

I WENT TO LAW SCHOOL FOR THIS?
THE MOTHERHOOD PENALTY IN YOUNG FEMALE
ATTORNEYS' SALARIES

A Thesis

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by

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ABSTRACT

This study presents two estimates of a motherhood penalty for young female attorneys. In the first phase, I utilize three different models in a regression analysis to examine which theoretical mechanisms might explain the presence of a motherhood penalty. In the second phase of this study, I employ a two-stage counterfactual approach utilizing a doubly robust weighted regression. I control for likelihood of selection into treatment with variables representing the most common theoretical mechanisms leading to the motherhood wage penalty, then utilize that selection likelihood to weight a second regression. I find that while there is a small motherhood penalty in the first phase multiple regression, there does not appear to be a motherhood penalty when only female attorneys are examined in the second phase weighted regression. I discuss implications of these findings and directions for future research.

BIOGRAPHICAL SKETCH

Megan Delphia Shanks was born in Seattle, Washington, the first daughter of Donald Shanks, of Washington, D.C., and Jerina Shanks, of Columbus, Ohio. She lived with her family and two younger sisters, Tessa and Gwyneth, in Alaska, Korea, Taiwan and Washington state before settling in Kansas City, Missouri where she attended high school. She attended Grinnell College in Grinnell, Iowa and graduated in 2001 with a Bachelor of Arts in Sociology. Megan Delphia was a GrinnellCorps fellow for a year, then served in Teach for America in Baton Rouge, Louisiana. After leaving Louisiana, she moved to northwest Missouri, where she first helped start a new division of a book distributorship focused on classroom libraries, and then joined a Community Action Agency, where she worked for five years as the director of community development.

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To My Family

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CHAPTER 1

I WENT TO LAW SCHOOL FOR THIS? THE MOTHERHOOD PENALTY IN YOUNG FEMALE ATTORNEYS' SALARIES

1.1 Introduction

It is widely documented that women make less money than men do, but also widely acknowledged that often a significant part of the gender wage gap stems from the motherhood wage penalty—the lower wage that mothers receive compared to comparable nonmothers. There are several theories for the gender wage gap, and the motherhood wage penalty is hypothesized to operate in similar ways. This study extends current research on the motherhood wage penalty in two ways.

First, this study updates our understanding of female attorneys' wages by examining recent wages from women early in their careers. Unlike many other studies that rely on wages from years or decades ago (Chiu and Leicht 1999, Hersch 2003, Noonan et al. 2005), this study utilizes the *After the JD* survey that collected data on attorney earnings in 2002–2003 and so represents relatively recent data on wages for female lawyers. This study examines female attorneys within the first three years of their practice, when wages would be most similar. This is important because the field of law has seen tremendous changes, both structurally and demographically, as the billable hour has grown as a dominant and driving force and women have entered the field in unprecedented numbers. This is an opportunity to test two previous theoretical predictions that lead to contradictory conclusions: female lawyers may suffer little or no penalty because they are highly-skilled employees in jobs that allow them to balance work and family, or there may be a significant motherhood penalty because the increased focus on long hours and client recruitment encourages a culture of

overwork that childless women, but not mothers, are able to accommodate.

Second, this study extends existing research on attorney wages beyond the private sector and focuses on how different sectors or structural configurations of practice might provide different outcomes for mothers with similar credentials at the beginning of their careers. While it is true that attorneys often work in private corporations that may idolize the ideal worker, that is, someone who is solely dedicated to or available for her job, they have opportunities to pursue other careers as well. This segmentation across practice settings, combined with a competitive labor market, may lead to greater earnings stratification within the law field. In particular, it seems reasonable to expect that women outside the private sector might suffer less of a penalty than those in the private sector.

Although previous research does not establish a motherhood penalty for female attorneys, there is reason to believe that the law field has changed in ways that would lead to a motherhood penalty, and that those structural and demographic changes might outweigh the benefits that often accrue to highly paid and specialized occupations. In particular, I expect a motherhood penalty to exist for female attorneys, although I expect it to vary by the practice setting in which mothers work based on predictions in four hypothesized mechanisms, discussed in detail later.

1.2 Literature Review

When the Fair Pay Act, prohibiting discrimination in pay based on gender and race, failed to pass in 2009, 2010 and 2011, one might have hoped that it is because the act is unnecessary. However, American women still average only 81% of what men earn, and female attorneys make 77% of their male counterparts' salaries (BLS 2011)¹. The gender gap has narrowed over time, although it appears that this is in large part due to the simultaneous decline in

¹This is according to the Bureau of Labor Statistics 2011 report "Women at Work."

white men's earnings rather than women's increased human capital or increasing returns to it (Bernhardt et al. 1995). There are many reasons for why this gender gap exists, including sex segregation within occupations (Bielby and Baron 1986, Petersen and Morgan 1995), differential returns to human capital (Dinovitzer et al. 2009), and prehire sorting of suitable candidates (Fernandez and Sosa 2005). There may also be more subtle forms of discrimination which result in lower wages for women. Recent research on organizational practices find that men receive higher rewards for the same performance as women, and that organizations that profess a meritocratic culture may actually penalize women relative to men (Castilla 2008, Castilla and Benard 2010). The gender wage gap varies by field, job title and the proportion of women within that field (Petersen and Morgan 1995, Morgan 1998, Roth 2003), but some of the gender gap can be attributed to the motherhood penalty: mothers earn less than their childless counterparts (Waldfogel 1997, Budig and England 2001), which affects the gender gap itself.

There are four primary mechanisms through which the motherhood gap is conceived to operate: human capital, compensating differentials, discrimination and status characteristics. These can be conceived broadly as supply- and demand-side explanations. Supply-side explanations, those that attribute the motherhood penalty to individuals' actions, include human capital arguments, work effort or productivity, and compensating differentials. For many women, the struggle to balance work and home life may lead them to adopt strategies leading to lower pay such as fewer work hours, changing employers, moving to part-time or even "opting out" of the workforce altogether. Women may select into preferred, but lower paying, occupations that accommodate their goals or reflect their lower abilities. Demand-side explanations include actions on the employer's part such as discrimination, either statistical or taste-based, and organizational practices that affect men and women differently. Women may not be selected for highly preferred or prestigious jobs, they may be seen as less competent or dedicated, or they may be overtly discriminated against in hiring or promotion.

Some seemingly neutral practices have differential impacts across gender—as when attorneys come up for partnership between five and seven years after starting their careers, which is precisely the same time many women are considering starting families. Some discrimination is quite overt, as when clients prefer male attorneys. Meanwhile, the status of motherhood functions to subtly create expectations for how mothers will perform and behave compared to fathers and childless women. Each of these explanations is explored more thoroughly in the following sections.

1.2.1 Human Capital

In the human capital framework (Mincer and Polachek 1974), employees invest in themselves over time to build a toolkit of valuable skills and connections that are important to employment access and stability. There are two threads in this argument: that mothers may have less human capital than nonmothers and that they may also receive lower returns for their investment than other women. Mothers may choose not to continue their education or professional networking because it is not necessary or worth the investment of time and money. They may be wary of pursuing employment that has firm-specific training because it is not portable and may require an ongoing investment or upkeep of a particular skill set. In addition, motherhood may limit women’s accumulation of human capital through their labor supply in two ways. The first is that when mothers take time off to bear and raise children, they disrupt their professional development and lose time that could be used to develop skill sets or expand professional networks. The second way is through women’s tendency to change jobs after being out of the workforce, leading to disruptions in the accumulation of seniority and firm-specific knowledge. If mothers are not continuously employed throughout their childrearing years, the disruption to work experience, learning and social networks creates a smaller foundation of human capital for mothers to draw on. Finally,

even when mothers have equal human capital to other women, they receive smaller returns on their investment, resulting in lower wages.

These human capital arguments have been well supported in the research on the motherhood penalty. First, Gangl and Ziefle (2009) note that, although women are less likely than others to switch employers generally, they are more likely to switch employers at the time of a birth. Waldfogel (1997) finds that, even after controlling for education and labor market experience, mothers still suffer a 6% wage penalty for the first child and a total penalty of 13% for two or more children. She also suggests that these effects may vary by race and education level. Budig and England (2001) find that human capital, specifically education, past work experience and current employer seniority, account for approximately 30% of the 7% per child motherhood wage penalty. Dinovitzer et al. (2009) find that 75% of the 7.3% gender wage gap they find is determined by lower returns to women's credentials than men's, and another 25% of the gap can be attributed to differences in the credentials themselves. Social policy also may play a role as women in the United States suffer a motherhood wage penalty that, unlike their German peers, can be explained by their labor force participation choices, including how long they stay out of the workforce with employer or state-sponsored leave (Gangl and Ziefle 2009).

These effects also vary by the social position of the mother, as Anderson et al. (2003) demonstrate when they examine women along the distribution of education. Anderson et al. (2003) find that the wage penalty varies by both how long a woman remains out of the workforce after having children and is highest for high school graduates who did not complete college. On the other hand, Budig and Hodges (2010) find that while the motherhood penalty is stiffest for the lowest earning mothers, it is the highest earners who suffer most from human capital reductions, accounting for 40%-50% of the penalty at the mean. Somewhat surprisingly, research also supports the notion of a motherhood bonus at higher education levels and the 95th percentile of earnings for women: Budig and Hodges (2010) find a bonus

of between 4% and 10% for the highest earning ever-married women and Anderson et al. (2003) finds no effect of a penalty for college-educated women. Blair-Loy and Wharton (2004) find a slight bonus for the few women who stay fulltime after having children but note that these may be exceptionally driven women.

1.2.2 Work Effort, Productivity and Compensating Differentials

Closely tied to the human capital arguments are the ideas that work effort, productivity, or compensating differentials may explain the motherhood penalty. Becker (1985) theorizes that women earn less than men, even if they bring the same human capital to the marketplace, because their household responsibilities leave them with less energy to put into the labor market. As a result, women self-select into less demanding jobs in an effort to balance their professional and home responsibilities. Alternately, women may be less productive at work because they have spent their energy elsewhere, so the lower wage reflects less productive work time. Without direct measures of productivity, this hypothesis is difficult to test but Budig and Hodges (2010) find that mothers in the middle of the earnings distribution suffer the highest penalties, not mothers with the highest effort and earnings. They posit that this counterintuitive finding is perhaps the result of workplace flexibility rather than work-effort, as they do find that reduced work effort, measured in hours, accounts for 1/3 of the baseline motherhood penalty in the bottom half of the earnings distribution. Kmec (2011) tackles work effort directly in her study of comparative pro-work behaviors, including self-reported scale measures of work effort, work intensity, job engagement and work interference due to household chores or activities². For most behaviors, she finds no measurable difference between mothers, fathers and nonparents, but mothers report significantly more

²For job engagement, the question is “How often do you get so involved in your work that you forget about everything else, even the time?” with responses coded from 1 “never” to 5 “all of the time.” For work intensity, the question is “How often do you have to work very intensively, that is, you are very busy trying to get things done?” with responses coded as above (Kmec 2011, 499).

job engagement and work intensity than fathers.

The theory of compensating differentials posits that mothers select family-friendly jobs that will allow them a more favorable work-life balance and, in return, accept lower wages. Although occupations do tend to be segregated by sex, Budig and England (2001) find that mothers are no more likely to select into female occupations such as teachers and nurses than nonmothers and Glauber (2011) notes that women are not more likely to exchange flexibility in return for lower pay. One obvious strategy that mothers adopt in this framework is to utilize part-time work, a strategy which Waldfogel (1997) and Anderson et al. (2003) acknowledge explains some of the motherhood penalty. Noonan et al. (2005) also find that attorneys have changed their strategies for balancing work and family over time. They find that young lawyers were more likely to work part-time than take time off to raise children as older female attorneys had done.

However, compensating differentials may mean different things at different points in the employment spectrum because the very flexibility and benefits that make balancing family and professional responsibilities easier tend to be found in higher wage jobs, reducing the need to compromise on hours (Anderson et al. 2003). Glauber (2011) points out that that this may be in part because jobs are segmenting into “good” jobs that provide better wages and benefits and “bad” jobs that do not. She finds that although the integration of an occupation does affect availability of flexible work options, it is because integrated occupations tend to be clustered in better occupations. In fact, access to flexible arrangements is low in both male-dominated and female-dominated occupations because these occupations tend to have fewer benefits overall. This might help explain why Anderson et al. (2003) and Budig and Hodges (2010) found a minimal or nonexistent penalty for highly educated female earners. For female attorneys, this could mean that they are able to have access to the flexibility necessary to balance work and home as a function of their job status rather than the recent integration of the law field.

One weakness of this argument is that the presence of the family-friendly policies that one would hypothesize attracts mothers does not automatically translate into a position which is actually more family-friendly. Compensating differentials occur within highly specific institutional contexts that vary widely between countries, cities, employers and even supervisors. As Gangl and Ziefle (2009) note, a woman's choice to stay at the same employer after the birth of a child may minimize an immediate motherhood penalty while switching to a more family-friendly employer is associated with a 3%-4% wage penalty. In a longitudinal study that followed a cohort of women for seven years after childbirth, Glass (2004) found that while employers that provided family-friendly policies did not offer lower wages than other employers, the women who took advantage of these policies suffered nonetheless. Depending on which policy they used, mothers faced slower wage growth after childbirth than nonmothers; switching to another employer actually allows one to "wipe the slate clean" and allow the original, steeper wage growth trajectory to be resumed. Again, this varies by national context as American women are more likely to return quickly to work after having children rather than taking more extended leaves (Gangl and Ziefle 2009).

Indeed, there is apprehension around utilizing family policies for fear of being seen as not serious or professional. Access to the policies that allow work-life balance are themselves unequal: men are more likely to have flexible work arrangements (Weeden 2005, Glauber 2011). Weeden (2005) finds that flexible hour and location work arrangements are associated with a wage premium, but since the wage premium accrues equally to men and women it does not reduce either the gender wage gap or the motherhood penalty. While these studies focus on differences between men and women rather than mothers, the fact that women often bear greater responsibility for raising children implies that access to flexibility may be a key component of some of mothers' labor force choices (Bianchi et al. 2000). Blair-Loy and Wharton (2002) conduct a multi-level analysis of the characteristics which determine whether an employee takes advantage of a family-friendly policy such as family care, flexible hours

and locations, or cutting back on hours worked, and find that work group characteristics such as sex-composition, client composition (internal v. external) and the sex of one's supervisor affects usage of these policies. For attorneys, having a powerful supervisor when one initially begins employment shields one from the negative effects of utilizing a family policy *and* has the added bonus of increasing later performance rewards (Briscoe and Kellogg 2011).

1.2.3 Motherhood and Discrimination

On the demand side, mechanisms that lead to the motherhood wage penalty occur because employers exercise choice and discretion that constrain mothers' employment opportunities. These may operate regardless of individual mothers' work force attachment, qualifications or professional ambitions. Discrimination, both intentional and unintentional, may cause employers to engage in a variety of practices which lead to poor outcomes for mothers. Statistical discrimination occurs when it is costly to evaluate the potential productivity of an applicant and so an employer relies on his perception of the average performance of the group within which he feels the applicant fits. Taste discrimination occurs when an employer discriminates against a mother because they have a "taste" for a different type of employee, perhaps one more like themselves.

Statistical discrimination is particularly relevant when occupations are segregated by sex, so that the performance of existing female employees forms the basis for future females' opportunities. Because women have traditionally born the brunt of raising children (Bianchi et al. 2000), employers may have experience with women reducing their labor supply or leaving the firm, and therefore may have suffered the loss of the investment into that employee. Employers may be hesitant to hire mothers into top positions because they believe them to be less qualified, focused or dedicated than men, or anticipate that they may later want to reduce their labor supply to balance work and a family (Bielby and Baron 1986, Petersen

and Morgan 1995). This can result in queuing, where employers develop a list for an open position and women are sorted into lower positions on the list, not to rise to the top until the more preferable, e.g., male, candidates are no longer willing to fill the position (Reskin 1993).

This structural lack of access to opportunities, where women are funneled into jobs that are less prestigious or intensive, can be hard to examine. However, as some occupations become less sex-segregated, one would expect to see penalties to women's, and specifically mothers', wages change as employers learned more about the new population's performance. Research presents somewhat conflicting views on whether wage gaps are lessening over time. However, on average, mothers continue to face a penalty that has not changed significantly over time, remaining above 3% for each child (Avellar and Smock 2003). This is complicated by the reality that the motherhood penalty does not just vary by earnings and education level (Anderson et al. 2003, Budig and Hodges 2010), but also varies by occupation.

Wage gaps vary in elite professions that require additional or specialized training. In some fields, such as engineering, newer cohorts of women do not face a gender wage gap (Morgan 1998), while in others, such as investment banking, they continue to face significant gaps (Roth 2003). Young physicians actually face a growing, rather than narrowing, motherhood wage penalty (Boulis 2004). Attorneys, another profession where half of all graduates are now female, also face a significant gender gap, although the research on a motherhood wage gap is fuzzier (Noonan et al. 2005). Even within occupations there is evidence that this varies by specific companies. Blair-Loy and Wharton (2004) note that the mothers in a large finance firm receive wages slightly higher than women without children. However, those firms that are successful in reducing the motherhood penalty are usually clustered in higher wage and more specialized occupations (Glauber 2011). Again, this implies that different sectors, with different expectations, may provide different outcomes for female attorneys that have children.

Women’s successes, or the limitations placed on women’s careers by employers, are not only a function of family-friendly policies. Gorman (2005) and Cohen et al. (1998) both demonstrate that the demographic makeup of the employer shapes hiring and promotion decisions. It is not a simple relationship: female lawyers tend to hire women when the proportion of women in the firm is lower, but it declines as women reach higher proportions of existing employees (Cohen et al. 1998). Furthermore, promotion probabilities vary by position in the organizational hierarchy: women are more likely to be promoted into the middle ranks if there are already female attorneys in similar positions, but less likely to be promoted at high levels if women are already represented (Cohen et al. 1998).

There is also some evidence that taste discrimination exists, although it can be difficult to identify. On an unusually positive note, Beckman and Phillips (2005) find that intra-firm relationships affect promotion of female attorneys into partnership positions. When a law firm’s clients have a female in one of three top positions, the law firm is more likely to respond by increasing the number of female partners, most likely through internal channels (Beckman and Phillips 2005). Whether and how this extends to mothers is unclear, but it is worth noting that firms may exercise their ability to “align” with clients or peers on characteristics they feel are salient to their company’s success.

1.2.4 Motherhood as a Status Characteristic

Another facet of the discrimination discussed above is subconscious. In response to previous institution-specific approaches to ascriptive inequality, a cultural explanation of the motherhood penalty has been developed. Status expectation states are culturally-shared schemas that people carry in their heads that allow them to categorize the world for everyday functioning, but also attach lists of attributes, both negative and positive, and appropriate and inappropriate behaviors to individuals (Ridgeway and Correll 2004). For example, the ideal

worker status is one characterized by absolute devotion to and availability for one's job, including lots of "face time" at work and long hours. On the other hand, the motherhood status characteristic is associated with unconditional availability for family and children. Ridgeway and Correll (2004) have argued persuasively that motherhood is a status characteristic loaded with perceptions of ability and role appropriateness that, when activated, influence perceptions of a mother's professional abilities negatively.

For lawyers, and especially those in the private sector where attorneys are required to bill long hours and bring clients to the company, traits of success include focus on work, assertiveness, and the ability to both network and negotiate. These traits are not only typically male, but they are characteristics for which women will be penalized whether or not they are displayed (Correll et al. 2007). Women who do meet the ideal worker status characteristic are considered too aggressive or poor mothers, while women who do not meet the ideal are not dedicated enough to their career (Correll et al. 2007, Kmec 2011). These traits are so deeply ingrained that, even in seemingly neutral job advertisements for lawyers, stereotypically male terms in the advertisement such as ambitious, assertive and quantitatively-oriented actually lead to higher percentages of male hires (Gorman 2005).

Experimental and audit studies confirm the negative effect of motherhood status characteristics on professional success. Cuddy et al. (2004) find that when professional women become mothers they face a change in others' perception of them: they are perceived as warm rather than competent, and are less likely to be promoted. They find that fathers neither experience this change, nor face a reduction in perceptions of their competence with parenthood. Correll et al. (2007) also utilize an experiment to evaluate same-sex pairings of equally qualified parents and nonparents along a range of professional criteria. Correll et al. (2007) find that mothers are less likely to be recommended for training, hire, promotion and even receive lower starting salary offers. In the second portion of the study, Correll et al. (2007) find that actual employers in an audit study are more likely to give an interview

callback to childless women than childless men, but that mothers are significantly less likely to receive a callback than all other groups. In a similar study, Benard and Correll (2010) find that female raters are harsher toward mothers on perceived measures of competence and interpersonal skills than male participants, perhaps providing some insight into how within-firm promotions are influenced. Apparently, the increased integration of occupations may have drawbacks as well as benefits for women.

1.2.5 Lawyers and the Motherhood Penalty

Lawyers are a logical choice to study the effects of motherhood on wages for three reasons. First, an extensive body of research already exists on lawyers and gender, laying a foundation for what we can expect from this analysis and allowing us to compare a recent estimate of the motherhood penalty for attorneys against older estimates. The primary focus of gender research on attorneys has focused on wages, although mobility and segregation by area of practice have also been studied. In general, research demonstrates that female attorneys earn substantially less than men (Chiu and Leicht 1999, Hersch 2003, Noonan et al. 2005, Dinovitzer et al. 2009). According to Noonan et al. (2005), these differences in top tier law school graduates' earnings, particularly those of mothers, can be fully explained by demographic and labor participation variables. Similarly, Hersch (2003) finds that there is no motherhood penalty, although fathers receive a fatherhood "bonus." Dinovitzer et al. (2009) study the most recent wage information for attorneys in a representative sample of recent law school graduates and find that being a parent accounts for only 6.1% of the 7.3% gender gap they measure.

Second, since at least 1986 women have made up 40% or more of all law students (Chiu and Leicht 1999). This provides a relatively long window of time for a previously male-dominated field to become more integrated across many areas of practice. Noonan et al.

(2005) find that although women are now less segregated by practice area, their work histories reflect more and longer part-time work periods. If that is the case, female lawyers may now have more flexibility at work because the occupation is integrated. Conversely, it may be that female attorneys could not have taken time off for children previously and that, as work practices have changed, the existing wage gap between men and women actually reflects a motherhood penalty, rather than a true gender gap, because employers now place more emphasis on and have more ideal worker females. Previous research on attorney wages relies on data from law school graduates who began their careers in 1972, 1979, 1984 and 1990 and the dramatic shifts in the law profession warrant an examination of more recent trends.

Third, lawyers represent an opportunity to study a privileged and elite profession with a specialized skill set that is able to regulate who enters into practice. Law school is a competitive and costly investment, both financially and in terms of time. Analyzing attorneys allows examination of an occupation that requires higher than average commitment and ability, and so minimizes individual heterogeneity of ability and drive. However, because the field has changed tremendously since the 1980s (Chiu and Leicht 1999, Dinovitzer et al. 2009) and now relies heavily on billable hours and recruiting clients, it seems likely that the field's need for ideal workers may have affected men and women differently. Sectors less reliant on these factors may exhibit less of a motherhood penalty. Even in the presence of a highly qualified and motivated workforce, there may be stratification in earnings based on the increased focus on the ideal worker.

These reasons warrant an examination of the motherhood penalty potential for young lawyers. In studying a representative sample of new lawyers, this paper is able to minimize important sources of heterogeneity: these men and women are similarly trained, enter the labor market at similar times, are in a field with barriers to entry and high occupational closure, are invested in education beyond college, and are within a relatively narrow age range. We have competing hypotheses that women with higher education and earnings

may actually earn a motherhood bonus, while status characteristics lead us to expect that mothers who are lawyers may face great pressure to conform to the ideal worker status and may be punished if they don't. Finally, because lawyers can practice in such a wide range of settings, it seems reasonable that, if the motherhood penalty exists, different institutional settings may create different patterns of disadvantage for women and mothers.

1.3 Method

1.3.1 Model

There are two phases to this study. In the first phase, I examine whether there is evidence of a motherhood penalty by modeling three of the proposed mechanisms in a standard multiple regression. I utilize the full sample of male and female attorneys and examine the effects of human capital, practice setting and compensating differentials on expected earnings of attorneys. These regressions are clustered by the survey strata to provide robust standard errors and a more accurate measure of whether there is evidence of a motherhood penalty.

In the second phase of this study, I will estimate the effect of a binary treatment variable—the presence of children—on female attorneys' wages using a counterfactual inference approach by employing a two-stage process that adjusts for the factors that I expect to impact wages both directly and indirectly (see Appendix C for more information on the counterfactual approach to causal inference). Least squares regression allows the researcher to estimate the relationship between independent variables and dependent variables, but only by observing the outcomes of people who *have already received treatment*, i.e., mothers. This assumes that those in the treatment group and those in the control group are exactly the same, when often there is good reason to believe that they are not. It seems reasonable that lawyers who pursue high-power career might be different from lawyers who are very similar but do not

pursue that path. In the current sample, mothers may be significantly different from non-mothers in important ways and this scenario is highly likely. However, in order to estimate a causal effect, we must be able to assume that the treatment has been random—or group individuals in ways that makes the treatment random. Obviously, we cannot assume that the treatment selection (in this study the decision to have children) is randomly distributed across the population, nor can we distribute mothers easily and evenly across groups stratified by individual characteristics so we can see motherhood as a random treatment (Morgan and Winship 2007). In other words, women neither get pregnant at random, nor are the variety of characteristics that would allow us to distribute mothers and nonmothers randomly across groups readily available in the observable data. In order to estimate the causal effect of children on earnings, I must model the likelihood of individuals selecting into the treatment (i.e., having children) and subsequently model the impact of children on earnings itself.

To do so, I present a doubly robust weighted regression in the second phase of analysis. This is a two-stage process in which selection into treatment is modeled in the first phase and then the resulting propensity scores are used to weight the second phase full regression of independent variables on the outcome. This prevents me from assuming that the estimated relationship between children and wages found in the previous regressions is what all women would face (i.e., the average treatment effect or ATE). In the first stage, I employ a logistic regression with a binary outcome (presence of children or not) and variables that block the indirect paths between the treatment and outcome, leaving only the direct path between children and wages to be estimated. These “backdoor path” variables include many, but not all, of the variables included in the previous regression models. The results of the logit regression are propensity scores, or the likelihood of any individual being in the treatment group, and these are utilized to create new weights. The weights are calculated by taking the propensity score, p_1 , and utilizing one of two formulas. To calculate the average treatment

for the treated weight (ATT), the treatment group's sample weights are left unadjusted, while the control group's survey weight is replaced by the survey weight $\times (p1/(1-p1))$. Similarly, the average treatment for the control weight (ATC) is created by leaving the control group's survey weights as they are, and replacing the treatment group's weights with the survey weight $\times ((1-p1)/p1)$. These two different weights are assigned to each individual to ensure that I am capturing the effect of selection into treatment on the outcome.

The ATT and ATC weights act as survey weights to weight the sample control and treatment populations so that they are representative of their counterparts (Morgan and Todd 2008). This allows us to estimate what it *would* look like if the treatment group *had not* received the treatment and, vice versa, if the control group *had* received the treatment. Because the ATT weights are constructed so that actual mothers retain their survey sample weights and potential mothers are assigned weights that are created by multiplying the original survey sample weights by their propensity to have children, those that are highly likely to have children are weighted more heavily while those that are least likely to have children are weighted more lightly. The result is that the control group, nonmothers, is weighted so that it represents or mirrors the treatment group (mothers). The same process is used to construct the ATC weights, but in reverse, so that the control group is left with their original sample weights, while the treatment group has new weights assigned that merge the survey weights with their propensity *not* to have children, causing the control group to mirror the treatment group in their distribution across relevant characteristics. Once these weights are constructed, the data is checked for balance by comparing the weighted means of variables between control and treatment groups.

If the ATT and ATC weights are specified and constructed correctly, the weighted means should be very similar. This similarity indicates that the data has been balanced, or distributed, across variables relevant to individuals' selection into treatment well enough that treatment assignment can be interpreted as random. In this case, the ATE may actually

be a measure of the average causal effect of the treatment across both control (nonmother) and treatment (mother) groups rather than simply the effect of children on mothers' wages (Morgan and Todd 2008). If the ATT and ATC weight do not provide comparable means between the control and treatment group, the ATE may be impossible to determine. However, it may still be possible to identify a treatment estimate for either the control or treatment group.

In the second stage, after constructing the propensity weights and balancing the data, I will present the full regression model. The doubly robust regression model regresses the outcome on treatment variable, the variables used in the construction of the propensity weights, and other independent variables that were not used in the first stage logit model. These additional variables are used in the second stage, but not the first, because they have a relationship to the dependent variable that is independent of the treatment variable and outcome—they were not on a “backdoor path” between the treatment variable and outcome. The re-use of the variables first utilized in the logit specifications helps to further balance the data across variables and account for any data sparseness (Morgan and Todd 2008). The full regression is carried out on the full sample and also on the common support portion of the sample, or the portion of the sample that has overlapping predicted probabilities of being in the treatment group³.

1.3.2 Data

The *After the JD* study (hereafter referred to as AJD) is the first large-scale study to be conducted around the careers of American lawyers. It was designed to track the careers of a nationally representative sample of recent graduates from law school through the first seven years of their career. Conducted by the American Bar Foundation and other organizations,

³See Figure B.1 in appendix for a visual representation of the predicted probability overlaps between the control and treatment groups.

the longitudinal study was designed to capture trends across field and practice settings, but also to highlight the personal changes and work-life balances that attorneys faced as they moved through the early parts of their careers into family life cycles and beyond. This data include measures on a range of topics. Family and demographic characteristics, extensive professional histories, earnings and educational paths are all captured. In addition, there are a variety of measures on health and wellbeing, happiness, social connection and political affiliations and activities. Interviews were conducted primarily through the mail and over the telephone, although web interviews were also collected.

The AJD study is a complex survey, where new attorneys were sampled randomly from 19 different geographic regions representing major, large and smaller law markets. Fielded in 2002-2003, the first wave of the AJD data (AJD1) is a snapshot of 4,538 respondents who were admitted to the bar in 2000, regardless of whether they were a practicing attorney at the time. This is 71% of the individuals who could be located and over 50% of the full sample. AJD1 included an oversample of minorities to ensure adequate representation for statistical analyses.

This analysis utilizes a sample of 3,145 attorneys for the first phase multiple regressions and 1,450 female attorneys in the second phase weighted regressions. It only includes respondents who graduated from law school in 1998, 1999 or 2000 to minimize the number of attorneys who are currently employed in a clerkship or otherwise not yet settled into a position. It also only includes attorneys that are currently engaged in the workforce, although not all are full-time, and no solo practitioners are included.

1.3.3 Measures

Dependent Variable

The dependent variable is the natural log of annual salary. This measure is taken from respondents' self-report of their annual wages. For professionals, it is appropriate to use annual salary and to transform them with a natural log function (Morgan and Arthur 2005) rather than a measure of hourly wages.

Treatment Variable

The survey does not include measures of fertility history, but rather “How many children live with you for a significant part of the year?” and this is used to construct the parenthood variable. If respondents listed children, I assumed the respondent provided the primary residence and care. For this measure, 1 indicates that children are present and 0 indicates that children are *not* present.

Independent Variables

Compensating Differentials

Performance is measured by hours worked in the previous week and the hours expected to work every week. The questions read “How many hours did *you actually work last week*, even if it was atypical?” and “How many hours are *you expected to work during a typical week* at your job?”. In order to facilitate comparison to the dependent variable, the hours are logged (Morgan and Arthur 2005) in the full regressions, but a continuous measure is used in the initial logit. There is an indicator variable for whether or not the respondent was on vacation the previous week and also an indicator for full-time employment that reflects official status at the place of employment rather than hours worked.

Practice Setting and Organizational Structure

Practice characteristics are measured in several different ways. Indicator variables are constructed for sector of practice. Solo practitioners are excluded from the sample because of the unique nature of being self-employed. A public sector employment indicator includes federal government (including judiciary) and state or local government (including judiciary). Legal services or public defender are one indicator, and the nonprofit indicator includes public interest groups, nonprofit organizations and educational institutions. The indicator variable for in-house employment includes professional firms, business or industry, or labor union or trade association. Private law firms are the reference group. There are interactions for each sector of practice and the presence of children in the household. Wage structure is measured by a dichotomous variable indicating whether the primary employer's wage structure is straight salary (0) or salary and bonus (1). In addition, there are indicators for whether the location is a major, large, or smaller law market. Finally, a discrimination index (0-4) measures whether a respondent feels that they have faced discrimination at their employer⁴.

Human Capital: Experience and Training

These measures tap law-specific experience that might affect one's wages. Dummies for the year that the respondent graduated from law school serve as a proxy for experience as a lawyer. In addition, there is an indicator of whether the respondent went directly to law school from their undergraduate degree. Finally, there are two categorical variables for whether or not the respondent was a member of a law review or participated in moot court, and indicating their level of involvement. Training is measured by dichotomous variables that indicate whether a respondent attended a top 20 or top 100 law school. In addition, an indicator for whether the individual is considered a specialist in a particular area of law

⁴This includes missing out on a desirable assignment or having a client request someone other than the respondent handle an assignment.

identifies a potential premium on expertise.

Personal and Family Characteristics

The sample is composed of both male and female attorneys, although the second phase weighted regression only utilizes female attorneys. Age is measured by birth year, and race is measured by a series of dichotomous variables for White, Black, Hispanic, Asian, and Other. White is the reference group. Marital status is measured in a series of binary indicators for married (including remarried), cohabiting (including domestic partnerships), and separated, with single as the reference group.

1.3.4 Missing Values

The AJD1 study has a full sample of 4,538 respondents. All solo practitioners were excluded (n=143), as well as those individuals who are out of the workforce (n=2). However, even with the high response rate of 71% obtained by mail, phone and web-based interviews (Dinovitzer et al. 2009), there are still a significant number of missing values for key indicators of interest. All missing values were examined for patterns by potential predictor variables, and no strong correlations were found. Data appears to be missing at random. All observations that were missing the dependent variable, annual salary, (n=634) were dropped. With remaining data, observations were dropped if they were missing hours worked and expected per week (n=440), practice setting (n=129), and other key variables such as sex and marital status. The final sample size of attorneys is 3,145 for the first multiple regression results presented, and 1,450 female attorneys for weighted regression⁵.

⁵The data were also checked for issues of multicollinearity and influential observations. No evidence of multicollinearity was found. Regressions were run with and without the potentially influential data points and no significant differences were detected. See A.2 in appendix for results of regressions with and without potentially influential observations.

1.4 Results

1.4.1 Descriptive Statistics

Table 1.1 displays the means and standard deviations for variables used in both the initial and second stage of the weighted regression. Mothers make an average of just over \$74,000 per year, while female nonparents make significantly more at \$84,501. Fathers and male nonparents, while not significantly different from each other at just over \$92,000 per year, make significantly more than women. Mothers and fathers are both approximately three years older, on average, than their childless counterparts, although they are not significantly different from each other. Compared to other races, Asians are more likely to be nonparents than parents. Parents are significantly more likely to be married than nonparents, and while very small numbers of attorneys are cohabiting, women are slightly more likely to do so than men.

Human capital also reflects some differences between these groups. Fathers are significantly more likely to report that they are considered specialists in their practice than either male nonparents or mothers, but there is no significant difference between mothers and female nonparents. Parents are significantly less likely to have attended a top 20 law school, but everyone was similarly likely to have attended a top 100 law school. As would be expected, mothers and fathers are significantly less likely than their childless peers to have gone directly to law school from their undergraduate institution. All groups are equally likely to have graduated in any given year. No group was more likely than any other to have participated in moot court, the law review, or to have changed positions within the first three years of their practice.

Surprisingly, there do not seem to be many major differences between men and women, and parents and nonparents when considering organizational setting. Perhaps most surpris-

Table 1.1: Means by Gender and Parental Status

		Female Nonparents MeanS.D.	Mothers MeanS.D.	Male Nonparents MeanS.D.	Fathers MeanS.D.
Annual Earnings (in Thousands)	†!%	84.5 (45.3)	74.3 (52.4)	92.5 (51.3)	92.2 (51.8)
Ln(Earnings)	† ! %	11.22(0.50)	11.07(0.52)	11.31(0.49)	11.31(0.50)
Hrs Worked	† * ! %	47.83(12.75)	42.85(12.84)	49.70(13.83)	48.06(13.40)
Ln(Hrs Worked)	† ! %	3.80 (0.51)	3.64 (0.71)	3.82 (0.60)	3.77 (0.65)
Hrs Expected	† * ! %	46.29(9.11)	42.57(9.71)	47.53(8.87)	45.61(8.49)
Ln(Hrs Expected)	† * ! %	3.81 (0.22)	3.70 (0.42)	3.84 (0.28)	3.79 (0.33)
Fulltime	† !	0.99	0.87	1.00	0.99
Bonus	%	0.57	0.62	0.70	0.69
Govt. Employee		0.16	0.17	0.15	0.16
Public Defender	! %	0.05	0.06	0.02	0.02
Nonprofit	! %	0.04	0.03	0.01	0.01
In-House	*	0.05	0.06	0.04	0.07
Top 20 LS	† *	0.26	0.13	0.27	0.17
Top 100 LS		0.45	0.48	0.46	0.48
Direct to LS	† *	0.42	0.26	0.43	0.25
1999 LS graduate		0.32	0.34	0.33	0.36
1998 LS graduate		0.06	0.06	0.06	0.05
Law Review		0.75 (0.87)	0.65 (0.84)	0.69 (0.84)	0.62 (0.83)
Moot Court		0.45 (0.65)	0.50 (0.68)	0.46 (0.62)	0.46 (0.63)
First Position		0.67	0.65	0.64	0.60
Age	† *	30.23(4.53)	33.92(6.08)	30.24(4.18)	33.69(5.40)
White	† * %	0.65	0.73	0.71	0.78
Black	! %	0.12	0.10	0.06	0.06
Hispanic		0.09	0.07	0.09	0.06
Asian	† *	0.12	0.06	0.09	0.04
Other		0.03	0.04	0.04	0.06
Married	† * !	0.39	0.83	0.42	0.95
Cohabiting	%	0.05	0.02	0.03	0.01
Separated	† ! %	0.05	0.10	0.03	0.03
Vacation	%	0.12	0.14	0.09	0.10
Specialist	* !	0.37	0.40	0.40	0.49
Discrimination (1-4)!	%	0.61 (0.98)	0.69 (1.05)	0.24 (0.60)	0.23 (0.60)
Large law market		0.24	0.24	0.23	0.25
Major law market	† *	0.44	0.22	0.40	0.20
Small law market	† * %	0.32	0.54	0.37	0.56
N		1180	270	1191	504

† Mothers v Female Nonparents difference significant at $p < .05$

* Fathers v Male Nonparents difference significant at $p < .05$

! Fathers v Mothers difference significant at $p < .05$

% Male v Female Nonparents difference significant at $p < .05$

ingly, mothers do not differ from female nonparents in their choice of sector. Mothers are more likely than fathers to work in public defence or legal services, as well as nonprofits, but not in government or as in-house counsel, two paths that are often seen as more family-friendly options. Childless women are also more likely to work in public defense or legal services, or nonprofits than their childless male peers. Interestingly, fathers are more likely than childless men to work as in-house counsel. Although female nonparents are significantly less likely than their nonparent male peers to have positions that have a bonus component to the salary structure, fathers and mothers are similarly likely to have a bonus structure, and mothers do not differ significantly from their childless female peers. All men and women are equally likely to be in a large law market, while parents were significantly less likely to be in a major law market than nonparents. One interesting aspect of organizational setting is the level of discrimination that individuals feel they have faced, and while female nonparents and mothers are similarly likely to have experienced discrimination, they are also both significantly more likely than men, both parents and nonparents, to have had the experience.

Measures of compensating differentials also show differences. Mothers work, on average, just under 43 hours per week, significantly fewer hours than male and female nonparents, who both average above 47 hours per week, and fathers, who work approximately 48 hours per week. However, when the natural log of hours are compared, mothers still work significantly fewer hours than other groups, but fathers do not work significantly less than male nonparents, nor do female nonparents work significantly less than male nonparents. This is particularly interesting because both the expected hours and natural log of expected hours for each group is significantly different, with mothers expected to work the fewest hours per week at just over 42 hours, fathers reporting an expected 45.6 hours per week, with male and female childless parents each reporting that they are expected to work over 47 and 46 hours per week, respectively. Somehow, even though expectations are different, female nonparents are working nearly the same number of hours as male nonparents. Unsurprisingly, mothers

are the most likely of the groups to have official part-time status at work, although 87% do report that they work full-time.

1.4.2 Phase 1: Multiple Regression Results

Is there evidence of a motherhood penalty? I first estimate four multiple regression models to isolate the presence of a motherhood effect, testing each of the three mechanisms discussed previously: human capital, organizational settings and compensating differentials. Tables 1.2 and 1.3 show the results. Because the dependent variable is the natural log of earnings, the regression coefficients can be interpreted as percent change in earnings that would accompany a unit increase in the independent variable. Specifically, the regression coefficients can be calculated by $100 * [exp(\beta) - 1]$; when the coefficients are small they can most easily be interpreted as a percentage change in earnings equal to $100 * \beta$. The first model tests for the presence of a motherhood penalty, controlling only for personal and family characteristics. It seems that women suffer a gender wage gap of 9%, and that while the presence of children does not have a statistically significant effect for men, for women it is equal to an additional 11% drop in earnings, for a total penalty of 20%. Model 2 includes variables that account for human capital resources and their returns. Women still suffer a 9% gender gap, with mothers suffering a total 17% penalty.

In Table 1.3, Model 3 includes organizational characteristics with interactions for the presence of children to see if different sectors may penalize mothers differently based on their expectations and organizational structures. When controls for organizational sector are included, the gender gap itself becomes barely significant, although the motherhood penalty continues to be both substantive and significant at nearly 17%. In these models, a fatherhood bonus of approximately 5% emerges, consistent with the idea that children affect men and women's salaries differently. It also implies that when salary structures include a

Table 1.2: Multiple Regression Results

	Base		Model 1		Model 2	
	β	(SE)	β	(SE)	β	(SE)
Female	-0.090***	(0.020)	-0.093***	(0.019)	-0.090***	(0.014)
Has Kids	-0.007	(0.036)	0.010	(0.033)	0.022	(0.025)
I: Kids*Female	-0.142**	(0.038)	-0.136**	(0.038)	-0.115**	(0.031)
Demographics						
Age			-0.005*	(0.002)	-0.001	(0.002)
Black			0.032	(0.038)	0.010	(0.037)
Hispanic			0.024	(0.039)	0.011	(0.034)
Asian			0.162*	(0.062)	0.067	(0.053)
Other			0.008	(0.044)	0.003	(0.042)
Married			0.017	(0.023)	0.020	(0.017)
Cohabiting			-0.088	(0.059)	-0.147*	(0.053)
Separated			-0.043	(0.052)	-0.016	(0.042)
Human Capital						
Specialist					0.100**	(0.028)
Top 20 LS					0.456***	(0.046)
Top 100 LS					0.149***	(0.026)
Direct to LS					-0.029	(0.017)
1999 graduate					0.069	(0.055)
1998 graduate					0.133*	(0.051)
Law Review					0.119***	(0.009)
Moot Court					0.030*	(0.011)
First Position					0.047†	(0.024)
Practice Setting						
Bonus						
Govt. Employee						
I: Kids*Govt						
Public Defender						
I: Kids*Public Def.						
Nonprofit						
I: Kids*Nonprofit						
In-House						
I: Kids*In-House						
Large law market						
Major law market						
Discrimination (1-4)						
Compensating Differentials						
Ln(Hrs Worked)						
Hrs Expected						
Ln(Hrs Expected)						
Vacation						
Fulltime						
Constant	11.312***	(0.063)	(11.450)***	(0.096)	10.970***	(0.067)
Observations	3,145		3,145		3,145	
R-squared	0.02		0.03		0.23	
Cluster	18		18		18	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$

Table 1.3: Multiple Regression Results, cont'd.

	Model 3		Model 4		Models 1-4	
	β	(SE)	β	(SE)	β	(SE)
Female	-0.030†	(0.015)	-0.066***	(0.015)	-0.020	(0.014)
Has Kids	0.055*	(0.020)	0.043*	(0.018)	0.066**	(0.019)
I: Kids*Female	-0.127***	(0.030)	-0.063**	(0.021)	-0.070*	(0.024)
Demographics						
Age	0.000	(0.002)	0.000	(0.002)	0.000	(0.002)
Black	0.060*	(0.023)	0.003	(0.033)	0.049*	(0.021)
Hispanic	-0.018	(0.023)	0.005	(0.031)	-0.020	(0.023)
Asian	0.025	(0.036)	0.088†	(0.044)	0.035	(0.032)
Other	0.030	(0.029)	-0.001	(0.037)	0.025	(0.028)
Married	0.007	(0.014)	0.024	(0.017)	0.013	(0.015)
Cohabiting	-0.081*	(0.035)	-0.126*	(0.044)	-0.072*	(0.031)
Separated	-0.022	(0.040)	-0.017	(0.037)	-0.020	(0.039)
Human Capital						
Specialist	0.085***	(0.020)	0.096**	(0.026)	0.082***	(0.019)
Top 20 LS	0.334***	(0.039)	0.427***	(0.042)	0.328***	(0.037)
Top 100 LS	0.134***	(0.026)	0.148***	(0.024)	0.135***	(0.025)
Direct to LS	-0.031*	(0.014)	-0.022	(0.018)	-0.030†	(0.014)
1999 graduate	0.080**	(0.024)	0.067	(0.045)	0.078***	(0.019)
1998 graduate	0.130***	(0.031)	0.134**	(0.046)	0.128***	(0.030)
Law Review	0.086***	(0.008)	0.108***	(0.008)	0.084***	(0.008)
Moot Court	0.026*	(0.011)	0.023*	(0.009)	0.024*	(0.010)
First Position	0.039*	(0.014)	0.049*	(0.019)	0.044**	(0.013)
Practice Setting						
Bonus	0.265***	(0.021)			0.243***	(0.022)
Govt. Employee	-0.293***	(0.032)			-0.262***	(0.033)
I: Kids*Govt	0.022	(0.036)			0.007	(0.034)
Public Defender	-0.485***	(0.046)			-0.447***	(0.042)
I: Kids*Public Def.	0.071	(0.063)			0.038	(0.055)
Nonprofit	-0.621***	(0.052)			-0.590***	(0.052)
I: Kids*Nonprofit	-0.010	(0.108)			0.084	(0.095)
In-House	0.077	(0.057)			0.106†	(0.057)
I: Kids*In-House	0.093	(0.076)			0.072	(0.071)
Large law market	0.202**	(0.055)			0.206**	(0.053)
Major law market	0.296***	(0.044)			0.290***	(0.041)
Discrimination (1-4)	-0.019*	(0.009)			-0.025**	(0.008)
Compensating Differentials						
Hrs Worked			0.005***	(0.001)	0.004***	(0.001)
Ln(Hrs Worked)			-0.079***	(0.016)	-0.063**	(0.017)
Hrs Expected			0.018***	(0.002)	0.007***	(0.001)
Ln(Hrs Expected)			-0.225***	(0.046)	-0.083†	(0.040)
Vacation			0.097**	(0.026)	0.044*	(0.019)
Fulltime			0.239**	(0.064)	0.369***	(0.059)
Constant	10.729***	(0.077)	10.741***	(0.156)	10.385***	(0.132)
Observations	3,145		3,145		3,145	
R-squared	0.54		0.31		0.56	
Cluster	18		18		18	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$

bonus, even when significant and positive for both males and females, the discretionary bonus component may have differential effects for mothers and fathers. Even though women may disproportionately select into lower-paying sectors such as nonprofits, they do not seem to be paid less than their male counterparts in those fields. Model 4 removes the organizational settings characteristics and utilizes measures of compensating differentials and the gender gap returns at approximately 7%. The motherhood penalty increases an additional 1% to 8% compared to fathers' earnings with these variables included, hinting that managing their labor supply is one method used by mothers to manage competing work and home demands. The fatherhood bonus remains. The final column is a full regression that includes Models 1-4, including variables for the three potential mechanisms. With these controls in place, the gender gap becomes insignificant again, implying that female nonparents have similar compensation for similar work to their male counterparts. Mothers remain a half percentage below nonmothers in earnings in the full model, because although the interaction term is significantly and substantively negative, there is also a boost associated with children that washes away some of the effect. Notably, while the motherhood penalty compared to male nonparents has dropped to approximately 2% compared to its earlier 8%, the fatherhood bonus is a substantive 6% increase⁶, creating a 9% premium for fathers over mothers. To illustrate, a married white mother who graduated in from a top 20 law school in 1999 and works for the government full-time is likely to earn around \$48,902, while a father with the same background will earn approximately \$53,507. These preliminary results lead me to believe there is reason to estimate a more precise effect of children on women's wages.

⁶For the full regression by sex, see Table A.1 in the appendix.

1.4.3 Phase 2: Weighted Regression

Is there an effect of children on mother's wages? The following analysis uses a smaller sample of 1,450 female attorneys to estimate effects of children on wages for the treatment group (mothers) and the control group (nonmothers). The results of the first stage logit are available in Appendix B. Table 1.4 contains the results of the three different weighted regressions. The first column estimates the motherhood penalty utilizing the sample weights provided with the AJD survey. The second column utilizes average treatment of the treated (ATT) group weights to estimate the motherhood penalty for those women who have children. The third column utilizes average treatment of the control (ATC) group weights. As discussed in the methods section, the ATT weight leaves the original sample weights of the treatment group as they are, but then constructs weights for the control group that cause it to act as a representative sample of the full treatment group. In other words, it makes the control group look like the treatment group for the factors that affect selection into treatment. The inverse is true of the ATC: it leaves the original control group weights the same while constructing weights for the treatment group that cause it to look representative of the control group.

The first column of Table 1.4 with the sample weights reveals a different story than the first phase regressions. For women, there does not appear to be a penalty associated with having children as the coefficient is both small and insignificant. For every additional hour worked and expected per week, women have an increase of approximately .5% and .9% in annual earnings, resulting in steeper rewards for higher expectations at work. Women that work in firms with bonuses enjoy a significant earnings premium of 24%, which is similar to the first stage regression and does not imply that bonuses are awarded to men and women differentially. Government, public defenders and legal aid, and nonprofits all pay less than the private sector, and women are more likely to select into public defense and nonprofits than are men. Surprisingly, the interaction terms intended to capture the potential differentiation

of the motherhood penalty between sectors are insignificant, with the exception of public defenders and legal aid, which reward mothers with a nearly 18% bonus. As expected, women still benefit from investments in human capital, with top 20 and top 100 law schools netting significant returns of around 35% for a top 20 school and 14% for a top 100 law school. Being a specialist translates into an approximate 6% earning premium. It appears that when the factors hypothesized to predict selection into parenthood, as well as relevant human capital, work effort and organizational characteristics are accounted for, the motherhood penalty is explained for young female attorneys.

The second column of Table 1.4 utilizes ATT weights and examines the effect of children on women who have or are most likely to have children. In this model, the effect of children on women's earnings is again negligible. However, in this model it is not the hours that women actually work that is important, but rather the hours that they are expected to work. In fact, every hour expected increased women's salaries by about 2%, but the bonus component of women's salary package became only marginally important. Other human capital variables remained important, although less so as the return to a top 20 law school dropped to slightly under 27% and a top 100 law school to about 11.6%. Practice settings followed a similar pattern to the first model, and in-house attorneys continued to earn more with a 14% bonus over private sector practice. Again, the interaction terms between sector and presence of children were insignificant, implying that women do not face a motherhood penalty in any particular sector.

The third column of Table 1.4 assigns ATC weights, examining the effect that children would have for those women who are childless or most likely to be so. It is within this group that we find a motherhood penalty of 11%, although this is counteracted by a nearly 12% marriage bonus, potentially washing out the effect of children. However, these differences indicate that the effect of children for those who do not have them would be more negative than for those who do have children. There is also, again, a relationship not between the

Table 1.4: Weighted Regression Results Utilizing Sample, ATT and ATC Weights

	Sample Weights		ATT Weights		ATC Weights	
	β	(SE)	β	(SE)	β	(SE)
Has Kids	-0.004	(0.039)	0.011	(0.067)	-0.117*	(0.050)
Hrs Worked	0.004***	(0.001)	0.001	(0.003)	0.001	(0.003)
Ln(Hrs Worked)	-0.067*	(0.026)	-0.009	(0.065)	-0.054	(0.035)
Hrs Expected	0.009***	(0.002)	0.017***	(0.003)	0.013***	(0.002)
Ln(Hrs Expected)	-0.105*	(0.046)	-0.236**	(0.068)	-0.182**	(0.046)
Fulltime	0.370***	(0.084)	0.352***	(0.072)	0.307*	(0.111)
Bonus	0.216***	(0.051)	0.130	(0.066)	0.234***	(0.057)
Govt. Employee	-0.264***	(0.055)	-0.315***	(0.077)	-0.205*	(0.078)
I: Kids*Govt	-0.040	(0.094)	-0.035	(0.116)	-0.038	(0.076)
Public Defender	-0.539***	(0.068)	-0.448***	(0.089)	-0.468***	(0.076)
I: Kids*Public Def.	0.168*	(0.068)	-0.013	(0.092)	0.405**	(0.119)
Nonprofit	-0.585***	(0.075)	-0.697***	(0.090)	-0.516***	(0.084)
I: Kids*Nonprofit	0.062	(0.116)	0.146	(0.126)	-0.104	(0.194)
In-House	0.171	(0.133)	0.131	(0.169)	0.194	(0.139)
I: Kids*In-House	0.045	(0.139)	0.096	(0.182)	0.195	(0.139)
Top 20 LS	0.316***	(0.043)	0.238**	(0.076)	0.351***	(0.045)
Top 100 LS	0.135***	(0.032)	0.110*	(0.040)	0.098*	(0.044)
Direct to LS	-0.061**	(0.021)	-0.070*	(0.028)	-0.025	(0.030)
1999 graduate	0.068**	(0.023)	0.105*	(0.046)	0.040	(0.031)
1998 graduate	0.141	(0.080)	-0.003	(0.065)	-0.090	(0.132)
Law Review	0.081***	(0.013)	0.070***	(0.016)	0.108***	(0.019)
Moot Court	0.020	(0.017)	0.028	(0.021)	0.057*	(0.021)
First Position	0.063*	(0.023)	0.095	(0.057)	-0.033	(0.033)
Age	-0.001	(0.003)	-0.003	(0.004)	0.003	(0.004)
Black	0.031	(0.027)	0.106*	(0.044)	0.101	(0.093)
Hispanic	-0.018	(0.029)	0.046	(0.043)	0.067	(0.043)
Asian	0.047	(0.042)	0.146	(0.117)	0.100	(0.051)
Other	0.077*	(0.033)	0.189**	(0.050)	0.145	(0.096)
Married	0.031	(0.019)	0.117	(0.078)	0.112*	(0.044)
Cohabiting	0.015	(0.044)	-0.183	(0.108)	-0.085	(0.067)
Separated	0.056	(0.060)	0.082	(0.091)	0.060	(0.103)
Vacation	0.060*	(0.025)	0.083	(0.042)	0.078*	(0.031)
Specialist	0.059*	(0.021)	0.135***	(0.022)	0.043	(0.026)
Discrimination (1-4)	-0.021*	(0.009)	-0.009	(0.021)	-0.016	(0.016)
Large Law Market	0.184**	(0.058)	0.219**	(0.063)	0.190**	(0.050)
Major Law Market	0.297***	(0.051)	0.322***	(0.065)	0.230**	(0.060)
Constant	10.441***	(0.155)	10.483***	(0.173)	10.532***	(0.165)
Observations	1,450		1,450		1,450	
R-squared	0.56		0.58		0.58	
Cluster	18		18		18	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$

number of hours women work, but the number of hours they are expected to work, with approximately 1% increase in earnings for every 1% increase in the hours expected. Again, the government, public defense and legal aid, and nonprofit sectors pay less than the private sector, but the in-house sector continues to net a 21% bonus for women. The motherhood effect only appears significant in the public defense sector but again works in an unexpected direction and magnitude: women with children appear to receive a significant boost in their earnings of nearly 50%. While this is counteracted by the significant penalty for working in that sector, this subpopulation requires closer examination to determine what is driving these unusual results.

Table B.3 in Appendix B contains the results for the same regressions, but restricted to a smaller sample of only 1,167 female attorneys in the control group whose propensity scores overlap with a female attorney in the treatment group and therefore are closely matched on key characteristics⁷. These regression results are very similar to the full sample, with significance and coefficients matching closely. In both cases, it is only the ATC weights that produce a motherhood penalty, 11% in the full sample and 8.5% in the restricted sample. These similar results speak to the robustness of the model and that selection may indeed play an important part as those least likely to have children would also be subject to the most severe penalty. It is also encouraging that the ATC weights demonstrate the best balance across key variables and so may produce the best estimate of the motherhood wage penalty. However, with the current sample size and data limitations, I am unable to achieve a more precise estimate of the average treatment effect for all women and am limited to the average treatment effect for the control group. In other words, this estimate of a motherhood penalty indicates that it is women who do not have children who face the steepest penalties for having them, while those who are already mothers may face a much lower penalty, if any, for having more children.

⁷See Figure B.1 in the appendix for a visual illustration.

1.5 Summary, Discussion and Conclusion

While women continue to be paid, on average, less than men, mothers are often paid even less than female nonparents. Previous research on the motherhood penalty has demonstrated that it varies along education and income continuums, as well as by race and occupation. Highly educated mothers do not seem to suffer a motherhood penalty generally and previous research on lawyers has shown no evidence of a motherhood penalty. However, recent structural and demographic changes in the field of law provide reasons to believe that this may have changed in the last 25 years. In this study, I hypothesized that female attorneys now suffer a motherhood penalty and that it varies by practice setting because performance expectations differ by work context. Four potential mechanisms—human capital, work effort, compensating differentials and status characteristics—all predict that the practice setting should matter for mothers' earnings. I provide an important update to previous research on female attorney's earnings by employing two different approaches with the most recent data available to diagnose whether a motherhood penalty now exists for young female attorneys early in their careers.

The results of the first phase find a significant and substantive negative relationship between children and women's wages of approximately 2.5% compared to male nonparents but a smaller half percentage difference between mothers and female nonparents. While controlling for practice setting seem to minimize the impact of gender on wages, so that male and female nonparents earn similar amounts, the relationship between children and women's wages remains strong and negative. In addition, the relationship stays strong when measures of labor supply, hours worked and expected, are controlled for. While human capital, practice settings, and labor supply reduce the gender penalty, the motherhood penalty remains intact, implying that discrimination is playing a role. That discrimination is important is further supported as these same mechanisms actually reveal a differentiating impact of children on

earnings by sex. The relationship between earnings and earnings by gender is clear: benefits accrue to men and a negative relationship persists for women.

Somewhat surprisingly, however, the presence of children does not seem to moderate the relationship between sector and earnings. While practice sectors did affect earnings, the sectors affected both genders and parents and nonparents similarly. Again, while this does not support my hypothesis that different expectations across sectors of practice will result in different outcomes for mothers, it does support the status characteristic argument that mothers may face subtle culture-wide discrimination due to their parental status because their earnings remain lower by the same amount across sectors. Additional analyses⁸ by sex confirm that men and women receive differential returns for children, but still have similar patterns across sectors for earnings. While this may mean that women are treated relatively equally at this stage in their careers whether they are mothers or not, the same mechanisms that are theorized to create a motherhood penalty actually give rise to a fatherhood bonus. It is hard to believe that fathers are worth more than their equally credentialed peers or that with comparable or fewer hours than their childless male and female peers their labor supply explains their higher wages. Rather, this is in line with a status characteristic explanation of wage differences, where parental status confers benefits on fathers.

The results of the second phase of analysis, the weighted regressions, produce slightly different results. This sample is restricted to only women, and finds that having children has a negative but insignificant effect on women's wages for both the sample weights and the average treatment of the treated group weights. The average treatment for the control group weights, on the other hand, produce a motherhood penalty of nearly 11%. This implies that if women who currently do not have children were to have children, they would face a steeper penalty than those who are already mothers. In all cases, the interaction between children and practice sector is insignificant, implying that the structure of sectors may not matter to

⁸See Table A.1 in Appendix A.

the application of a motherhood penalty for current mothers. This provides a more nuanced view into the first phase findings: young attorneys who are already mothers by the third year of their career may not face much of a penalty compared to comparable nonmothers, but they certainly do not benefit from having children.

In fact, the women who already have children, making up less than 20% of new female attorneys, may be significantly different from their peers in important ways: they are on average older and less likely to have attended a top 20 law school, and are more likely to have previous work experience. This may help explain why the second phase finds that, if pregnancy were random among the population, women who are currently not mothers would face significant penalties. The weighted regression does not provide insight into why this penalty would occur, but further studies utilizing the longitudinal nature of this dataset may parse out whether the motherhood penalty occurs for those women who are currently not mothers but become mothers, and under what circumstances the motherhood penalty exists for female attorneys.

The presence of a fatherhood bonus in initial regression models should be explored in future research. Fathers who are attorneys may be quite different than mothers who are attorneys—they may be more likely to have a stay-at-home wife, may receive higher rewards for the same effort or human capital, or they may choose to handle their work-life balance differently. It is also possible, as the status characteristics literature observes, that fathers receive benefits from the status of parenthood that mothers do not, even if mothers are not penalized for having children. For each of these reasons, an examination of what factors contribute to the increased returns to men for traits similar to their female peers is important to understanding earning inequalities.

In addition, further exploration of the findings from the second phase weighted regression that nonmothers would face the steepest penalties is both possible and important. Utilizing the longitudinal nature of the data, researchers can explore whether those women who are

currently not mothers but do become mothers face the penalties predicted in the model. It is important to explore the mechanisms that lead to the motherhood penalty for mothers later in their careers because there is strong theoretical grounding for predicting a penalty, and implications if one is not found. Finally, Leicht (2008) also presents another interesting approach to examining the motherhood penalty that might be appropriate for attorneys. Rather than examining between groups at the mean, quintile regression that examines attorneys along the continuum of earnings might provide more insight into a possible motherhood penalty. The law field is stratified by earnings, and has become more so in the last 20 years, so it is possible that the mechanisms that theory posits will affect mothers' wages operate differently along the earnings continuum of female attorneys' salaries.

This study examines the presence of a motherhood penalty for young female attorneys utilizing information available the *After the JD* study, which includes self-reported information on wages, qualifications, hours worked and other individual characteristics. While these measures can capture individual variation, it is difficult to capture how the variation across employers and sectors of practice affects individual outcomes. Additional factors such as individual ambition and capabilities are only imperfectly captured by measures such as the ranking of one's law school. In addition, there are many important and individual reasons that lead individuals to have children that may not be captured by the selection model employed and that would impact mothers' and others' wages. The analyses presented are limited by these factors and so might underrepresent the true extent to which earnings reflect gender and parental practices, characteristics and choices.

APPENDIX A
MULTIPLE REGRESSION

Table A.1: Multiple Regression Results by Sex

	Full Sample		Women only		Men only	
	β	(SE)	β	(SE)	β	(SE)
Female	-0.02	(0.014)				
Has Kids	0.066**	(0.019)	-0.014	(0.024)	0.078***	(0.018)
I: Kids*Female	-0.07*	(0.024)				
Demographics						
Age	0	(0.002)	0.001	(0.003)	-0.001	(0.003)
Black	0.049*	(0.021)	0.044†	(0.022)	0.067*	(0.029)
Hispanic	-0.02	(0.023)	0.003	(0.020)	-0.039	(0.039)
Asian	0.035	(0.032)	0.042	(0.051)	0.028	(0.022)
Other	0.025	(0.028)	0.043	(0.029)	0.017	(0.036)
Married	0.013	(0.015)	0.025	(0.019)	0.000	(0.018)
Cohabiting	-0.072*	(0.031)	-0.019	(0.036)	-0.133**	(0.037)
Separated	-0.02	(0.039)	0.006	(0.051)	-0.048	(0.059)
Human Capital						
Specialist	0.082***	(0.019)	0.062**	(0.017)	0.099**	(0.026)
Top 20 LS	0.328***	(0.037)	0.34***	(0.034)	0.319***	(0.045)
Top 100 LS	0.135***	(0.025)	0.152***	(0.028)	0.121**	(0.032)
Direct to LS	-0.03†	(0.014)	-0.059**	(0.020)	-0.004	(0.021)
1999 graduate	0.078***	(0.019)	0.071**	(0.022)	0.082**	(0.025)
1998 graduate	0.128***	(0.030)	0.093	(0.059)	0.163***	(0.037)
Law Review	0.084***	(0.008)	0.076***	(0.011)	0.091***	(0.011)
Moot Court	0.024*	(0.010)	0.028*	(0.011)	0.021	(0.015)
First Position	0.044**	(0.013)	0.055*	(0.019)	0.034†	(0.019)
Practice Setting						
Bonus	0.243***	(0.022)	0.234***	(0.036)	0.258***	(0.026)
Govt. Employee	-0.262***	(0.033)	-0.278***	(0.038)	-0.238***	(0.045)
I: Kids*Govt	0.007	(0.034)	-0.034	(0.055)	0.03	(0.050)
Public Defender	-0.447***	(0.042)	-0.513***	(0.050)	-0.337***	(0.057)
I: Kids*Public Def.	0.038	(0.055)	0.08	(0.081)	-0.006	(0.059)
Nonprofit	-0.59***	(0.052)	-0.591***	(0.063)	-0.574***	(0.077)
I: Kids*Nonprofit	0.08	(0.095)	-0.02	(0.125)	0.28*	(0.107)
In-House	0.106†	(0.057)	0.053	(0.087)	0.177**	(0.048)
I: Kids*In-House	0.072	(0.071)	0.095	(0.119)	0.014	(0.074)
Large law market	0.206**	(0.053)	0.183**	(0.051)	0.222**	(0.061)
Major law market	0.29***	(0.041)	0.274***	(0.042)	0.304***	(0.048)
Discrimination (1-4)	-0.025**	(0.008)	-0.021*	(0.008)	-0.036*	(0.016)
Compensating Differentials						
Hrs Worked	0.004***	(0.001)	0.003**	(0.001)	0.004***	(0.001)
Ln(Hrs Worked)	-0.063**	(0.017)	-0.074**	(0.022)	-0.063*	(0.024)
Hrs Expected	0.007***	(0.001)	0.008***	(0.001)	0.006**	(0.002)
Ln(Hrs Expected)	-0.083†	(0.040)	-0.104*	(0.041)	-0.071	(0.043)
Vacation	0.044*	(0.019)	0.041	(0.024)	0.046	(0.038)
Fulltime	0.369***	(0.059)	0.365***	(0.068)	0.426**	(0.172)
Constant	10.385***	(0.132)	10.466***	(0.138)	10.3***	(0.264)
Observations	3,145		1,450		1,695	
R-squared	0.56		0.59		0.53	
Cluster	18		18		18	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$

Table A.2: Multiple Regression Results with and without Influential Observations

	Regression with full sample		Regression without influential observations	
	β	(SE)	β	(SE)
Has Kids	-0.010	(0.022)	-0.008	(0.021)
Hrs worked	0.003**	(0.001)	0.003*	(0.001)
Ln(Hrs Worked)	-0.074**	(0.022)	-0.069*	(0.025)
Vacation	0.042†	(0.024)	0.047†	(0.024)
Hrs expected	0.008***	(0.001)	0.008***	(0.001)
Ln(Hrs Expected)	-0.101*	(0.042)	-0.106*	(0.044)
Fulltime	0.366***	(0.066)	0.344***	(0.067)
Bonus	0.234***	(0.036)	0.229***	(0.034)
Govt. Employee	-0.284***	(0.038)	-0.278***	(0.038)
Public Defender	-0.495***	(0.045)	-0.489***	(0.045)
Nonprofit	-0.592***	(0.054)	-0.584***	(0.052)
In-House	0.073	(0.079)	0.040	(0.060)
Specialist	0.063**	(0.018)	0.075***	(0.014)
Discrimination (1-4)	-0.021*	(0.008)	-0.020*	(0.009)
Large law market	0.183**	(0.051)	0.193**	(0.049)
Major law market	0.275***	(0.042)	0.273***	(0.039)
Top 20 LS	0.338***	(0.034)	0.324***	(0.034)
Top 100 LS	0.152***	(0.028)	0.137***	(0.027)
Direct to LS	-0.057*	(0.020)	-0.047*	(0.021)
1999 graduate	0.071**	(0.022)	0.058**	(0.019)
1998 graduate	0.091	(0.058)	0.049	(0.048)
Law review	0.076***	(0.012)	0.075***	(0.012)
Moot court	0.028*	(0.011)	0.025*	(0.012)
First position	0.055*	(0.019)	0.040*	(0.018)
Age	0.001	(0.002)	0.000	(0.002)
Black	0.042†	(0.022)	0.052*	(0.020)
Hispanic	0.002	(0.020)	0.009	(0.017)
Asian	0.042	(0.051)	0.031	(0.050)
Other	0.040	(0.029)	0.040	(0.029)
Married	0.024	(0.019)	0.018	(0.018)
Cohabiting	-0.019	(0.036)	-0.018	(0.035)
Separated	0.004	(0.052)	-0.024	(0.053)
Constant	10.452***	(0.136)	10.506***	(0.139)
Observations	1450		1429	
R-squared	0.59		0.60	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$

APPENDIX B

WEIGHTED REGRESSION

Table B.1: First Stage Logit in Weighted Regression

	β	(SE)
Hrs worked	-0.018*	(0.007)
Hrs expected	-0.016	(0.011)
Fulltime	-1.891***	(0.509)
Bonus	0.789**	(0.263)
Govt. Employee	0.551	(0.323)
Public Defender	1.851***	(0.475)
Nonprofit	0.326	(0.495)
In-House	-0.087	(0.398)
Top 20 LS	-0.887**	(0.279)
Top 100 LS	-0.239	(0.209)
Direct to LS	-0.178	(0.208)
1999 graduate	-0.194	(0.202)
1998 graduate	-0.263	(0.436)
Law review	-0.077	(0.109)
Moot court	0.112	(0.144)
First position	-0.058	(0.198)
Age	0.076***	(0.020)
Black	0.891*	(0.374)
Hispanic	0.115	(0.353)
Asian	-0.261	(0.353)
Other	0.287	(0.578)
Married	3.037***	(0.324)
Cohabiting	0.972	(0.722)
Separated	2.602***	(0.448)
Constant	-3.072**	(0.960)
N	1,450	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$

Table B.2: Summary Statistics of Weights used in Weighted Regression

	Observations	Mean	Std. Dev.	Min	Max
Sample Weights	1450	7.017926	4.496194	1.507462	22.39308
ATT Weights	1450	3.081572	7.504992	0.007443	194.6189
ATC Weights	1450	10.61061	27.3767	0.211337	588.364

Sample weights are provided by AJD; ATT and ATC weights are calculated using the procedure presented in Methods.

Figure B.1: Kernel Density Overlap

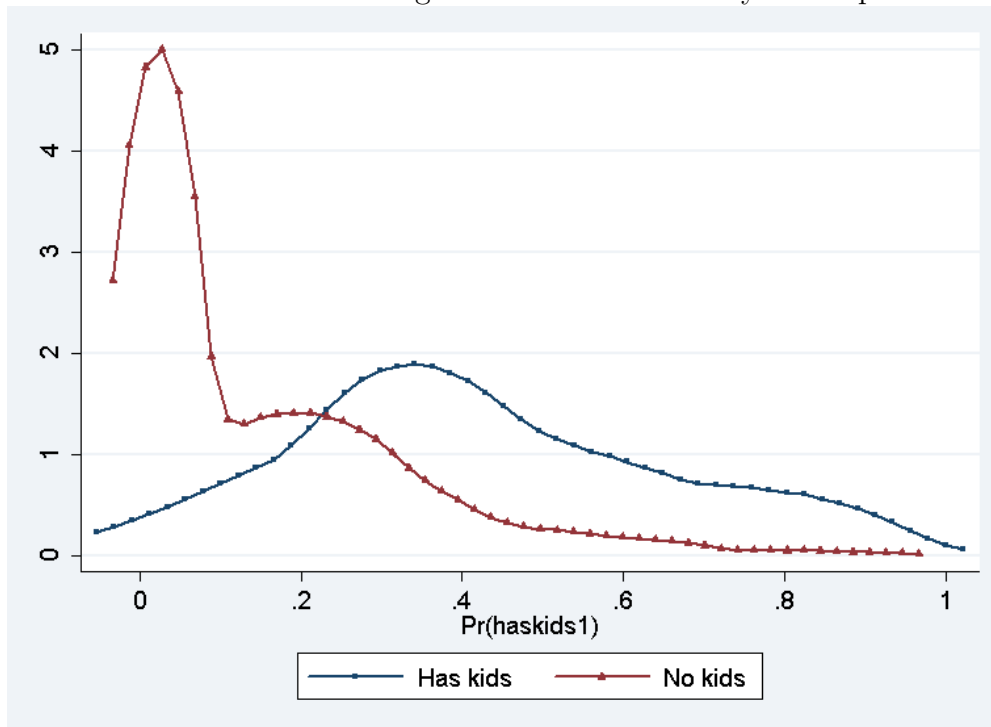


Table B.3: Weighted Regression in Common Support Utilizing Sample, ATT and ATC Weights

	CS Sample Weights		CS ATT Weights		CS ATC Weights	
	β	(SE)	β	(SE)	β	(SE)
Has Kids	-0.001	(0.042)	0.01	(0.066)	-0.089*	(0.041)
Hrs Worked	0.002	(0.001)	0	(0.003)	-0.001	(0.003)
Ln(Hrs Worked)	-0.027	(0.030)	0.009	(0.066)	-0.031	(0.045)
Hrs Expected	0.01***	(0.002)	0.018***	(0.003)	0.015***	(0.003)
Ln(Hrs Expected)	-0.136*	(0.051)	-0.248**	(0.070)	-0.204**	(0.055)
Fulltime	0.372***	(0.085)	0.355***	(0.075)	0.3*	(0.118)
Bonus	0.19**	(0.059)	0.129†	(0.067)	0.237**	(0.063)
Govt. Employee	-0.254***	(0.060)	-0.316***	(0.078)	-0.157†	(0.085)
I: Kids*Govt	-0.065	(0.090)	-0.033	(0.113)	-0.08	(0.080)
Public Defender	-0.539***	(0.070)	-0.448***	(0.090)	-0.424***	(0.070)
I: Kids*Public Def.	0.145*	(0.065)	-0.011	(0.091)	0.371**	(0.120)
Nonprofit	-0.527***	(0.089)	-0.701***	(0.093)	-0.436***	(0.105)
I: Kids*Nonprofit	-0.018	(0.121)	0.152	(0.127)	-0.164	(0.193)
In-House	0.168	(0.151)	0.128	(0.171)	0.204	(0.160)
I: Kids*In-House	0.043	(0.151)	0.097	(0.183)	0.166	(0.153)
Top 20 LS	0.281***	(0.043)	0.236**	(0.076)	0.322***	(0.050)
Top 100 LS	0.133**	(0.035)	0.109*	(0.042)	0.092†	(0.050)
Direct to LS	-0.068*	(0.024)	-0.07*	(0.028)	-0.039	(0.031)
1999 graduate	0.062*	(0.029)	0.101*	(0.047)	0.025	(0.033)
1998 graduate	0.142†	(0.071)	0.005	(0.069)	-0.131	(0.120)
Law Review	0.084***	(0.013)	0.07***	(0.016)	0.109***	(0.020)
Moot Court	0.024	(0.017)	0.031	(0.021)	0.066*	(0.025)
First Position	0.056†	(0.030)	0.096	(0.057)	-0.048	(0.038)
Age	-0.001	(0.003)	-0.003	(0.004)	0.004	(0.004)
Black	0.035	(0.030)	0.105*	(0.043)	0.137	(0.099)
Hispanic	0.001	(0.034)	0.045	(0.044)	0.099†	(0.053)
Asian	0.036	(0.044)	0.153	(0.124)	0.106†	(0.052)
Other	0.105**	(0.035)	0.193**	(0.050)	0.169†	(0.097)
Married	0.046	(0.030)	0.123	(0.087)	0.136*	(0.056)
Cohabiting	0.033	(0.051)	-0.181	(0.114)	-0.084	(0.078)
Separated	0.068	(0.054)	0.089	(0.097)	0.08	(0.104)
Vacation	0.046	(0.033)	0.077†	(0.043)	0.069	(0.043)
Specialist	0.07**	(0.021)	0.137***	(0.023)	0.051†	(0.026)
Discrimination (1-4)	-0.014	(0.011)	-0.009	(0.021)	-0.01	(0.018)
Large Law Market	0.181**	(0.061)	0.223**	(0.063)	0.19**	(0.054)
Major Law Market	0.297***	(0.057)	0.326***	(0.070)	0.226**	(0.065)
Constant	10.436***	(0.171)	10.454***	(0.174)	10.514***	(0.161)
Observations	1,167		1,167		1,167	
R-squared	0.52		0.57		0.57	
Cluster	18		18		18	

These regressions are conducted in the area of common support where propensity scores overlap. See B.1 for a visual representation.

APPENDIX C

THE COUNTERFACTUAL APPROACH

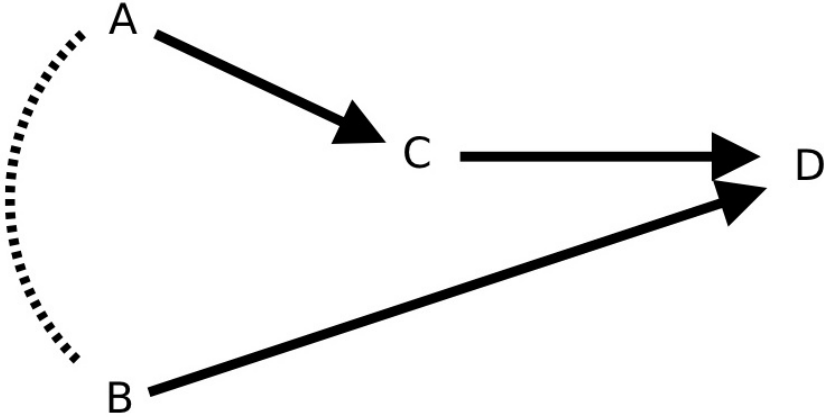
In Lionel Shriver’s excellent novel, *The Post-Birthday World*, the protagonist is at a birthday party for a close friend and her husband is unable to attend. At the end of the night, she and the guest of honor find themselves in a romantic moment, moving towards a kiss. Through the rest of the book, alternate chapters unfold the stories of two different realities after that fateful night: one in which Irina did kiss the friend, and one in which she did not. It is a counterfactual novel—if a researcher could simultaneously observe the outcomes when an individual both does and does not “receive the treatment,” how much easier social science would be!

The counterfactual tradition of causal inference seeks to explicitly lay out assumptions regarding the effect of a particular treatment on a group’s outcomes, including issues of selection into the group that either receives treatment or does not receive treatment. Counterfactual analysis makes explicit our assumptions about treatment by utilizing the idea of an “alternate world” in which we are able to know what the outcomes for those in the treatment group would have been had they not received the treatment and, similarly, what the outcomes would have been for those in the control group if they had received the treatment. As an example, one could imagine private schools have higher test scores than public schools because the types of students who attend private schools are more able or motivated to perform at high levels, rather than private schools providing a better education for students that are otherwise equivalent to those in public schools.

For the purposes of this study, the counterfactual approach makes explicit that having children is not random; that those women who have children may be different than those who do not and, consequently, their outcomes would have been different had they not had children than the rest of women who chose not to have children. Similarly, women who did

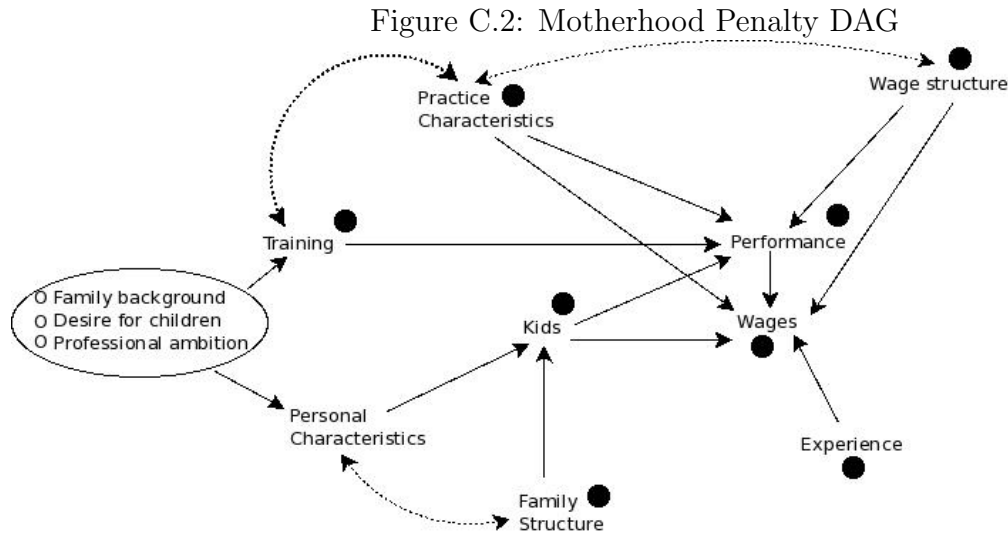
not plan to have children and had them anyway may face different outcomes than women who both anticipated having and actually had children. The counterfactual approach notes that lower wages for mothers may not be the average penalty applied across all women; rather, it may be the penalty applied to women who intend to or already have children. In order to estimate whether there is an average causal effect of children on all women’s salaries, rather than just the effect of children on actual mothers’ salaries, additional work must be done that explicitly lays out and adjusts for causal pathways.

Figure C.1: Directed Acyclic Graph (DAG)



To do this, I draw on the counterfactual tradition of Directed Acyclic Graphs (DAGs) to identify and address potential causal pathways through which a “treatment” (i.e., having children) may impact the outcome variable (i.e., annual earnings). Using a DAG provides the researcher with a visual representation of a mathematical model to help understand when one can or cannot estimate a causal effect by evaluating all the causal pathways along which variable influence may run. Figure C.1 is a simple DAG, in which A, B and C (the treatment variable) all affect the outcome D. However, A not only affects D through C, but the dotted line, between A and B means that there are unobserved factors that affect both A and B, therefore A may also impact D through B through this “backdoor path.” Consequently, one

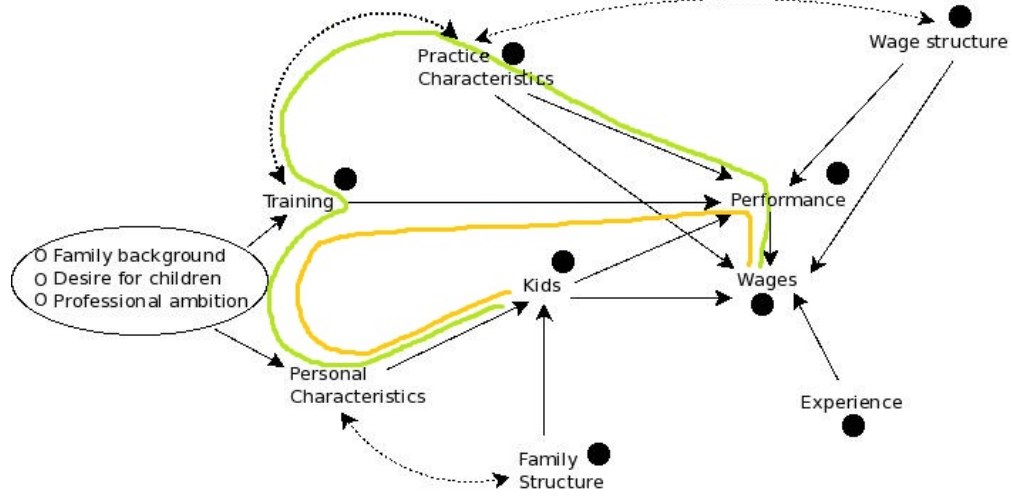
must adjust for B in order to to ensure that one is able to identify the effect of C alone on D, rather than C compounded with A and B. When one is able to adjust for all variables and “block” backdoor paths along which the influence of those variables may travel, then one may estimate a causal effect of the treatment on the outcome.



For our purposes, Figure C.2 is the DAG that demonstrates the causal pathways. In this case, there are many factors that can influence salary, such as training, human capital, experience and organizational structure. I suspect that, in addition to other variables, children impact wages; some of the factors that might influence fertility are age, sex, marital status and other characteristics. Some factors that I would expect to influence both fertility and wages would be unobserved factors such as ambition, professional commitment, and personal work-life balance desires. In order to estimate the causal effect of children on wages, I must control for not just the factors that affect wages directly, but also factors that could affect, for example, both organizational characteristics and having children. Two examples are a young married woman who chooses a job with no travel or a young single woman who wants a family eventually but wants to establish herself professionally first in a high-workload environment. These are considered the “backdoor paths” along which the relationship between

the treatment and the outcome may be traced, as in C.3.

Figure C.3: Motherhood Penalty DAG with highlighted pathways



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