex ante probabilities of being promoted decide to have fewer children, thus creating a spurious negative correlation between children and promotion. In particular, we document that the decision to have children is positively correlated with the ex ante probability of being promoted for both, women and men. Following a strategy similar to that of Bertrand et al. (2010) to understand selection into having children, we use ex ante characteristics that are relevant to being promoted to relate to the decision to have children. We start by predicting, for each lawyer, the probability of being promoted implicit in the model using pre-labor-market information. We then regress this predicted probability on the actual children that the lawyers have in our sample. Overall, we find no evidence that women with children (or women who have children early in their career) are drawn from the lower part of the skill distribution (see Table A3). Both women and men with children have a higher predicted probability of being promoted than women and men without children. That is, lawyers with a greater ex ante chance of being promoted are also those who are more likely to have children. Moreover, we do not

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<sup>14</sup>Note that one empirical result does not fit the prediction of the model: high-aspiration lawyers have, on average, more children. This could be due to other sources of heterogeneity not included in the model.

observe ex ante differences between men and women who have children, nor between men and women who do not have children. This first set of results shows that there is positive selection into having children for both men and women. That is, the same characteristics that are positively linked to promotion are also linked to having children (possibly including promotion itself). However, this selection on ex ante observables does not explain the gender promotion gaps in the sample. In particular, it is not the case that women with worse ex ante characteristics are those who have more children. These results also shed some light on the apparent lack of connection between having children and receiving a promotion of Table 10, Columns (3) and (4). This finding is consistent with the compound effect of a positive selection of lawyers toward having children (as documented in Table A3) and a negative link between kids, aspirations and the likelihood of promotion (as predicted by the model). More generally, note that these results do not exclude that having children is detrimental to one's chances of promotion, nor that it is differentially costly for men and women in the sample, as the decision to have children is clearly endogenous.

These results, paired with our analytical framework, indicate that women and men adjust their decision to have children and aspirations differentially to account for their different professional costs. This finding suggests that the impact of children on career progression is greater for women than for men. In equilibrium, children do not appear to have a differential impact on promotions, as some higher-aspiring women decide to have fewer children and some women strategically set lower aspirations.

## **6.2 Aspirations and Early Professional Experiences (Discrimination and Mentoring)**

The model highlighted a second channel that could explain the aspiration and promotion gaps: women might experience more negative shocks in their early career, driving up the disutility of labor or, directly, reducing the chance of a promotion. We focus our attention on early experiences of discrimination in the workplace and on mentoring. There are various forms of discrimination that can be measured in our data. We classify discrimination into “organizational” and “social” discrimination. Organizational (employer) discrimination, in its simplest form, would assign different pay for the same work. Social discrimination, on the other hand, can be thought of as the interactions with colleagues and the corporate culture of the firm. While it is often difficult to measure and categorize discrimination, our data allow us to study these separately. Overall, we find that while there is little evidence for organizational discrimination affecting aspirations or promotion outcomes, social

discrimination plays an important role. With respect to mentoring, we find that matching with a more senior colleague is positively linked to the future probability of a promotion. However, we do not find any evidence to suggest that the gender of the mentor matters, neither for men or women.

Social discrimination may come in many forms. It might be related to the workplace environment and involve subtle interactions with colleagues or clients. We measure social discriminatory experiences in 2002, five years before lawyers report their professional aspirations and ten years before promotions are measured. Early in their careers, lawyers are asked about whether they have experienced demeaning comments or harassment in the workplace by virtue of their demographics. By 2002, 25% of women reported having such experiences, compared with only 6% of men. In principle, social discrimination could be partially driven by an employee's characteristics. However, in Table A4 Column (1), we show that these experiences are not strongly correlated with other characteristics of the lawyer that we observe, with the exception of gender and race. Important characteristics, such as university rank, grades or the number of job offers, do not appear closely linked to experiencing social discrimination. This result suggests that our measure of social discrimination is not strongly driven by other lawyer's characteristics, so it can be considered as largely a quasi-random negative shock of being paired with discriminatory colleagues.

In Table 11, we explore the effects of demeaning comments and harassment, restricting the analysis to the subset of female lawyers. Columns (1) and (2) show that the experience of social discrimination leads to lower aspirations of being promoted and a lower probability of being effectively promoted ten years after the discriminatory experience. Moreover, in column (3), we show that most of the effect of demeaning comments and harassment on promotion is incorporated into the change in aspirations induced by them. Once we control for professional aspirations, the direct effect of demeaning comments and harassment on promotions is not statistically significant. While we cannot make formal claims of causality, these experiences of harassment can reasonably be considered random adverse shocks, as they are uncorrelated with a comprehensive set of ex ante characteristics of the lawyers (as shown in Table A4).

The importance of social discrimination experiences on aspirations and promotion, in combination with the idea that aspirations can serve as a self-commitment device, indicates that the determination of aspirations can amplify the effect of early discrimination experiences on promotion outcomes. To illustrate this idea, one can think of a modified version of the model in Section 4 in which workplace discrimination increases the disutility of exerting effort or decreases the utility of a given promotion outcome. If a lawyer experiences discrim-

ination after aspirations have been established, it will directly affect promotion outcomes via a lower level of effort. However, if a lawyer experiences discrimination before aspirations have been set, discrimination will affect the effort devoted to becoming a partner not only directly but also indirectly via the setting of lower aspirations. This is an important result, as it highlights that small interventions in the workplace that have an impact on aspirations can have a larger long-term effect on outcomes if they are performed early on, before aspirations have formed.

Next, we turn to measures of organizational discrimination in Table 12. We explore various measures of potential organizational discrimination. First, we focus on the most straightforward measure of whether male and female lawyers have a different return on the same performance. In column (1), we show that the number of hours billed (performance) is positively correlated with the probability of promotion. However, there is no differential impact by gender, suggesting that men and women are not rewarded differently for a given hour billed in terms of being promoted. Similarly, we do not see a gender differential for returns on hours worked. That is, *ceteris paribus*, the promotion impact of higher productivity appears to be the same for men and women. Second, we examine several other explicit or implicit ways in which an employer might discriminate against a lawyer. At an early stage in their career, junior lawyers are supervised by more senior lawyers. These senior lawyers could potentially “interfere” with the number of hours that associate lawyers bill, such that there could be scope for discrimination. Moreover, lawyers could receive more or fewer case assignments at the discretion of their more senior colleagues. We investigate the importance of case assignment for promotion and whether receiving enough assignments differs by gender. We also investigate whether seniors “write-down” hours billed (i.e., not awarding associate lawyers full credit for the hours that they bill) differently by gender. Overall, we do not find gender differences in either of these measures on promotion (as shown in columns (3) to (6)). Taken together, these results indicate that the direct effect of explicit organizational discrimination on promotion probabilities is perceived by lawyers to be small. The impact of social discrimination on aspirations and promotions is, however, quite large. This suggests that the indirect effect of discrimination on promotions via changing aspirations may be an important one.

We end this section by examining a different dimension of early work experience—the interaction with one’s mentor in the firm. Junior lawyers are often assigned mentors during the early stage of their career. In the data, we observe both the gender of the mentor and the level of seniority. Mentoring can change promotion probabilities both directly (by providing useful advice) and indirectly by changing the aspirations of the lawyer. Firms often try to help women reach leadership positions through better mentoring and by matching them

with senior female mentors. Table 13, column (1), shows that having a senior mentor is strongly correlated with having high career aspirations. This is the case for both male and female lawyers. In column (3), when we link mentoring to the likelihood of being promoted, we find a positive correlation between having a senior mentor and being promoted. While some of the effect could be driven by sorting on characteristics, in Table A4, we show that there is no evidence of sorting on the most relevant characteristics of the lawyers and being assigned to a senior mentor. This may, in part, be driven by positive sorting on unobservable characteristics. Turning to gender-matching, columns (2) and (4) show that a female mentor is not correlated with aspirations or promotion, and this is independent of the gender of the lawyer. This suggests that there is no strong positive evidence of having female mentors acting as role models for more junior women. Therefore, a policy aimed at matching junior female lawyers with female mentors might not be optimal, given that seniority is important to reach the top and there are currently fewer senior female mentors.

Overall, the results in this section show that aspirations can be affected by early workplace experiences and, in particular, by early experiences of social discrimination in the form of harassment or demeaning comments by colleagues. These early experiences lead to a reduction in promotion aspirations and can be a key driver of aspirational and subsequent promotion gaps.

## 7 Conclusions

This paper shows how an important fraction of the gender promotion gap in the legal profession (approximately 55%) can be explained by different aspirations to become a partner, even after controlling for a comprehensive set of firm and individual characteristics and for the expectation of being promoted. We introduce an intuitive and parsimonious model of aspirations that proposes channels for these gender gaps and a number of testable predictions. We show that aspirations induce greater effort and generate regret if the goal of being promoted is not attained. We additionally show that facing sexual harassment or demeaning comments early in the career can affect the setting of aspirations and, ultimately, have a large impact on promotion.

Overall, our results highlight that studying aspirational gaps is crucial to understanding the gender “glass ceiling”. The study is equally important in bringing together the traditional demand- and supply-side drivers of gender career gaps. While aspirations are, strictly speaking, preferences and are strategically set to induce effort, we show that they are also

sensitive to the workplace environment. This amplification mechanism implies that small changes in how firms deal with their employees early in their careers can have large and long-lasting effects on their performance and promotion chances. Moreover, measuring the impact of different policies on aspirations can serve as a good predictor of the efficacy of such policies; for example, we show that matching junior lawyers with senior mentors is more helpful than gender matching mentors and mentees.

While we do not find evidence of systematic discrimination in the procedures that firms use to assign cases or workloads, we do see that early experiences of social discrimination in the workplace affect aspirations. This issue poses a challenge for the internal policies of firms that attempt to eliminate gender discrimination and improve the aspirations of young professional women. The forms of social discrimination that are more harmful to women’s aspirations are precisely those for which information is “softer” and more difficult to obtain, in contrast with organizational discrimination, for which “hard” information is easier to obtain and on which firm policies are more likely to have an impact. Policies aimed at changing the corporate culture could, therefore, help overcome professional gender gaps.

Another potential avenue for policy is to better equalize, across gender, the demands associated with parenthood. We show that children indirectly impact the gender differences in promotion via their differential impact in aspiration formation. While the design of family-friendly policies is not always straightforward and can potentially exacerbate gender gaps in labor market outcomes because of missed on-the-job experiences, countries such as Sweden and Norway have tried to tackle this problem through the introduction of paternity leave that requires both parents to take at least part of parental leave or risk losing the benefit.

From the perspective of external validity, we propose a parsimonious theoretical framework that is broadly applicable to study differences in aspirations and achievements of various groups. While our empirical focus is on gender gaps in the legal sector, our results can help shed light on gender gaps in other high-skilled environments, as well as on other sociodemographic differences. As an example, we show that the link between the promotion and aspiration gap can also be found when performing the same analysis based on race. In Table 14, we see that there is a promotion gap of 14% (after controlling for other characteristics) between white and nonwhite lawyers. As in the case of gender, controlling for aspirations significantly decreases the promotion gap, explaining approximately 32% of the gap.

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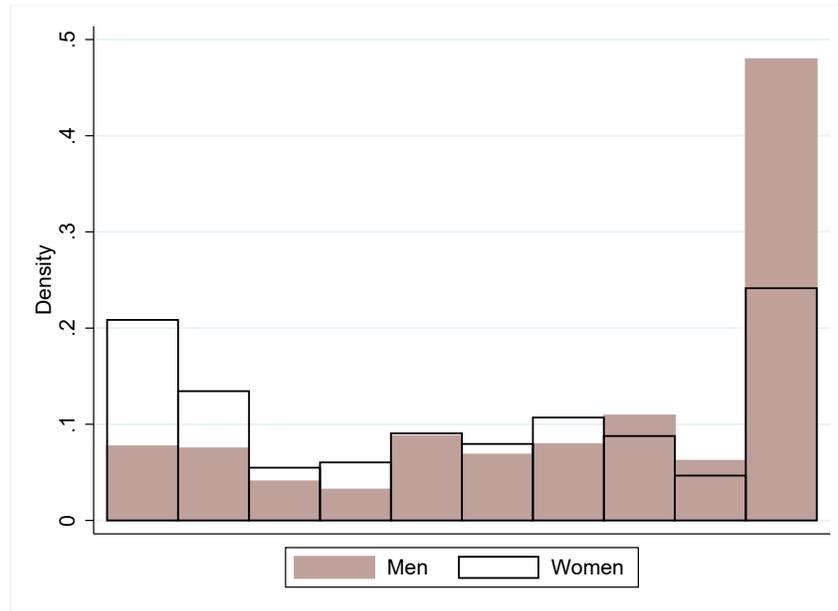
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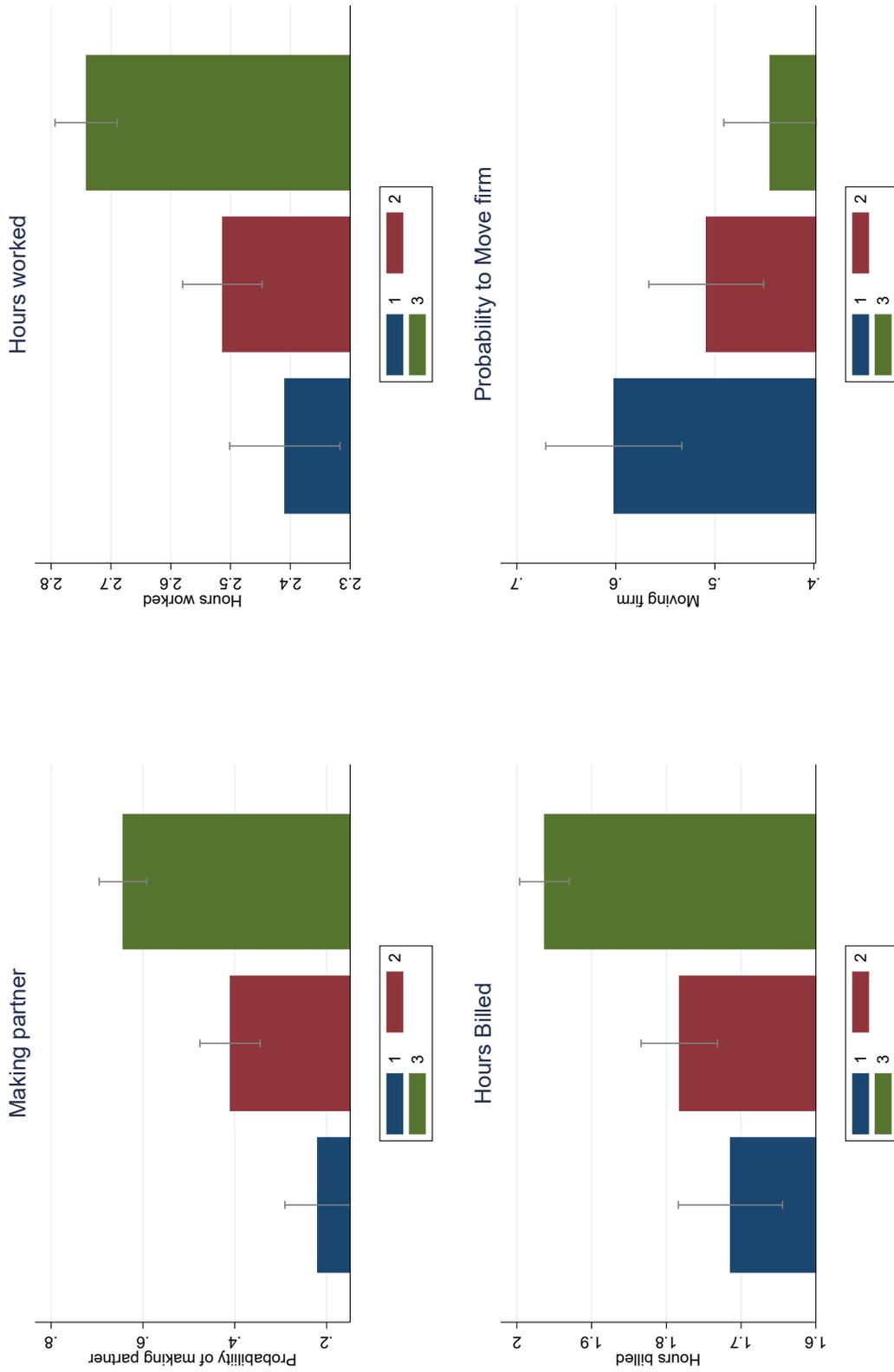
## 8 Tables and Figures

Figure 2: Career (Partnership) Aspirations (by gender)



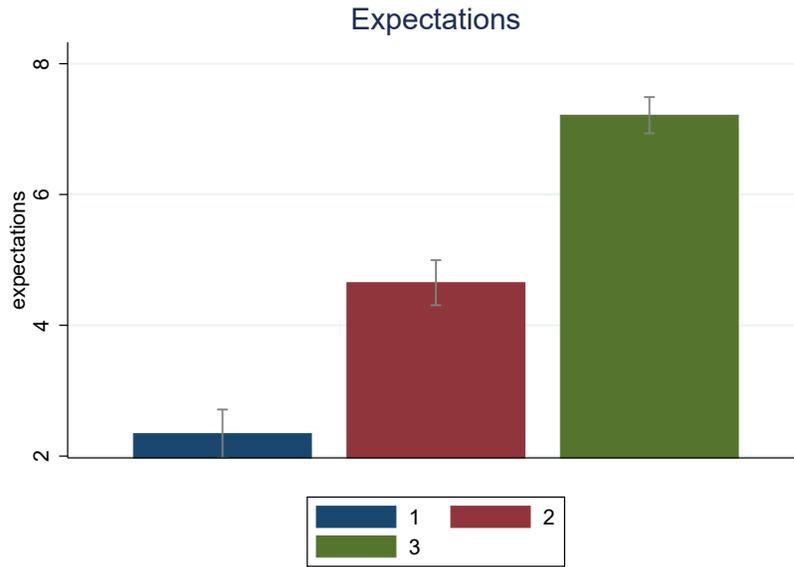
*Note:* The figure plots, by gender, the responses to the question: “How strongly do you aspire to attain an equity partner position within your firm?” This is on a scale from 1 (Not at all) to 10 (Very high). We restrict the data to individuals who are observed billing at least one hour in our data. The figure compares aspirations for men and women. Aspirations are measured on a 10-point Likert scale.

Figure 3: Aspirations and Effort



Note: The figure plots, by career aspiration groups (low, medium, high), the following: in the top-left panel, we plot the proportion of individuals who are promoted to partner. In the top right, we plot the number of annual hours worked (expressed in thousands of hours). In the bottom left, we plot the number of annual hours billed (expressed in thousands of hours). In the bottom right, we plot the probability of changing firms within the first five years. We restrict the data to individuals who are observed billing at least one hour over the sample period.

Figure 4: Aspirations and Expectations



*Note:* The figure plots, by career aspiration groups (low, medium, high), the following: In the left panel, we plot the expectations of being promoted to partner (“How would you rate your chances, as a percentage ranging from 0 to 100, of attaining each of the following positions in your firm?”). We bin the responses into deciles). In the right panel, we plot preferences regarding being a lawyer (“How satisfied are you with your decision to become a lawyer?”; this is on a scale from 1 to 5). We restrict the data to individuals who are observed billing at least one hour over the sample period.

Table 1: Descriptive Statistics

<b>Panel A: Socio-economic characteristics</b>						
	Women		Men		Difference	
	mean	sd	mean	sd	b	t
Age	30.11	4.52	31.07	4.50	0.96	(2.17)
White	0.82	0.38	0.88	0.33	0.06	(1.58)
Married	0.57	0.50	0.65	0.48	0.08	(1.58)
No. Children	0.26	0.64	0.55	0.94	0.29	(3.84)
Child under 4 yrs	0.08	0.28	0.20	0.40	0.12	(3.71)
Observations	303		376		679	

<b>Panel B: Pre workplace variables</b>						
	Women		Men		Difference	
	mean	sd	mean	sd	b	t
Rank UG Uni.	12.86	3.71	12.50	3.49	-0.37	(-1.03)
Rank Law School	4.95	0.99	4.90	0.98	-0.05	(-0.52)
Rank in LS Class	2.22	0.98	2.36	1.09	0.15	(1.46)
Job Offers	2.78	2.36	2.73	2.67	-0.05	(-0.21)
Debt after LS	4.69	2.25	4.83	2.28	0.14	(0.62)
Decision Lawyer	3.88	1.02	4.01	0.92	0.13	(1.30)
Stay Lawyer	3.57	1.37	3.66	1.37	0.09	(0.69)
Practice Law	1.14	0.34	1.14	0.35	0.01	(0.24)
Other Career	0.81	0.39	0.83	0.38	0.02	(0.50)
Goal Power	2.99	1.26	3.00	1.20	0.01	(0.05)
Observations	303		376		679	

<b>Panel C: Workplace variables</b>						
	Women		Men		Difference	
	mean	sd	mean	sd	b	t
Size Firm	278.30	527.45	239.62	336.46	-38.68	(-0.84)
Private Firm	0.96	0.20	0.95	0.22	-0.01	(-0.38)
Av High Resp. Tasks	2.37	0.86	2.50	0.85	0.12	(1.47)
Av Low Resp. Tasks	1.95	0.63	1.99	0.56	0.04	(0.66)
Share Women firm	33.56	17.13	27.86	19.67	-5.69	(-3.19)
Senior Mentor	0.68	0.47	0.64	0.48	-0.05	(-1.01)
Male Mentor	0.60	0.49	0.67	0.47	0.07	(1.54)
Sen.Male Mentor	0.53	0.50	0.59	0.49	0.06	(1.17)
Comments	0.24	0.43	0.06	0.25	-0.18	(-4.94)
Observations	303		376		679	

*Note:* We restrict the data to individuals who are observed billing at least one hour over the sample period. *White* takes 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). *Married* takes value one if the lawyer is married in 2002, remarried after a divorce or in a domestic partnership and zero if single, divorced or separated, widowed, or other. *No. Children* and *Child under 4 yrs* refers to the lawyer's number of children and if they have a child under age 4 in 2002, respectively. *Rank undergrad uni* and *Rank law school* are bracketed

rankings based on the 1996 and 2003 U.S. News reports for undergraduate and law school studies, respectively. Both variables are redefined such that the higher the value is, the more prestigious the educational institution. *Rank in class* is the lawyer's rank among the own cohort in law school. *Job offer* represents the number of job offers received after graduating and before taking the current position. *Debt after LS* is the amount of debt accumulated by the lawyer as of 2002. *Decision Lawyer* is how satisfied the lawyer is with their decision to become a lawyer in 2002. *Stay Lawyer* measure how much longer the lawyer plans to stay with your current employer (measured in 2002). *Practice Law* asks lawyer when they entered law school, if they intended to practice law (measured in 2002). *Other Career* is whether lawyer considered other careers instead of or in addition to law (measured in 2002). *Goal Power* is the importance of the goal when entering law school of becoming influential in a powerful profession. *Size of Firm* is the number of individuals employed in the organization in 2002. *Private Firm* takes value one if the lawyer works in a private law firm and zero if the lawyer works for another organization in 2002. *Av High Resp Tasks* is the average score on high-reasonability tasks in 2002. *Av Low Resp Tasks* is the average score on high-reasonability tasks in 2002. *Share of women firm* is the proportion of women in the firm in 2002. *Senior Mentor* refers to whether the lawyer's mentor is a law firm partner. *Male Mentor* refers to whether the lawyer's mentor is male. *Comments* refers to whether, in the last two years (as measured in 2002), the lawyer experienced demeaning comments or other types of harassment by virtue of his or her race, religion, ethnicity, gender, disability, or sexual orientation.

Table 2: Gender Promotion Gap

	Promoted to Partner					
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.122*** (0.038)	-0.120*** (0.039)	-0.124*** (0.039)	-0.124*** (0.039)	-0.132*** (0.040)	-0.145*** (0.038)
Constant	0.541*** (0.026)	0.812*** (0.141)	1.297*** (0.216)	1.286*** (0.219)	0.772 (0.511)	0.564*** (0.027)
Individual controls	No	Yes	Yes	Yes	Yes	Yes
Education controls	No	No	Yes	Yes	Yes	Yes
Family controls	No	No	No	Yes	Yes	Yes
Firm controls	No	No	No	No	Yes	Yes
Reweighting	No	No	No	No	No	Yes
Observations	680	679	679	679	679	679
Adjusted $R^2$	0.013	0.022	0.042	0.038	0.044	0.020

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. In all columns, the dependent variable takes value 1 if the individual made partner by 2012 and 0 otherwise. Individual controls include *Female*, *Age* and race dummies (*White (omitted category)*, *Black*, *Hispanic*, *Indian*, *Asian*, *Others*). Education controls include *Rank UG Uni.*, *Rank Law School*, *Rank in LS Class*, *Job Offers*, and *Debt after LS*. Family controls include *Married*, *Children*, and *Child Aged 4*. Firm controls include *Share of women firm*, separate dummies for *Types of organization* (solo practice, private law firm, federal government, state or local government, legal services or public defender, public interest organization, educational institution, professional service firm, other Fortune 1000 industry/service, other business/industry, labor union, trade association, others), separate dummies for *Size of firm* (size of the organization, in bins, 0-5, 6-10, 11-25, 25-50, 51-100, 101-150, 151-200, 201-250, 251-500, 501-1000, and 1000+), separate dummies for *Types of tasks* (for each of the following, lawyers are asked about their involvement on a scale from 1 (None) to 5 (All): keeping the client updated, being involved in formulating strategy, traveling to make court appearances or to meet clients, or holding face-to-face meetings with clients, and *Tenure at firm*). For further definitions of the variables, see Table 1. See Table A1 for the full set of coefficients.

Table 3: Gender Aspirations Gap

	Career Aspirations				
	(1)	(2)	(3)	(4)	(5)
Female	-1.699*** (0.245)	-1.642*** (0.248)	-1.614*** (0.249)	-1.524*** (0.251)	-1.586*** (0.254)
Constant	7.366*** (0.164)	7.402*** (0.905)	10.202*** (1.387)	10.521*** (1.403)	5.548* (3.218)
Individual controls	No	Yes	Yes	Yes	Yes
Education controls	No	No	Yes	Yes	Yes
Family controls	No	No	No	Yes	Yes
Firm controls	No	No	No	No	Yes
Observations	680	679	679	679	679
Adjusted $R^2$	0.065	0.067	0.084	0.088	0.120

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. *Career Asp.* refer to how strongly the lawyer aspires to obtain partnership. The variable takes values from 1 to 10, where 1 represents not at all and 10 represents very high. For definitions of the variables, see Table 2. See Table A2 for the full set of coefficients.

Table 4: Gender Promotion Gap and Aspirations

	Promoted to Partner		
	(1)	(2)	(3)
Female	-0.132*** (0.040)	-0.065 (0.040)	-0.065 (0.040)
Career Asp.		0.043*** (0.006)	
Mid Aspirations			0.161*** (0.055)
High Aspirations			0.361*** (0.053)
Constant	0.820 (0.520)	0.535 (0.493)	0.691 (0.503)
Observations	679	679	679
Adjusted $R^2$	0.044	0.109	0.114

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. In all columns, the dependent variable takes value 1 if the individual made partner by 2012 and 0 otherwise. *Career Asp.* refer to how strongly the lawyer aspires to attain partnership within his or her firm. The variable takes values from 1 to 10, where 1 represents not at all and 10 represents very high. *Mid aspirations* takes aspiration values from 3 to 7, and *High aspirations* takes aspiration values of 8 or more. The omitted category is *Low aspirations*, which takes aspiration values of less than 3. All columns include *Individual*, *Education*, *Family* and *Firm* controls. For definitions of the variables, see Table 2.

Table 5: Gender Promotion Gap and Aspirations: At Same (or Better) Firm

	Promoted to Partner in Same (or Better) Firm			
	(1)	(2)	(3)	(4)
Female	-0.085** (0.038)	-0.023 (0.038)	-0.024 (0.038)	-0.047 (0.086)
Career Asp.		0.039*** (0.006)		
Mid Aspirations			0.149*** (0.052)	0.112 (0.082)
High Aspirations			0.327*** (0.050)	0.316*** (0.075)
Female $\times$ Mid. Asp				0.064 (0.106)
Female $\times$ High. Asp				0.010 (0.101)
Constant	0.340 (0.487)	-0.064 (0.363)	0.220 (0.473)	0.087 (0.464)
Observations	679	679	679	679
Adjusted $R^2$	0.035	0.096	0.100	0.094

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. In all columns, the dependent variable takes value 1 if the individual is promoted to partner by 2012 and 0 otherwise at the firm where he or she was employed in 2007 or at a firm that is larger. All columns include *Individual*, *Education*, *Family* and *Firm* controls. For definitions of the variables, see Tables 2 and 4.

Table 6: Aspirations and Expectations

	Promoted to Partner			
	(1)	(2)	(3)	(4)
Female	-0.132*** (0.040)	-0.065 (0.040)	-0.090** (0.039)	-0.059 (0.040)
Mid Aspirations		0.161*** (0.055)		0.102* (0.057)
High Aspirations		0.361*** (0.053)		0.236*** (0.060)
Mid Expectations			0.173*** (0.049)	0.119** (0.052)
High Expectations			0.344*** (0.048)	0.232*** (0.054)
Constant	0.820 (0.520)	0.691 (0.503)	0.716 (0.501)	0.667 (0.497)
Observations	679	679	679	679
Adjusted $R^2$	0.044	0.114	0.115	0.136

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. In all columns, the dependent variable takes value 1 if the individual made partner by 2012. *Expectations* refer to the lawyers' perceived probability of obtaining partnership (they are asked how they rate their chances, as a percentage ranging from 0 to 100, of attaining partnership at their firm. We bin the responses into 10 bins). *Mid expectations* takes expectations values from 3 to 7, and *High expectations* takes expectations values of 8 or more. The omitted category is *Low expectations*, which takes expectations values of less than 3. All columns include *Individual*, *Education*, *Family* and *Firm* controls. For definitions of the variables, see Tables 2 and 4.

Table 7: Aspirations and Effort

	Hours Worked (1)	Hours Billed (2)	Hours Weekend (3)	Move Firm (4)	Promoted to Partner (5)
Mid Aspirations	0.107* (0.055)	0.088** (0.038)	0.299 (0.353)	-0.063 (0.046)	
High Aspirations	0.309*** (0.053)	0.244*** (0.037)	0.824** (0.344)	-0.131*** (0.045)	
Hours Worked					0.003 (0.002)
Hours Billed					0.184*** (0.055)
Hours Weekend					-0.000 (0.007)
Move Firm					-0.174*** (0.043)
Constant	2.921*** (0.568)	1.957*** (0.346)	3.070 (3.036)	0.526 (0.478)	0.555 (0.499)
Observations	917	884	864	922	600
Adjusted $R^2$	0.115	0.180	0.026	0.099	0.084

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. *Hours worked* is the annual is the number of hours worked (expressed in thousands of hours) in 2007. *Hours Billed* is the annual number of hours billed (expressed in thousands of hours) in 2007. *Hours worked weekends* is the annual number of hours worked on weekends (expressed in thousands of hours) in 2007. *Move firm* is a dummy variable taking value 1 if the individual moved firm before 2007. *Promoted Partner* is a dummy variable taking value 1 if the individual made partner by 2012. All columns include *Individual*, *Education*, *Family* and *Firm* controls. All columns include *Individual*, *Education*, *Family* and *Firm* controls. For definitions of variables, see Tables 2 and 4.

Table 8: Aspirations and Preference to be Lawyer

	Preference (2002)	
	(1)	(2)
Mid Aspirations	0.035 (0.099)	0.085 (0.104)
High Aspirations	0.485*** (0.092)	0.496*** (0.101)
Constant	2.698*** (0.078)	4.051*** (0.940)
Observations	766	765
Adjusted $R^2$	0.054	0.074

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. In all columns, the dependent variable *Preference 2002*, measures how satisfied the respondents are with their decision to become a lawyer (on a scale from 1 to 5). All columns include *Individual, Education, Family* and *Firm* controls. For definitions of the variables, see Tables 2 and 4.

Table 9: Aspirations and Regret

	Preference (2012)			Regret (2012)		
	(1)	(2)	(3)	(4)	(5)	(6)
Promoted to Partner	0.144 (0.089)	-0.321 (0.230)	-0.204 (0.192)	-0.166 (0.169)	0.900** (0.436)	0.687* (0.362)
Mid Aspirations	0.011 (0.122)	-0.023 (0.141)	-0.038 (0.121)	0.283 (0.231)	0.558** (0.268)	0.497** (0.229)
High Aspirations	0.374*** (0.122)	0.121 (0.148)	-0.163 (0.128)	-0.200 (0.231)	0.157 (0.281)	0.681*** (0.241)
Mid Asp*Partner		0.315 (0.274)	0.167 (0.230)		-1.222** (0.519)	-0.869** (0.434)
High Asp*Partner		0.706*** (0.261)	0.477** (0.220)		-1.268** (0.495)	-1.073*** (0.412)
Pref. 2007			0.559*** (0.036)			
Regret 2007						0.612*** (0.037)
Constant	4.284*** (1.087)	4.415*** (1.085)	1.783** (0.798)	1.211 (2.059)	0.796 (2.057)	-0.084 (1.715)
Observations	656	656	626	656	656	621
Adjusted $R^2$	0.036	0.047	0.337	0.015	0.023	0.345

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. In all columns of Panel A, the dependent variable *Regret 2012*, measures lawyers' regret with the decision to go to law school (measured in 2007). The question asked is "if I had to do it over again, I would still choose to have gone to law school." This is on a scale of 1 to 7 of extent of agreement. We invert the measure to facilitate the interpretation. In all columns of Panel B, the dependent variable *Preference 2012*, measures how satisfied the respondents are with their decision to become a lawyer (on a scale from 1 to 5). All columns include *Individual*, *Education*, *Family* and *Firm* controls. *Regret 2007* measures lawyers' regret with the decision to go to law school (measured in 2007). *Pref. 2007* measures lawyers' satisfaction with the decision to become a lawyer (measured in 2007). For definitions of the variables, see Tables 2 and 4.

Table 10: Aspirations and Children

	Children (1)	Children (2)	Promoted (3)	Promoted (4)	Promoted (5)	Promoted (6)
Mid Aspirations	0.082** (0.042)	0.108* (0.065)			0.160*** (0.055)	0.159*** (0.055)
High Aspirations	0.068* (0.040)	0.161*** (0.059)			0.359*** (0.053)	0.363*** (0.053)
Female	-0.078** (0.031)	0.018 (0.066)	-0.134*** (0.040)	-0.166*** (0.057)	-0.064 (0.040)	-0.118** (0.055)
FemalexMid. Asp		-0.024 (0.084)				
FemalexHigh. Asp		-0.197** (0.080)				
Children			-0.011 (0.046)	-0.041 (0.059)	-0.019 (0.044)	-0.068 (0.057)
FemalexChildren				0.062 (0.079)		0.105 (0.076)
Constant	0.057 (0.358)	-0.021 (0.362)	1.300*** (0.432)	1.288*** (0.433)	0.900** (0.421)	0.874** (0.421)
Observations	922	922	679	679	679	679
Adjusted $R^2$	0.266	0.272	0.046	0.045	0.115	0.116

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. *Children* refers to whether the lawyer has children. *Promoted Partner* is a dummy variable taking value 1 if the individual made partner by 2012. All columns include *Individual*, *Education*, *Family* and *Firm* controls. For definitions of variables, see Tables 2 and 4.

Table 11: Social Discrimination (Female Lawyers Only)

	Career Asp. (1)	Promoted to Partner (2)	Promoted to Partner (3)
Comments	-1.084** (0.538)	-0.182** (0.079)	-0.122 (0.075)
Mid Aspirations			0.270*** (0.080)
High Aspirations			0.438*** (0.083)
Constant	0.621 (5.331)	1.083 (0.786)	1.098 (0.747)
Observations	251	251	251
Adjusted $R^2$	0.099	0.107	0.209

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. *Comments* refer to whether the lawyer experienced demeaning comments or other types of harassment in the last two years (as measured in 2002) by virtue of their race, religion, ethnicity, gender, disability, or sexual orientation. All columns include *Individual*, *Education*, *Family* and *Firm* controls. For definitions of the variables, see Tables 2 and 4.

Table 12: Organizational Discrimination

	Promoted to Partner					
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.095** (0.042)	-0.148 (0.186)	-0.123*** (0.040)	-0.112** (0.046)	-0.135*** (0.040)	-0.144*** (0.043)
Hours Billed	0.208*** (0.051)	0.195*** (0.067)				
Hours Billed*Female		0.029 (0.099)				
Not Enough Assignments			-0.208*** (0.046)	-0.188*** (0.062)		
Not Enough*Female				-0.042 (0.090)		
Hours Discounted					-0.152*** (0.058)	-0.179** (0.076)
Hours Discounted*Female						0.062 (0.113)
Constant	0.566 (0.523)	0.586 (0.527)	0.978* (0.513)	0.991* (0.514)	0.872* (0.517)	0.850 (0.519)
Observations	641	641	679	679	679	679
Adjusted $R^2$	0.059	0.057	0.073	0.072	0.053	0.052

*Note:* \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. *Not Enough Assignments* takes value 1 if the lawyer reports that not enough assignments are the reason that why he or she had difficulty meeting billables and 0 otherwise. *Partner Discounted Hours* takes value 1 if the lawyer reports that partner-discounted hours (or a lack of full credit) is the reason that he or she had difficulty meeting billables and 0 otherwise. All columns include *Individual, Education, Family* and *Firm* controls. For definitions of the variables, see Tables 2 and 4.

Table 13: Role Models

	Career Asp. (1)	Career Asp. (2)	Promoted to Partner (3)	Promoted to Partner (4)
Female	-1.610*** (0.252)	-1.608*** (0.473)	-0.132*** (0.040)	-0.112 (0.076)
Senior Mentor	1.781*** (0.436)	1.914*** (0.681)	0.127* (0.070)	0.085 (0.109)
Male Mentor	0.433 (0.542)	0.456 (0.721)	-0.029 (0.087)	-0.011 (0.116)
Sen.Male Mentor	-0.875 (0.667)	-1.046 (0.954)	0.022 (0.107)	0.064 (0.153)
FemalexSen. Mentor		-0.209 (0.883)		0.061 (0.142)
FemalexMale Mentor		-0.050 (1.076)		-0.041 (0.173)
FemalexSen.Male Mentor		0.301 (1.348)		-0.062 (0.217)
Constant	5.679* (3.161)	5.729* (3.184)	0.779 (0.508)	0.743 (0.512)
Observations	679	679	679	679
Adjusted $R^2$	0.152	0.148	0.053	0.049

*Note:*\* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. *Senior Mentor* refers to whether the lawyer's mentor is a law firm partner. *Male Mentor* refers to whether the lawyer's mentor is male. All columns include *Individual*, *Education*, *Family* and *Firm* controls. For definitions of the variables, see Tables 2 and 4.

Table 14: Race Promotion Gaps

	Promoted to Partner		
	(1)	(2)	(3)
White	0.140*** (0.051)	0.101** (0.049)	0.105** (0.049)
Career Asp.		0.042*** (0.006)	
Mid Aspirations			0.152*** (0.055)
High Aspirations			0.352*** (0.053)
Constant	0.683 (0.519)	0.479 (0.502)	0.589 (0.503)
Observations	679	679	679
Adjusted $R^2$	0.052	0.117	0.119

*Note:*\* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. All columns include *Individual, Education, Family* and *Firm* controls. For definitions of the variables, see Tables 2 and 4.

## 9 Appendix

Table A1: Gender Promotion Gap (full set of coefficients)

	Promoted to Partner				
	(1)	(2)	(3)	(4)	(5)
Female	-0.122*** (0.038)	-0.120*** (0.039)	-0.124*** (0.039)	-0.124*** (0.039)	-0.132*** (0.040)
Age		-0.008* (0.005)	-0.011** (0.005)	-0.011** (0.005)	-0.010* (0.005)
Black		-0.105 (0.084)	-0.087 (0.085)	-0.082 (0.086)	-0.093 (0.090)
Hispanic		-0.177** (0.075)	-0.137* (0.078)	-0.132* (0.078)	-0.151* (0.082)
Indian		-0.004 (0.203)	0.014 (0.203)	0.010 (0.203)	0.020 (0.209)
Asian		-0.080 (0.074)	-0.086 (0.075)	-0.083 (0.075)	-0.096 (0.078)
Rank UG Uni.			-0.007 (0.006)	-0.007 (0.006)	-0.005 (0.006)
Rank Law School			-0.011 (0.020)	-0.011 (0.021)	-0.019 (0.023)
Rank in LS Class			-0.090*** (0.027)	-0.089*** (0.027)	-0.066** (0.029)
Job Offers			0.004 (0.008)	0.003 (0.008)	0.001 (0.009)
Debt after LS			-0.002 (0.009)	-0.002 (0.009)	-0.004 (0.009)
Married				0.024 (0.045)	-0.006 (0.047)
No. Children				-0.006 (0.035)	-0.000 (0.036)
Child Aged j4				0.004 (0.088)	0.011 (0.090)
Constant	0.541*** (0.026)	0.812*** (0.141)	1.297*** (0.216)	1.286*** (0.219)	0.772 (0.511)
Observations	680	679	679	679	679
Adjusted $R^2$	0.013	0.022	0.042	0.038	0.044

*Note:*\* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level.

Table A2: Gender Aspiration Gap (full set of coefficients)

	Career Asp.				
	(1)	(2)	(3)	(4)	(5)
Female	-1.699*** (0.245)	-1.642*** (0.248)	-1.614*** (0.249)	-1.524*** (0.251)	-1.586*** (0.254)
Age		0.002 (0.029)	-0.014 (0.030)	-0.042 (0.032)	-0.023 (0.032)
Black		-1.025* (0.542)	-0.956* (0.549)	-0.953* (0.552)	-0.912 (0.564)
Hispanic		-0.792 (0.483)	-0.834* (0.498)	-0.817 (0.502)	-0.693 (0.516)
Indian		-1.094 (1.304)	-0.781 (1.302)	-0.709 (1.301)	0.115 (1.317)
Asian		-0.258 (0.478)	-0.320 (0.480)	-0.325 (0.481)	-0.135 (0.489)
Rank UG Uni.			-0.018 (0.039)	-0.018 (0.039)	-0.004 (0.040)
Rank Law School			-0.411*** (0.131)	-0.383*** (0.132)	-0.361** (0.143)
Rank in LS Class			-0.194 (0.174)	-0.135 (0.176)	-0.033 (0.185)
Job Offers			0.136*** (0.052)	0.137*** (0.052)	0.137** (0.054)
Debt after LS			0.046 (0.058)	0.041 (0.058)	0.032 (0.058)
Married				0.077 (0.289)	0.039 (0.295)
No. Children				0.329 (0.225)	0.356 (0.229)
Child Aged $\geq 4$				0.352 (0.562)	0.373 (0.570)
Constant	7.366*** (0.164)	7.402*** (0.905)	10.202*** (1.387)	10.521*** (1.403)	5.548* (3.218)
Observations	680	679	679	679	679
Adjusted $R^2$	0.065	0.067	0.084	0.088	0.120

*Note:*\* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level.

Table A3: Fertility and Promotion

	Predicted (Promoted to Partner)
Female without child	0.001 (0.012)
Female with child	0.047*** (0.013)
Male with child	0.043*** (0.011)
Constant	0.462*** (0.009)
Observations	679
Adjusted $R^2$	0.034

*Note:*\* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. The dependent variables, Predicted (Promotion to Partner) is constructed by regressing controls for characteristics prior to entering the legal profession (Undergraduate Uni Ranking, Law School Ranking, Judicial Clerk, Moot Court, General Journal, Specific Journal, Undergraduate GPA, a dummy for missing Undergraduate GPA, Law School GPA, a dummy for missing Law School GPA), as well as age and its higher order term. *Female without child* is a dummy variable that equals one if the respondent is a female who reports having no children at the time of the survey. *Female with child* (*Male with child*) is a dummy variable that equals one if the respondent is a female (male) who reports having at least one child at the time of the 2012 survey. The omitted category *Men without children* is a dummy variable reflecting that the respondent is a male who reports having no children at the time of the survey.

Table A4: Comments and Mentoring

	Comments (1)	Senior Mentor (2)
Female	0.165*** (0.031)	-0.010 (0.037)
Age	-0.000 (0.004)	-0.003 (0.005)
Black	0.045 (0.063)	-0.054 (0.082)
Hispanic	0.115* (0.060)	0.037 (0.075)
Indian	0.219 (0.146)	0.234 (0.192)
Asian	-0.012 (0.055)	-0.056 (0.071)
Rank UG Uni.	-0.003 (0.005)	0.009 (0.006)
Rank Law School	0.014 (0.016)	-0.023 (0.021)
Rank in LS Class	-0.011 (0.021)	-0.030 (0.027)
Job Offers	-0.009 (0.006)	0.006 (0.008)
Debt after LS	0.012* (0.007)	-0.002 (0.008)
Married	0.003 (0.033)	0.054 (0.043)
No. Children	-0.009 (0.026)	-0.002 (0.033)
Child Aged under 4	-0.056 (0.064)	-0.088 (0.083)
Constant	-0.183 (0.304)	-0.033 (0.470)
Observations	570	679
Adjusted $R^2$	0.077	0.088

*Note:*\* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level.

# 10 Appendix A2

## 10.1 Proofs

We derive the proofs of our main results. We begin by deriving a formulation for the expected utility.

Given a value of  $\lambda$  (i.e., holding effort fixed), the second-period utility of the individual is given by

$$\begin{aligned} & \int_0^a (1 - e^{-z}) \lambda e^{-\lambda z} dz + \int_a^{+\infty} (1 - e^{-z} + 1 - e^{-(z-a)}) \lambda e^{-\lambda z} dz \\ = & \int_0^{+\infty} (1 - e^{-z}) \lambda e^{-\lambda z} dz + \int_a^{+\infty} (1 - e^{-(z-a)}) \lambda e^{-\lambda z} dz. \end{aligned}$$

We have

$$\int_0^{+\infty} (1 - e^{-z}) \lambda e^{-\lambda z} dz = \frac{1}{1 + \lambda}$$

Furthermore, using the change of variables  $y = z - a$ , we have

$$\int_a^{+\infty} (1 - e^{-(z-a)}) \lambda e^{-\lambda z} dz = \int_0^{+\infty} (1 - e^{-y}) \lambda e^{-\lambda(y+a)} dy = \frac{1}{1 + \lambda} e^{-\lambda a}$$

Overall, the expected utility in the second period for a given level of aspirations  $a$  can be written as:

$$U = \frac{1}{1 + \lambda} [1 + e^{-\lambda a}].$$

The result stated in Lemma 1 directly follows.

### Proof of Proposition 1

Effort is set in period 1 to maximize the expected utility, which involves an immediate cost of effort and the utility collected in period 2 (and thus discounted by  $\beta$ ):

$$\begin{aligned} & \beta \frac{1}{1 + \lambda} [1 + e^{-\lambda a}] - \frac{\alpha}{2} h^2 \\ = & \beta \frac{h}{1 + h} [1 + e^{-a/h}] - \frac{\alpha}{2} h^2 \end{aligned} \tag{1}$$

The FOC of the maximization problem is given by:

$$\beta \frac{1}{(1 + h)^2} [1 + e^{-a/h}] + \beta \frac{a}{h^2} \frac{h}{1 + h} e^{-a/h} - \alpha h = 0$$

Below, we use the notation

$$F(a, h) = \beta \frac{1}{(1 + h)^2} [1 + e^{-a/h}] + \beta \frac{a}{h^2} \frac{h}{1 + h} e^{-a/h} - \alpha h$$

We have

$$\frac{\partial F}{\partial h} = \beta \left[ -\frac{2}{(1+h)^3} + e^{-a/h} \left( -\frac{2}{(1+h)^3} + \frac{h}{1+h} \frac{a}{h^3} \left( -2 + \frac{a}{h} \right) \right) \right] - \alpha$$

We can show that the second-order condition is satisfied.

$$\frac{\partial F}{\partial h} < 0$$

The implicit function theorem implies that

$$\frac{\partial h}{\partial a} = -\frac{\frac{\partial F}{\partial a}}{\frac{\partial F}{\partial h}}$$

We have

$$\begin{aligned} \frac{\partial F}{\partial a} &= \beta e^{-a/h} \left[ -\frac{1}{h} \frac{1}{(1+h)^2} + \frac{1}{h^2} \frac{h}{1+h} - \frac{a}{h^2} \frac{1}{1+h} \right] \\ &= \beta e^{-a/h} \frac{a}{h^2} \frac{1}{(1+h)^2} [h^2 - a(1+h)] \end{aligned}$$

Defining  $\bar{a} = \frac{h^2}{1+h}$ , we see that  $\frac{\partial F}{\partial a} > 0$  if and only if  $a \leq \bar{a}$ . We thus obtain the result of Proposition 1.

The second part of the proposition directly follows from the expression for the expected value of an exponential distribution.

### Proof of Proposition 2

The player chooses  $a$  in period 0 to maximize:

$$\beta \left[ \frac{h}{1+h} [1 + e^{-a/h}] - \frac{\alpha}{2} h^2 \right] \quad (2)$$

which corresponds to expression (1) but where present bias parameter  $\beta$  applies both to costs of effort and future benefits. The equilibrium level of aspirations is characterized in the following result.

Use the notation

$$G(a, h) = \frac{h}{1+h} [1 + e^{-a/h}] - \frac{\alpha}{2} h^2$$

The FOC with respect to  $a$  is given by:

$$\frac{\partial G(a, h)}{\partial h} \frac{\partial h}{\partial a} - \frac{1}{1+h} e^{-a/h} = 0$$

We have

$$F = \beta \frac{\partial G(a, h)}{\partial h} - (1 - \beta) \alpha h$$

Given that  $F = 0$ , we can rewrite the FOC above

$$\frac{(1-\beta)}{\beta} \alpha h \frac{\partial h}{\partial a} - \frac{1}{1+h} e^{-a/h}$$

For  $\beta$  sufficiently small, the FOC is positive at  $a = 0$ , so that the lawyer will optimally set aspirations to be strictly positive.

Result (1) naturally follows. The player will only set strictly positive aspirations if doing so can increase effort levels. Thus, when aspirations are endogenously chosen, they will always be set at a value less than  $\bar{a}$ .

We now prove result (2).

Let

$$H = \frac{(1-\beta)}{\beta} \alpha h \frac{\partial h}{\partial a} - \frac{1}{1+h} e^{-a/h}$$

The equilibrium level of aspirations is implicitly defined by  $H = 0$ .

The implicit function theorem yields

$$\frac{\partial a}{\partial \beta} = - \frac{\frac{\partial H}{\partial \beta}}{\frac{\partial H}{\partial a}}$$

For an interior solution, the second-order condition applies, and thus  $\frac{\partial H}{\partial a} < 0$ . Furthermore, we have

$$\frac{\partial H}{\partial \beta} = - \frac{1}{\beta^2} \alpha h \frac{\partial h}{\partial a} < 0.$$

Thus, overall  $a^*$  is decreasing in  $\beta$ , i.e., more present-biased individuals (with lower  $\beta$ ) will set higher aspirations.

We have:

$$\frac{\partial a}{\partial \alpha} = - \frac{\frac{\partial H}{\partial \alpha}}{\frac{\partial H}{\partial a}}$$

The term  $\frac{\partial H}{\partial \alpha}$  is more difficult to sign since  $h$  is a function of  $\alpha$ . However, when  $\beta$  is small enough, only the left-hand side of the expression above matters, and since both  $h$  and  $\frac{\partial h}{\partial \alpha}$  are decreasing in  $\alpha$ , we have  $\frac{\partial H}{\partial \alpha} < 0$ . Overall, this implies that  $a^*$  is decreasing in  $\alpha$  if  $\beta$  is small enough.

#### Proof of Proposition 4

Regret is defined as the derivative of the utility function. For  $\tilde{z} \geq a$ , we thus have  $R(\tilde{z}) = v'(\tilde{z}) + v'(\tilde{z} - a)$  which is increasing in  $a$ .

#### Proof of Proposition 4

The result is a direct consequence of Proposition 2. Given that  $G$  first order stochastically dominates  $H$ , women have on average a higher disutility of work than men. According to Proposition 2 aspirations and effort are decreasing in  $\alpha$ . This on average, women will have a lower level of aspirations and will exert lower effort.

## Proof of Proposition 5

We prove this result using a simplified version of our baseline model, where choices are binary, to illustrate our main points. We start by solving this special case of the model without fertility choices and subsequently introduce the choice whether to have children. The choices and timing are the following:

- Period 0: the individual chooses either positive aspirations  $a > 0$  or 0 aspirations
- Period 1: the individual chooses either to exert effort  $e > 0$  or to make 0 effort
- Period 2:  $z$  is determined and payoffs collected.

The utility function is given by the same expressions as in the main proposition. Denote payoff  $v_H$  if effort is exerted and  $v_L$  if no effort is exerted. Then, if  $a = 0$ , the individual gets  $2v_H$  from exerting effort and  $2v_L$  from exerting 0 effort. If  $a > 0$ , the individual gets  $v_H + v_{aH}$  if she exerts high effort and  $v_L$  if not (i.e. the individual does not get the extra payoff since aspirations are not surpassed). We assume  $v_{aH} > v_H - v_L$ , which corresponds to the assumptions that aspirations are not set too high. We make the following additional assumption on payoffs:  $-\alpha e + v_H - v_L + v_{aH} > 0$ .

### Resolution without fertility choices

Consider period 1. If  $a > 0$ , then, by choosing effort  $e$ , the lawyer gets  $-\alpha e + \beta(v_H + v_{aH})$  while she gets  $\beta v_L$  from exerting 0 effort. Thus effort is chosen if and only if  $\beta \geq \beta_1 \equiv \frac{\alpha e}{v_H - v_L + v_{aH}}$ . Similarly, if  $a = 0$ , effort is chosen if and only if  $\beta \geq \beta_2 \equiv \frac{\alpha e}{2(v_H - v_L)}$ .

This defines three zones. For  $\beta \leq \beta_1$ , even high aspirations cannot encourage effort, they are thus set to 0. For  $\beta \geq \beta_2$ , aspirations are not necessary to encourage effort, they are also set to 0. In the intermediate zone, assumption 1 guarantees that from the point of view of period 0, the lawyer has an interest in committing to a high level of aspirations.

Overall this implies the following behavior, special case of Propositions 1 and 2.

- If  $\beta < \beta_1$ , the aspirations are set at 0 and no effort is exerted
- If  $\beta_1 < \beta < \beta_2$ , aspirations are set positive and effort is exerted
- If  $\beta > \beta_2$ , aspirations are set at 0 and effort is exerted

In what follows, to clarify the exposition, we make the simplifying assumption that for all our subjects,  $\beta < \beta_2$ .

### Resolution with unexpected fertility choices

We introduce the possibility between period 0 and period 1 for the lawyer to choose to have children. Having children brings immediate benefit  $v_c$  for both men and women. Having children also increases the disutility of effort, and more so for men than for women. Specifically  $e$  goes from  $\alpha e$  to  $(\alpha + \alpha_c^H)e$  for women and to  $(\alpha + \alpha_c^L)e$  for men, with  $\alpha_c^L < \alpha_c^H$ .

In this section, we assume that fertility choices are not taken into account when setting aspirations.

In period 1, the cutoff between those who exert effort and those who don't is unaffected if the lawyer has chosen not to have children, but is increased if the lawyer chooses to have children to  $\beta_1^W \equiv \frac{(\alpha + \alpha_c^H)e}{2(v_H - v_L)} > \beta_1$  for women and  $\beta_1^M \equiv \frac{(\alpha + \alpha_c^L)e}{2(v_H - v_L)} > \beta_1$  for men, and with  $\beta_1^M < \beta_1^W$ .

In period 0' when fertility decisions need to be made, all lawyers who expect not to exert effort have children. For those who expect to exert effort  $e$  there is a tradeoff between an immediate benefit  $v_c$  and a delayed cost in terms of increased disutility

of effort. Thus women choose to have children if and only if  $v_c - \beta \alpha_c^H e > 0$ , i.e.  $\beta \leq \tilde{\beta}^W \equiv \frac{v_c}{\alpha_c^H e}$  and similarly  $\beta \leq \tilde{\beta}^M \equiv \frac{v_c}{\alpha_c^M e}$  for men. We assume that for  $j \in M, W$ , we have  $\tilde{\beta}^j > \beta_1^j$ .

We thus have 4 zones

- If  $\beta < \beta_1$ , the aspirations are set at 0, no effort is exerted and the lawyer has children
- If  $\beta_1 < \beta < \beta_1^j$ , aspirations are set positive, no effort is exerted and the lawyer has children
- If  $\beta_1^j < \beta < \tilde{\beta}^j$ , aspirations are set positive, effort is exerted and the lawyer has children
- If  $\beta > \tilde{\beta}^j$ , aspirations are set positive, effort is exerted and the lawyer has no children

Moreover

- Men have more children than women, but only if they have high aspirations

This proves the first part of Proposition 5.

#### **Resolution with anticipated fertility choices**

When fertility decisions are not anticipated, this creates a zone for  $\beta_1 < \beta < \beta_1^j$ , where aspirations are set high without encouraging effort because individuals decide to have children. Thus, when aspirations can be adjusted, they will be set lower in particular for women. This proves the second part of Proposition 5.

# 11 Appendix A3: aspirations and expectations

Proposition 1 shows that there is a positive correlation between aspirations and expectations. However, they are distinct constructs in our analytical framework. To understand this, consider two individuals who differ both in their disutility of effort  $\alpha_i$  and in their level of present bias  $\beta_i$ . It is possible that both individuals choose the same level of effort, and thus have the same expectations of success, but have different levels of aspirations. This requires that the agent with low disutility of effort also has the bigger time inconsistency problem, and thus a lower  $\beta_i$ . This individual will set higher aspirations to encourage effort, but might end up exerting the same level of effort as the other in spite of her lower disutility of effort, since the time inconsistency problem dissipates her advantage.

The results in Section 3.3 not only show that expectations and aspirations are different constructs, they also show that they both have predictive power in terms of promotion, and that aspirations is in fact a better predictor. We conclude this section, by arguing informally that this may be the case in our framework as well, as long as there exists several dimensions of heterogeneity across individuals. Consider in particular the two types of heterogeneity discussed above (disutility of effort and present bias). Suppose, for illustrative purposes, that in the survey, when participants answer the question on expectations, it is an instinctive reaction that ignores the time inconsistency problem and they therefore overestimate effort and chances of success. On the contrary, aspirations are an essential trait and are set taking into account the self-control problem. In such a setting, aspirations bring extra information on the future rate of success compared to expectations since they captures the effect of  $\beta_i$ , the self control parameter.

Specifically, when you instinctively calculate expectations, you believe that effort is determined by the following FOC (as in proofs above):

$$\frac{1}{(1+h)^2} \left[ 1 + e^{-a/h} \right] + \frac{a}{h^2} \frac{h}{1+h} e^{-a/h} - \alpha h = 0$$

whereas actual effort will be set according to:

$$\beta_i \frac{1}{(1+h)^2} \left[ 1 + e^{-a/h} \right] + \beta_i \frac{a}{h^2} \frac{h}{1+h} e^{-a/h} - \alpha h = 0$$