



## **State Age Protection Laws and the Age Discrimination in Employment Act**

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# State Age Protection Laws and the Age Discrimination in Employment Act

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## Abstract

This paper exploits an unusual aspect of the policy for enforcement of the federal 1968 Age Discrimination in Employment Act (ADEA), which made filing an age discrimination claim less burdensome in some states than in others. After the enforcement of the federal law, white male workers over age 50 in states where the federal government allowed an easier filing procedure were .2 percentage points less likely to be hired than workers in states without laws. They also worked between .8 and 1.3 fewer weeks per year and were between .5 and .7 percentage points more likely to claim to be retired, between 1.6 and 1.8 percentage points more likely to be not in the labor force, and between 1.6 and 3 percentage points more likely to be not employed. These findings suggest that in an anti-age discrimination environment, firms seek to avoid litigation through means not intended by the legislation—by not employing older workers in the first place.

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## **1 Introduction**

The 1968 Age Discrimination in Employment Act (ADEA) prohibits discrimination against older workers in hiring, laying off, firing, compensation, or other conditions of employment. The original motivation behind the ADEA was lawmakers' concern that employers incorrectly perceive older workers to be less productive or are unwilling to make modest adjustments to accommodate these workers. The US Department of Labor Report (1965) that examines the need for older worker protection states that employers are making "assumptions about the effect of age on the ability to do a job when there is in fact no basis for these assumptions." Lawmakers today seek to encourage labor force participation to ease the projected Social Security budgetary shortfalls and they worry that capable older workers are not granted job opportunities (Butrica et al. 2006). Although the labor market fortunes of older workers tend to be better than those of younger workers, older workers are less likely to find employment after being separated from a job (Chan and Stevens 1999, 2001, 2004, Diamond and Hausman 1984). When older workers do find new jobs, they are clustered into a smaller set of industries and occupations than are younger workers (Hutchens 1988).

The question this paper addresses is whether age discrimination legislation itself, both at the federal and state levels, has had negative consequences on employment options for older workers that were unintended by the original framers of the law. There are three margins on which these laws can affect older workers' employment levels: firing, hiring, and retirement. Net employment outcomes may increase or decrease for older workers depending on which margins are most affected by the laws. First, a firm affected by these laws will be unlikely to fire an older worker for fear of a lawsuit.

However, it is difficult to prove or detect discrimination in hiring, and thus employers may choose not to hire older workers who will be difficult to fire, especially because class action lawsuits were not allowed under the ADEA during the time period studied (Donohue and Siegelman 1991, O'Meara 1989). Firms that wish to avoid being sued may also increase retirement incentives for these workers. Additionally, these effects should be largest for white men, who are most likely to be affected by the law.

This paper uses state age discrimination laws matched by state and year to the monthly Current Population Survey (CPS) and March CPS to look at employment outcomes for protected workers. To investigate the impact of hiring and job separation outcomes for older workers, I construct measures of separations and accessions (hires) by matching CPS rotation groups as in Bleakley et al. (1999). I then examine the net effect of these flows on outcomes for older workers such as weeks worked last year, wages, retirement, not in the labor force (NILF) and non-employment. My empirical strategy uses the assumption that, because of an unusual provision in the federal law, workers in states with their own age discrimination laws are more likely to be affected by the federal ADEA law. Under this law, workers in states with age discrimination laws have almost twice as long to file. Additionally, in states with these laws, state Fair Employment Practices (FEP) offices may be able to process claims more quickly than the Equal Employment Opportunity Commission (EEOC), though faster processing is not guaranteed. Thus, I compare workers who are affected by the law in states with these laws and workers who are not affected by the law in states with laws to those who are in states without laws.

I find that age discrimination laws, including state laws, had no negative effects (using CPS March data) on general labor market outcomes before the 1968 federal law was enforced and given to the EEOC in the late 1970s, though I am unable to examine effects on hiring and firing due to lack of data for this time period. After the 1979 enforcement, white male workers over the age of 50 in states with age discrimination laws were less likely to be hired or separated from their jobs, worked fewer weeks per year and were more likely to report being retired.<sup>1</sup> These findings suggest that firms reduce firing and hiring of workers most affected by the law, and may remove older workers through retirement incentives in states where lawsuits are less of a hurdle for the worker. On net, it appears that these laws lead to lower employment for older white men. Even after enforcement, these laws had a smaller effect on older women and minorities, possibly because these groups had less to gain from age discrimination lawsuits.

Although the hope is that anti-discrimination laws will raise employment and wages for members of protected groups, a number of studies suggest that these laws may be coupled with side-effects not intended by the law-makers. For example, Gruber (1994) finds that although mandates that stipulated that childbirth be covered comprehensively in health insurance plans did not change employment levels, they caused a decrease in wages of women of child bearing age. Similarly, DeLeire (2000), Acemoglu and Angrist (2001), and Jolls and Prescott (2004), among others, find a negative effect on employment prospects for disabled workers following the 1990 Americans with Disabilities Act. My findings suggest that the Age Discrimination in Employment Act falls into this class of laws with unintended consequences.

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<sup>1</sup> I also look at wage outcomes, but do not find any effect of the laws on wages.

The remainder of the paper is organized as follows. Section 2 provides background information on the legal environment surrounding age discrimination laws, including a brief literature review. Section 3 explains my empirical strategy. Section 4 gives information on data and descriptive statistics. Section 5 presents results, including robustness checks. Section 6 concludes.

## **2 Background**

### *2.1 Legal Environment*

The first state age discrimination law came on the books in 1903 in Colorado. By 1960, eight states had age discrimination laws.<sup>2</sup> Although the US Civil Service had banned maximum hiring ages in federal employment in 1956 and legislated against age discrimination in federal contracting in 1964, federal legislation protecting older workers overall did not appear until 1967 with the introduction of the ADEA. The 1967 ADEA prohibited age-based discrimination for those aged 40-65 in firms with 20 or more workers. Under this act, employers were barred from using age in hiring, laying off, firing, compensation, or other conditions of employment. The act also prohibited employers from using age-specific language in advertising. Although Adams (2004) finds a small positive effect of the introduction of this law on employment, most researchers agree that the federal law had little effect until the 1978 amendment to the ADEA (Neumark and Stock 1999, O'Meara 1989).<sup>3</sup> In 1978, Congress extended the

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<sup>2</sup> I have not been able to find any pattern to the introduction of these laws. States with and without laws look very similar across measured characteristics. In the robustness checks portion of the results section I run a test as if states with laws had introduced them 5 years earlier and find no evidence of any underlying differences between states that introduce and have not yet introduced laws.

<sup>3</sup> Neumark and Stock (1999) note that the existence of the law may have given plaintiffs higher standing in court even in the absence of enforcement mechanisms. Additionally, O'Meara (1989) suggests that the 1978 Supreme Court ruling (codified in the 1978 amendment to the law) that those bringing lawsuits based on age should have the right to a jury trial may have had a stronger effect than congressional changes to the law itself or its transfer to the EEOC, because juries are more likely than judges to find for the plaintiff in

protected age group to 40-70 and eliminated mandatory retirement for most federal employees. A second major change, in terms of enforcement, came in 1979 when the Department of Labor (and, for federal employment, the US Civil Service Commission) gave administrative responsibility to the US EEOC. Most researchers agree that this change strengthened the power of the ADEA because the change came with an increase in resources and an increase in “pattern and practice” lawsuits (Neumark 2001).<sup>4</sup>

In 1986, Congress amended the ADEA to eliminate the upper protected age range for age discrimination, effectively eliminating mandatory retirement for all except in cases where a safety issue related to age might be considered a bona fide occupational qualification (BFOQ), such as for pilots, or where the existence of job tenure would impose an undue hardship on the employer, such as for professors. In 1990, the Older Workers Benefits Protection Act (OWBPA) imposed restrictions on the financial tools employers could use to induce worker retirement (Neumark 2001, O’Meara 1989).

The procedure to file a claim under the ADEA differs importantly between states with and without their own age discrimination laws. Because the EEOC has a large backlog of cases, it rarely prosecutes claims itself. Instead, if a state has its own age discrimination statutes, then the ADEA requires the claimant to file with the state Fair Employment Practices (FEP) office within 300 days.<sup>5</sup> Otherwise, in states that do not

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these cases (Hersch and Viscusi 2004). Hersch (2006) finds that civil litigation cases in which jury trials are demanded are 5.5 percentage points more likely to settle without a trial than are cases where the right is waived.

<sup>4</sup> Although some law scholars argue that EEOC pattern and practice lawsuits are irrelevant, publicity surrounding the laws and the lawsuits could be the driving force behind differences in employer reaction to age laws. O’Meara (1989) argues that while the 1964 law was passed with little publicity, the events surrounding the 1978 amendment and enforcement were well publicized.

<sup>5</sup> In almost all cases after 1978, the state FEP office came into being after the age discrimination law (according to each state’s FEP office). Regressions that code the state law as taking effect when the state has both FEP office and age discrimination law finds very similar results to those presented in the paper. Chen (2005) gives information on the 26 states that had FEP offices prior to 1964.

have statutes, the claimant must file with the EEOC within 180 days.<sup>6</sup> The EEOC can then dismiss the claim, at which point the claimant may pursue a civil action in court, or the EEOC can seek to settle or mediate. If the settlement or mediation is unsuccessful, the EEOC can then sue, or if it chooses not to sue, the claimant may sue (Neumark 2001). Over 95% of employment discrimination cases are brought by private attorneys, not the EEOC (Gregory 2001). Because claimants have more time to file if their state has a law, and because the claim may be processed faster by the state FEP than the backlogged EEOC, claimants in states with age discrimination laws have less of a hurdle to suing than do claimants in states without those laws.<sup>7</sup>

Awards under the ADEA are limited to “make whole” status and lawyers’ fees, that is, the award returns the plaintiff to where he or she would have been had he or she not been the subject of discrimination. These awards include hiring, reinstatement or promotion, back pay and restoration of benefits and lawyers’ fees. Attorney’s fees often

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<sup>6</sup> “For ADEA charges, only state laws extend the filing limit to 300 days.” [http://www.eeoc.gov/charge/overview\\_charge\\_filing.html](http://www.eeoc.gov/charge/overview_charge_filing.html). This difference in time limits that favors those with state legislation, regardless of the number of days required to file by the state legislation itself, may seem strange to those more familiar with other protection laws. It is thought that the original intent of the legislation was to allow plaintiffs 180 days to file with their local state agency, in the hope that the state agency would settle the matter within the remaining 120 days before involving the federal government. However, in practice, lags have been longer and courts have interpreted the law literally, allowing the plaintiff the full 300 days to file with both the state and federal agencies. Unlike Title VII plaintiffs, ADEA plaintiffs do not have to wait between filing with the state and the EEOC; there is no Rule of *Mohasco* for ADEA claims. Thus, whereas a Title VII plaintiff could file with a state agency on day 240 at the latest in order to file on day 300 with the EEOC, an ADEA plaintiff could file with both on day 300. Today most FEP offices have work-sharing agreements with the EEOC so that only one application is needed to file with both offices (O’Meara 1989, Lindemann and Kadue 2003).

<sup>7</sup> Ideally, we would like to know whether or not the number of lawsuits and out-of-court settlements went up in states with and without laws. Unfortunately, during the time periods studied, the EEOC did not keep track of age discrimination lawsuits, and out-of-court settlements are even more difficult to find information on. The published studies that examine trends in age discrimination lawsuits, such as Schuster and Miller (1984), pull random samples from Lexis-Nexis searches. Additionally, with protection laws, it is not clear that the number of lawsuits should go up in response to a change in the legal climate if, as I find, firms respond through diminished hiring of older workers where discrimination detection and prosecution is difficult and by limiting behaviors such as firing that could more easily result in lawsuits. All that would be needed to produce this change in firm behavior is publicity about the law, something that may be more prevalent in states with their own laws, not an increase in actual lawsuits.

make up the bulk of the payment by the firm. Unlike racial discrimination cases covered by the Civil Rights Act (CRA), additional damages are not awarded except in cases involving willful violation of law and these are limited to twice the amount of actual damages (Gregory 2001, Levine 1988, O'Meara 1989).<sup>8</sup> Thus, among those who believe that they have been discriminated against during this time period, suing under the ADEA is the best option for older white men, but may not be viable for groups with lower salaries on average.<sup>9</sup>

Empirically, the majority of people who sue under the ADEA are white male middle managers or professionals over the age of 50.<sup>10</sup> Employment termination in the form of wrongful discharge and involuntary retirement, not differential hiring, is the cause of most suits. It is thus possible that the ADEA acts as a form of employment protection. At the beginning of EEOC enforcement, 14% of claimants were women. By 1995 this number had risen to only 30% (Donohue and Siegelman 1991, Gregory 2001, Schuster and Miller 1984). Women and minorities stood to gain less from bringing an

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<sup>8</sup> Gender cases did not allow punitive damages until the passage of the 1991 Civil Rights Act.

<sup>9</sup> The Americans with Disabilities Act was not introduced until 1991. Indeed, regardless of other lawsuit opportunities, the expected costs of bringing an age discrimination lawsuit do not outweigh the benefits unless the plaintiff had a reasonably large salary or has lost pension benefits. This cohort of older women did not in general file age discrimination lawsuits. Gregory (2001) argues that women did not sue under the ADEA in the earlier time period because with their lower wages and, unlike Title VII, no allowance for punitive or "pain and suffering" damages, women did not stand to gain much from an ADEA lawsuit. Joni Hersch (personal communication) has also suggested that lawyers may be unwilling to take cases on contingency fee unless the expected winnings are reasonably large and thus will not take on low paid female or minority clients for age cases. Although lawyer fees can be charged on top of the regular in-court settlement, the size of a contingency payment in an age discrimination case may be smaller for women and minority out-of-court settlements because the expected in-court winnings would be smaller. Although the decision of whether to file under the Civil Rights Act or the Age Discrimination in Employment Act (or both) is dependent on the individual circumstances of a case, from the hiring employer's perspective, race and gender may be more salient features than age, or employers may have different beliefs about the propensity to sue of older women and older minorities than older white men. Additionally, because women's attachment to the labor force is weaker than men's, employers may assume that women will leave or retire on their own before they become a liability because of age. Thus employers may not see older women as constituting as much of a threat due to age discrimination laws as they do men.

<sup>10</sup> O'Meara (1989) has a literature review for the demographics of people who brought lawsuits under the ADEA that includes Schuster and Miller (1984).

age discrimination lawsuit than did white men because of their lower lost potential earnings and pensions. In some cases they may have had greater protection under the Civil Rights Act, which also allows punitive damages. Thus my identification strategy focuses on white men over the age of 50, who are most likely to sue under the law.

## *2.2 Previous Literature*

This paper is the first to examine the impact of the ADEA from its early years through a significant time period after its enforcement. It also examines the effects on many segments of the labor force, not just those over or under the age of retirement. Adams (2004) looks at the introduction of the federal law in 1968 and finds an increase in employment for those protected by the federal law and a decrease for those older than the protected ages. His identification strategy relies on the assumption that states with laws prior to the introduction of the ADEA are not affected by its passage, an assumption that may or may not be valid because the 1968 ADEA had no enforcement mechanism. There is also some question about the validity of the early CPS that Adams uses in his pre-period.<sup>11</sup> Neumark and Stock (1999) look at decennial US Censuses from 1940 to 1980, and thus have only one data point after the enforcement of the ADEA.<sup>12</sup> The Census may not be the best source of data to examine the impact of these laws because it cannot follow year to year changes. I use the 1968-1991 yearly CPS and the 1978-1991 monthly CPS.

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<sup>11</sup> According to the frequently asked questions on the Unicon website, [www.unicon.com](http://www.unicon.com), CPS data prior to 1968 are not supported by the census bureau, have small sample sizes, little documentation, and are missing information. Additionally, some of the questions on earnings were changed or recorded differently in 1968.

<sup>12</sup> I update Neumark and Stock's list of state laws for use in this paper. In some cases I make corrections, but these corrections to their list are for laws after 1980 and thus do not affect their results. The focus of Neumark and Stock (1999) is to test the effects of age discrimination laws on long-term Lazear contracts, confirming the hypothesis put forth in Jolls (1996) that the ADEA provides a commitment device for these contracts in the absence of perfect employee monitoring.

The end of mandatory retirement in 1986 and 1994 has been more extensively studied than have other aspects of the ADEA. Von Wachter (2002) looks at the shift of mandatory retirement to age 70 in 1978 and its end in 1986 using imputed probability of being covered by mandated retirement and finds that the labor force participation of workers age 65 and older increases by 10 to 20 percent in 1986. Mitchell and Luzadis (1988) find that in 1960, pension plans rewarded delayed retirement, but by the 1980s, union plans actively encouraged early retirement while non-union plans still rewarded delayed retirement. Ashenfelter and Card (2002) show that the abolition of retirement for college professors in 1994 reduced retirement for those age 70 and 71. Although the end of mandatory retirement is important, it does not tell the story of the entire effect of the ADEA, particularly the consequences of this legislation on older workers wishing to be hired or promoted and the effects on workers who are over the age of 50 (and thus “old”) but too young for mandatory retirement to have affected them. This paper fills these gaps in the literature.

This paper also contributes to the broader literature on the effects of employment protection on job flows. Most of this literature (e.g. Burgess et al 2000, Davis and Haltiwanger 1999, Gomez-Salvador et al 2004, Joseph et al 2003, Kugler and Saint-Paul 2004, Pissarides 2000) focuses on the general equilibrium effects of the difference in overall employment protection especially between countries, and concludes that higher levels of employment protection decrease aggregate job flows. Other papers (e.g. Gruber 1994, Acemoglu and Angrist 2001, DeLeire 2000, Jolls and Prescott 2004) focus on the addition of a particular group (pregnant women, the disabled) to the category of protected workers, and measure the effect on wages and employment for that group. This paper

not only examines a law that added a particular group, those over age 50, to the category of protected workers, but also examines the effects of that law on both labor demand and job flows for that group and substitute groups.

### **3 Empirical Strategy**

#### *3.1 Conceptual Model*

Age discrimination laws should decrease firing of older workers on average compared to other groups, because firms incur a positive probability of the cost of a lawsuit under the ADEA. However, since it is difficult to determine age discrimination at the hiring level, firms will also be reluctant to hire older workers compared to other groups because it is more difficult for them to fire these workers. Gross flows (separations and accessions) for older workers should be reduced compared to other groups. If firms believe that older white men are most likely to bring a lawsuit, then flows will be reduced more for them than for other groups.

How these two effects of reduced accessions and separations interact to determine net employment outcomes for older workers overall is an empirical question. If the decrease in hiring is greater than the decrease in separations, then employment outcomes such as weeks worked, employed, or in the labor force will decrease; otherwise, they will increase. The wages for older workers conditional on employment could increase because firms often offer lower wages to new hires than to workers with long tenure. However wages could also be unaffected or even decrease if older workers can only find employment in lower-paying positions not protected by the law (temporary work, smaller firms, etc.).

The effect on attachment measures such as not employed or not in the labor force should be the opposite of that on employed. However, self-defined retirement is another measure of this attachment. Firms may substitute away from firing toward strategies such as retirement packages (and, to some extent, RIFs) that remove older workers, but with less legal risk. Thus age discrimination laws could increase the share of older people who describe themselves as retired or not in the labor force. Alternatively, unemployed older workers who face decreased chances of re-employment may prefer to refer to themselves as retired rather than unemployed. Thus self-defined retirement may increase or decrease depending on which effect predominates.

The assumption behind the paper's main strategy is that it is easier for workers to sue, and thus to enforce age discrimination laws, in states that have their own age discrimination laws than in states that do not.<sup>13</sup> Thus workers over the age of 50 in states with laws will be more affected than will workers in states without laws. Because white men are most likely to utilize these laws,<sup>14</sup> the paper also assumes that they will also be the most likely to bear the brunt of firm reactions to these laws, and the effect will be stronger in states with age discrimination laws.

Because older men are the most likely to sue and are a small group, the effects of age discrimination laws on labor market outcomes should be concentrated among them in observable ways. Effects on other covered groups (older women and minorities) and

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<sup>13</sup> Recall that people in states with laws have more time to file a claim and can work with the state FEP agency rather than directly with the EEOC; thus they have less of a hurdle to file a lawsuit. Even though the law covers workers over 40, in practice white men over the age of 50 are the most likely to sue. Some states with laws also protect workers in firms with fewer than 20 workers. Neumark and Stock (1999) code three states, Colorado, Georgia, and North Dakota as having "weak" laws in the post period. Coding these states as not having a law does not appreciably change the results; for example, the coefficient on weeks worked in Table 3A(3) changes from -1.28 to -1.15 and is still significant at the 5% level.

<sup>14</sup> Recall that women have lower salaries and less to gain from a lawsuit; these early cohorts of women are historically less litigious than are older men or women in later cohorts.

substitution towards groups that are not covered or are unlikely to sue should be smaller in magnitude. Hiring for older women should not decrease as much as for older men, and may even increase slightly if firms use older women as substitutes for older men, or if firms are encouraged to restructure in a way that eliminates positions historically taken by higher paid older men and replaces them with historically lower paid female positions. Therefore if the laws matter, I should be able to find effects by contrasting the outcomes of older white men with the outcomes of other groups.

Although this paper tests for effects of age discrimination laws on the assumption that older white men will be the most affected by the laws, it does not assume that they are the only group affected; there is no perfect control group for these laws. Since the entire labor market adjusts when the price of one input (older white men) goes up, groups other than white men over the age of 50 may also be affected by age discrimination laws. On the one hand, protection laws may increase labor market inefficiency, decreasing productivity and decreasing job opportunities for all. On the other hand, firms may be eager to substitute towards workers who do not utilize these laws and hiring may increase for these groups.

It is particularly difficult to find an appropriate control group for the effect of age discrimination laws on self-defined retirement. Different groups describe being out of the labor market in different terms. For example, self-defined retirement is not as clearly defined for younger men as it is for older men. Additionally, women should not be used as a control group for men in retired regressions because women's self-defined retirement status for these cohorts is often determined by the husband's status (Choi 2002, Coile 2004). However, retirement is only one way to proxy for attachment to the labor force.

Other possible outcome measures that include not in the labor force (NILF) and not employed. Each of these may also be problematic. Older and younger men will have, on average, different reasons for being out of the labor force; younger men will be more likely to be NILF for schooling reasons, for example, and may respond on that margin depending on their beliefs about future opportunities. Older men will also be more likely than younger to claim to be out of the labor force when unemployed since it is more socially acceptable for them (Choi 2002).

Because younger workers are an imperfect control group for older workers to measure labor force attachment, in alternative specifications I also limit to older workers and use women as a control group. Of course, women are not a perfect control group for these cohorts either because of their weaker labor force attachment, occupational segregation, and because there may be some effect of age discrimination laws on hiring. However, the natural experiment with women as a control group for NILF and not employed may still provide information.

### 3.2 *Econometric Model*

To study the effect of state age discrimination laws, I use an OLS Differences in Differences specification:

$$y_{it} = X_i \beta_1 + \beta_2 (H_{st} * A_i^{\text{over}50}) + \beta_3 (H_{st} * A_i^{\text{under}50}) + \theta_t + \partial_a + \varphi_s + \partial_a * \theta_t + \zeta_{st} + \varepsilon_{ist} \quad (1)$$

where  $i$  denotes individuals and  $t$  denotes time;  $y_{it}$  is either a dummy indicating hired this month, a dummy indicating being separated from a job this month, weeks worked, a dummy indicating employed, or a dummy indicating retirement;  $X_i$  is a set of controls including a dummy for married and a dummy for high school graduate.  $H$  is an indicator that is equal to one if the state  $s$  in which the individual resides has an age discrimination

law in year  $t$ .  $A_i^{\text{over}50}$  is an indicator equal to one if the individual is over the age of 50, and  $A_i^{\text{under}50}$  is an indicator equal to one if the individual is age 50 or under.  $\theta_t$  is a set of year dummies;  $\varphi_s$  is a set of state dummies;  $\partial_a$  is a full set of age dummies; and  $\zeta_{st}$  is a state specific linear time trend.  $\beta_2$  and  $\beta_3$  are the coefficients of interest.

Equation (1) varies somewhat from the standard Differences in Differences equation, which would be:

$$y_{it} = X_i\gamma_1 + \gamma_2(H_{st}) + \gamma_3(H_{st} * A_i^{\text{over}50}) + \theta_t + \varphi_s + \partial_a + \partial_a * \theta_t + \zeta_{st} + \varepsilon_{ist}$$

where  $\gamma_3$  is the effect of the law on workers over the age of 50 compared to workers under the age of 50 in states with laws. This equation is equivalent to equation (1), in that  $\beta_2 = \gamma_2 + \gamma_3$  and  $\beta_3 = \gamma_2$ . The reason for using equation (1), which compares workers over and under the age of 50 in states with laws to workers in states without laws, as the specification, is that one can more clearly see the effects of the law on the two different age groups in the sample.  $\beta_2$  is the effect of having a law on workers over the age of 50 and  $\beta_3$  is the effect of having a law on workers age 50 and under, relative to workers in states without laws. Age 50 was chosen as the age cutoff because white men over 50 are most likely to sue under the law.<sup>15</sup>

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<sup>15</sup> Workers age 40 are generally not considered old. In fact, chief executive officers surveyed responded that on average age 43 represented the “peak productivity” year (Munk 1999). Employers may believe that the 30s and 40s may be an ideal age to hire a new worker: the worker has had a chance to develop general human capital and is ready to settle down and is thus worth training in firm specific human capital. It is likely that the age of 40 was chosen rather than age 50 by lawmakers because if age 50 had been chosen there would be an incentive for firms to fire 49 year old workers en masse. By setting the minimum age at a point where firms’ valuation of the worker is much greater than the cost of a potential lawsuit, the law avoids this potential problem. Additionally, because workers of age 40 are generally employable, even if they have been discriminated against in terms of age, they are more likely to find a new job rather than to spend time and money on a costly lawsuit. Age 50, the age at which AARP membership begins and 5 years before many people vest their DB pensions, seems to be a reasonable cut-off point defining an “older worker” in hiring situations.

A second possible way of identifying the effect of the laws is through a Differences in Differences in Differences strategy using older men as the treatment group and not only younger men but also women as a second control group. My strategy is:

$$y_{it} = X_i \beta_1 + \beta_2 (M_i * H_{st} * A_i^{\text{over } 50}) + \beta_3 (M_i * H_{st} * A_i^{\text{under } 50}) + \beta_4 (M_i * A_i^{\text{over } 50}) + \beta_5 (M_i * A_i^{\text{under } 50}) + \beta_6 (H_{st} * A_i^{\text{over } 50}) + \beta_7 (H_{st} * A_i^{\text{under } 50}) + \theta_t + \varphi_s + \partial_a + \partial_a * \theta_t + \partial_a * \theta_t * M_i + \zeta_{st} + \varepsilon_{ist} \quad (2)$$

where  $i$  denotes individuals;  $t$  denotes time;  $y_{it}$  is either weeks worked, a dummy indicating employed, a dummy indicating retirement, a dummy indicating hired this month, or a dummy indicating being separated from a job this month;  $M_i$  is an indicator which equals one if the individual is male. Variables  $X_i$ ,  $H_{st}$ ,  $A_i^{\text{over } 50}$ ,  $A_i^{\text{under } 50}$ ,  $\theta_t$ ,  $\varphi_s$ ,  $\partial_a$  and  $\zeta_{st}$  are as defined in equation (1).

Because of the potential problem of using younger workers as a control group with respect to not in the labor force and not employed outcomes, I also utilize an alternate Differences in Differences equation, similar to equation (1), but in which I limit my groups to only those over 50 and use older women as a control group rather than younger men:

$$y_{it} = X_i \beta_1 + \beta_2 (H_{st} * M_i) + \beta_3 (H_{st} * (1 - M_i)) + \theta_t + \partial_a + \varphi_s + \partial_a * \theta_t + \zeta_{st} + \varepsilon_{ist} \quad (1')$$

with variables defined as above.

Finally, I try a more stringent identification strategy in terms of possible state and time trends by allowing state by year fixed effects:

$$y_{it} = \beta_1 (H_{st} * A_i^{\text{over } 50}) + \theta_t + \varphi_s + \partial_a + \partial_a * \theta_t + \varphi_s * \theta_t + \varepsilon_{ist} \quad (3)$$

again, with variables defined as before.

#### 4 Data and Descriptive Statistics

The first sample I use to look at the impact of age discrimination laws is a matched monthly CPS for 1978-1991 limited to white men aged 25 to 85. I limit to 1991 because the introduction of the ADA provides new protection to older workers.<sup>16</sup> I used matched CPS rotations groups for the entire year to investigate the effect of age discrimination laws on hiring and separation rates. I follow the algorithm developed in Bleakley et al. (1999) to create job flow variables for accessions (“hires”) and separations. An accession (hire) is recorded when someone who was not employed in month  $m$  is employed in month  $m+1$ . Similarly, an individual is coded as having experienced a separation in month  $m$  if he is employed in any month  $m$  and not in month  $m+1$  (individuals whose status changes from December to January are coded as hired or separated in the January year). This definition includes people who move from being employed to no longer being in the labor force as part of the separated group, and thus captures those who have voluntarily retired in addition to those subject to layoffs, fires, and other quits. Neither hires nor separations include people who change jobs without leaving employment.<sup>17</sup>

The second sample I use is drawn from the 1968-1991 March CPS. I break this set up into two smaller sets, one covering 1968-1977 and the other covering 1978-1991, because the Congressional committee reported on the ADEA in 1977<sup>18</sup> (amendments followed in 1978 and enforcement by the EEOC in 1979), and because of changes in the

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<sup>16</sup> Stock and Beegle (2004) examine the interactions of the ADA and the ADEA after 1991 and find different effects on employment for protected workers by age.

<sup>17</sup> Because older workers may be more likely to be unemployed before finding a new job (Diamond and Hausman 1984), this definition may overestimate older “hires” and “separations” and underestimate younger “hires” and “separations.”

<sup>18</sup> <http://caselaw.lp.findlaw.com/scripts/getcase.pl?court=us&vol=472&invol=353>

CPS beginning in 1976. The impact of the ADEA on employment levels is evaluated by looking at data on weeks worked during the calendar year preceding the March income supplement. The impact on wages is measured using the average weekly earnings, computed using annual earnings data. After 1979, the CPS prompted respondents to be sure to include overtime pay, tips, bonuses, commissions, and money from employers other than the primary employer.<sup>19</sup>

The impact on retirement and labor force participation is measured using self-reported retirement and labor force coding from IPUMS CPS employment status variables *whynwlyr*, *labforce*, and *empstat*. The CPS IPUMS variable *whynwly* only asks people who did not work why they were not working last year and thus does not count people who are under-employed or working part-time. However, it is consistent over the time-period studied and gives some idea of retirement status.<sup>20</sup>

CPS questions about weeks worked, income, and retirement refer to the previous year. The year reported in the tables and figures is the year in which the CPS was administered, not the year referred to in the questionnaire. Questions about labor force status refer to the respondent's main occupation in the previous week. From 1968 to 1976 in the early period, the CPS does not identify all states but groups some of them together. I construct a population weighted average of these laws for these state groups

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<sup>19</sup> Results are robust to removing 1978 and/or 1979 as years from the wage regressions.

<sup>20</sup> The CPS IPUMS variable *majact* asks everybody in the CPS universe about their major activity last year, and should be a good measurement of self-defined retirement. The retirement variable created from *majact* has the benefit that it should include some people who have been retired from career jobs but are now working in “bridge jobs.” Unfortunately, *majact* was only asked in post-1976 surveys and the surveyors were instructed to ask leading questions to non-respondents based on demographic characteristics—so some groups would be more likely to be asked if they were working vs. keeping house, vs. being in school. Thus it is not a very reliable variable for use between demographic groups: <http://cps.ipums.org/cps-action/variableDescription.do?mnemonic=MAJORACT>. Results are similar but not significant for *havelaw\*over50* for a retirement variable created from *majact* rather than *whynwly*.

using population weights interpolated from the census.<sup>21</sup> The basis for state laws was taken from Neumark and Stock (1999) and checked against several secondary sources. When Neumark and Stock (1999) disagreed with the secondary sources, these laws were checked against primary sources from Westlaw and from microfiche and hard copies of compiled state laws. Additionally, the list was updated for years not in Neumark and Stock using Monthly Law Review updates and Westlaw.

Descriptive statistics can be found in Table 1. As mentioned before, the universe is restricted to white males. As workers get older, they are less likely to be unemployed and more likely to be out of the labor force. The average employment rate, weekly wage, and total income increase with age until age 45 in the early sample and until age 50 in the later sample, after which they begin to drop. Men in the set are more likely to be married as they get older until their mid-50s in the early sample and mid-60s in the later sample. Older cohorts are also less likely to be high school graduates. Wage income and education levels are higher on average for workers in states with laws. Average weeks worked is larger for workers in states with laws in the early period but not in the later period. Men are more likely to claim to be retired in states with laws in the later period.<sup>22</sup> Figure 1 shows the dates that states implemented their age protection laws. States without laws in the later period are more likely to be in the South.<sup>23</sup>

## 5 Results

### *5.1 The Impact of Age Discrimination Laws on Hiring and Separations*

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<sup>21</sup> Results are substantively the same when state groups with different laws are dropped.

<sup>22</sup> All of the aforementioned differences between states with and without laws are significant at the 5 percent level with a t-test.

<sup>23</sup> Results in the paper are robust when the universe is limited to pre-1986 data.

As theory would predict, I find that older white men in states with laws are less likely to be hired than are white men in states without laws. I also find that these men are less likely to be separated from their jobs, though these results are not statistically significant. Results of a probit using equation (1) with Hired and Separated as outcome variables can be found in Table 2. Workers over the age of 50 in states with discrimination laws are .2 percentage points less likely to be hired than workers in states without such laws.<sup>24</sup> There is also a small but not statistically significant (without the inclusion of state trends) positive effect on hiring for workers under the age of 50 in these states. Results on job separations are not as clear. There is a trend of reduced job separations for workers over the age of 50 in states with laws, but these results are not significant at the 5% level. Because separations include retirements, which, as I show later, may be more likely for older workers in states with age discrimination laws, I should be picking up two separate effects: increased retirement incentives and decreased firing and layoffs.<sup>25</sup> I find that older workers in states with laws are .1 percentage points less likely to be separated than workers in states without, and this effect is probably a lower bound on firing rates.<sup>26</sup>

### *5.2 Employment, Wage, and Labor Force Participation Effects*

Table 3 reports ordinary least squares (OLS) estimates of equation (1). The universe is white men between the ages of 25 and 85, inclusive. The results in this table suggest a substantial and statistically significant decline in weeks worked per year for people over the age of 50 after it was announced in 1978 that the ADEA would be

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<sup>24</sup> The base for hired is 1.7 percentage points, and 1.8 and 1.6 for younger and older workers respectively.

<sup>25</sup> Simply limiting to people who do not say they are retired will not fix this effect because many people who are actually unemployed would call themselves retired for status reasons (Choi 2002).

<sup>26</sup> The base for separated is ~1.9 percentage points for the universe regardless of age category.

enforced.<sup>27</sup> For example, in Panel 3A of Table 3, columns 3 and 4 show a drop of between -.8 and -1.3 weeks worked for white men over 50 in states with age discrimination laws and essentially no effect on white men under 50 in those states. In the early period, there is no effect on weeks worked for either older or younger workers, though this lack of finding may be due to measurement error in weeks worked per year, because prior to 1976 they were only reported in intervals and some states were pooled together.<sup>28</sup>

Panel 3B of Table 3 reports estimates on log weekly wages of white men aged 25-85 in states with and without laws. Once state trends are added, there is no evidence of an effect on either older or younger workers in the early period, although again, because log weekly wages is manufactured from the weeks worked variable, this lack of a finding may be in part due to measurement error. Additionally, without state trends, there is a significant positive effect on wages of older workers in states with laws and the point estimate remains positive once trends are added. In the later period, there is a positive effect on wages of older workers in states with laws, but this effect is not statistically significant. Thus age discrimination laws may have increased wages of older workers prior to federal enforcement, but this wage effect is not significant once state trends are added.

Panel 3C of Table 3 reports estimates on self-reported retirement of white men aged 25-85 in states with and without laws. In the early period, the effect on retirement is

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<sup>27</sup> Weeks Worked variable includes zeros for people who did not work any weeks, and thus include the combined effect of being not employed and working fewer weeks per year. This variable is preferred by Acemoglu and Angrist (2001). Using employed as an outcome variable gives similar results. (Note that results for not employed are the inverse of employed results.)

<sup>28</sup> There is also no statistically significant result if employed is used as the outcome variable rather than weeks worked in the pre-1978 period.

small and insignificant for older workers, and negative and significant for younger workers. In the later period, older workers are .2 to .3 percentage points more likely to say they are retired in states with laws than are men in states without; this effect is significant at conventional levels without state trends and marginally significant with state trends.<sup>29</sup> This finding provides suggestive evidence that age discrimination laws encourage retirement in older workers.<sup>30</sup>

### *5.3 Economic Significance*

The main results and lower bounds on economic significance are summarized in Table 4. Hiring has decreased significantly for older men in states where it is easier to sue; older men are .2 percentage points less likely to be hired in states with age discrimination laws. Because the base rate of hires for older men is 1.6 percent and for all men is 1.7%, the 95% confidence interval of ease of age discrimination lawsuit explains at least 33% of the gap in hiring between older men in states with laws and the general population. Separations have also dropped, though the effect is not significant at conventional levels.

Employment of workers over the age of 50 has dropped since the ADEA was enforced in 1979. This drop is greater for men in states where lawsuits are less of a hurdle for older workers, i.e., those states with their own age discrimination laws. Men over the age of 50 in states with laws work between .9 and 1.3 fewer weeks per year than do men in states without laws. Because, on average, older men work 26.7 weeks per year and all men work 38.3 weeks per year, the 95% confidence interval on ease of age discrimination lawsuit explains at least 2.5% and as much as 21% of the gap in working

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<sup>29</sup> The base rate of retirement for all white men is .125, and .32 for those over the age of 50.

<sup>30</sup> Results for not in the labor force and not employed outcomes using different control groups are available from the author.

weeks between older men in states with laws and the general population. This drop in weeks worked may seem high, but it is comparable to the effect that Acemoglu and Angrist (2001) find for the disabled after the introduction of the Americans with Disabilities Act (ADA) in 1991, where weeks worked for disabled men falls 1.4 weeks in 1993 and another 1.5 weeks between 1993 and 1995.

Labor force attachment has also declined for these men. Older men in states with discrimination laws are .7 percentage points more likely to consider themselves retired than are workers in states without such laws. This change explains between 1.6 and 6% of the retirement gap between older men (base rate 32) and all men (base rate 12.6) with a 95% confidence interval. These workers are also 1.6 to 1.8 percentage points more likely to be not in the labor force, and between 1.6 and 3 percentage points more likely to be not employed. These figures explain between .9 and 13.6% of the gap for NILF (base rates: 46 for older men and 21 for all) and .3 and 23% of the gap for not employed (base rates: 49 for older men and 25 for all).

#### *5.4 Robustness Checks*

Laws may affect firm behavior before the law is passed (an anticipatory effect from possible publicity), the year the law is passed, or after the law is passed (and presumably enforced and publicized). Figures 2a-d show the effect in the 1978-1991 period of a state law on older workers relative to the year the law was passed.<sup>31</sup> Specifically they plot the coefficient of over 50 times a distributed lag/lead variable on

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<sup>31</sup> The fact that the pre-law coefficients are significantly positive relative to the baseline, rather than the post-law beta being negative, raises concern that there may be legislative endogeneity. Later in the paper I test for this possibility.

having a law in the state against that lag.<sup>32</sup> Figures 2a and 2b show that hiring and job separations go down for white males over the age of 50 once the state law is passed, and there may be an anticipatory effect. In Figure 2c, although the relationship for weeks worked is not as sharp, they did fall for workers most affected by law change. Figure 2d is also ambiguous, suggesting that (conditional on employment) there not much effect on wages.

The ADEA covers people over the age of 40; however, the typical person who sues under the ADEA is a white male between the ages of 50 and 59. It is reasonable to wonder about the sensitivity of the results to age cut-offs. Figures 3a-3d plot the coefficient of five-year age groups times a dummy indicating that the state has a law against the five-year age groups.<sup>33</sup> Figures 3a and 3b show that the effect of the law on hiring and separations becomes more salient with age. Figure 3c shows a drop in weeks worked around age 50 that increases with age, until older ages (where the confidence interval is larger because of smaller sample size). Figure 3d shows that the estimated effect on wages is almost flat, suggesting that the law has little impact on wages.

Theory predicts that the effects of these laws should be strongest for older white males. Similar regressions looking at older women and older minority groups, available in a working paper (Lahey 2006), find smaller effects of age discrimination laws on hiring for these groups than for white men. Unlike the case for older white men, no

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<sup>32</sup> Years since law passed are bottom and top-coded at -10 and 10 respectively. Each point represents the coefficient from a regression with controls for age, year, age\*year, education and married dummies. The omitted variable is law passed 10 or more years ago. Standard errors are clustered on state. Weekly wages have been adjusted by the CPI inflator. The years in the universe are 1978-1991.

<sup>33</sup> Each point represents coefficients from a regression with controls for age, year, age\*year, education and married dummies. The omitted variable is havelaw, having a law in the state. Standard errors are clustered on state. Weekly wages have been adjusted by the CPI inflator. The years in the universe are 1978-1991.

significant effect is found on these groups for the theoretically ambiguous outcomes of weeks worked. I also find no effect on retirement for these groups.

Table 5, Panel A reports OLS estimates of equation (2).<sup>34</sup> The universe is all white men and women between the ages of 25 and 85. The coefficient on male\*over 50\*havelaw in columns one and two, for the dependent variable hired, although not significant at conventional levels, is similar in sign and magnitude to the results for the Differences in Differences results show in Table 2. The results for the dependent variable in Table 4 columns three through six, weeks worked, agree substantially with the Differences in Differences results for older men using having a law as identification in Table 3. There is still no significant effect of laws on hired or weeks worked for older men prior to the discussion of federal enforcement of the law.

Table 5, Panel B reports OLS estimates of equation (3) for hired and weeks worked. These results also find a significant and negative effect on hired and a marginally significant negative effect on weeks worked for older workers, with older men .3 percentage points less likely to be hired and working about one fewer week in states with laws.<sup>35</sup> These results are within the bounds of those found by equation (1) presented in Table 3, Panel A.

Hiring has decreased significantly for older men in states where it is easier to sue; older men are .2 percentage points less likely to be hired in states with age discrimination laws. Because the base rate of hires for older men is 1.6 percent and for all men is 1.7%, the 95% confidence interval of ease of age discrimination lawsuit explains at least 33% of

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<sup>34</sup> Because of computing constraints, the OLS results rather than probit results are presented for the hired outcome.

<sup>35</sup> Without age\*year fixed effects, this result is significant and has a larger magnitude of 1.5 fewer weeks.

the gap in hiring between older men in states with laws and the general population. Separations have also dropped, though the effect is not significant at conventional levels.

Employment of workers over the age of 50 has dropped since the ADEA was enforced in 1979. This drop is greater for men in states where lawsuits are less of a hurdle for older workers, i.e., those states with their own age discrimination laws. Men over the age of 50 in states with laws work between .9 and 1.3 fewer weeks per year than do men in states without laws. Because, on average, older men work 26.7 weeks per year and all men work 38.3 weeks per year, the 95% confidence interval on ease of age discrimination lawsuit explains at least 2.5% and as much as 21% of the gap in working weeks between older men in states with laws and the general population. This drop in weeks worked may seem high, but it is comparable to the effect that Acemoglu and Angrist (2001) find for the disabled after the introduction of the Americans with Disabilities Act (ADA) in 1991, where weeks worked for disabled men falls 1.4 weeks in 1993 and another 1.5 weeks between 1993 and 1995.

Labor force attachment has also declined for these men. Older men in states with discrimination laws are .7 percentage points more likely to consider themselves retired than are workers in states without such laws. This change explains between 1.6 and 6% of the retirement gap between older men (base rate 32) and all men (base rate 12.6) with a 95% confidence interval. These workers are also 1.6 to 1.8 percentage points more likely to be not in the labor force, and between 1.6 and 3 percentage points more likely to be not employed. These figures explain between .9 and 13.6% of the gap for NILF (base rates: 46 for older men and 21 for all) and .3 and 23% of the gap for not employed (base rates: 49 for older men and 25 for all).

### *5.5 Endogeneity of state laws*

As noted in footnote 31, there may be a secular increase prior to the implementation of the law in Figures 2a-2d, suggesting that there may have been legislative endogeneity. To test for the possible endogeneity of state laws and pre-trends, in addition to adding state and year effects and trends, I run a specification check looking at the weeks worked outcome at a point five years before each state law was passed. The assumption is that employers do not know that a law will be passed prohibiting age discrimination five years prior to the law. No evidence is found that getting a law five years in the future affects employment or hiring of either older or younger workers in the current period. The coefficient for weeks worked per year for older workers ranges from -0.008 (with no controls) with a standard error (SE) of 0.822 to -0.314 (with controls and a state trend) with an SE of 0.639. Coefficients for younger workers range from -0.047 with an SE of (0.841) to 0.269 with an SE of (0.755). Thus there is no evidence, using this test, that the introduction of state laws is related to something that directly affects the differential employment of older and younger workers.<sup>36</sup>

## **6 Concluding Comments**

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<sup>36</sup> Some may worry that since states in the South are later adopters and migrant retirees often retire to the South that my results may be biased towards finding no result. However, the states with the largest in-migration of older people are not the same as the states that are late adopters. Specifically, according to the census, the top 10 states receiving in-migrants are: 1970: FL, CA, AZ, NJ, TX, NY, OH, IL, PA, MO; 1980: FL, CA, AZ, TX, NY, PA, NC, WA, IL, NY; and 1990: FL, CA, AZ, TX, NC, PA, NJ, WA, VA, GA (Flynn et al. 1985, Longino 1995). As can be seen in Figure 1, these have a wide range of dates for law introduction.

I find no statistically significant decline in the weeks worked or retirement for older non-white men or white women based on state time variation in ease of age discrimination lawsuit. A possible explanation for the difference in findings by race and gender is that with lower wages on average, ADEA lawsuits are not as profitable for these groups. Additionally, before the advent of the ADEA, female and minority workers were already protected by the Civil Rights Act (CRA), which allows for more damages; white men over the age of 50 are the most likely to sue under the ADEA. Finally, since these groups are not as strongly attached to the labor market, employers may think that they will leave their jobs before possible productivity declines due to age become an issue. Older white women may be less likely to be hired in states with laws, but, as predicted, this effect is smaller than that for men.

I also find no significant negative effects on older workers in the earlier period prior to enforcement. Although my results for this period are for the most part not statistically significant, my findings are not inconsistent with those in earlier work such as Adams (2004) or Neumark and Stock (1999). It may be that before the publicity surrounding the enforcement of the federal law, firms did not put the probability of lawsuit into their hiring calculations so that older white male job applicants were not harmed. In general, it appears that these age protection laws have had very little effect on workers under the age of 50.

Since the ADEA provides a form of employment protection, it should lead to a lower separation rate for older workers. There does seem to be a protection benefit of this sort, although the results are not conclusive, perhaps because although it has become difficult for employers to fire older workers, they may increase retirement incentives.

Employers then react to these laws by failing to hire older men who will be difficult to fire. Combining these effects, empirically employment outcomes drop for older workers. Employers may be reacting to age discrimination legislation and threats of lawsuits by failing to hire older workers and by being less likely to fire or lay-off older workers but trying to remove older workers through retirement incentives.

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