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### Interactions between Non-Discrimination Laws and Socioeconomic Status of Sexual Minorities

#### **Abstract**

At its core, this project analyzes the interactions between state non-discrimination laws and the socioeconomic status of same-sex households in the United States. There is a large body of work examining the earnings gap for sexual minorities, but there is a dearth in studies looking at the effect of such protective laws. Using annual American Community Survey (ACS) data from 2000 to 2016, we examine the personal total income, household income, and unemployment in the ten states experiencing relevant reform. This study has two main findings. First, we confirm that sexual minorities experience substantial earnings differences, finding that lesbian women experience an income premium of 32.2 percent and gay men face an income penalty of 21.4 percent. Second, we find that non-discrimination laws seem to be decreasing the pay gap in both directions, shrinking the lesbian premium by 6.7 percent and the gay penalty by 12.1 percent. While we are unable to say these effects are causal, in the context of a history of wage penalties for gay males and wage premiums for lesbian women, protective reforms are positively and strongly correlated with closing the lesbian and gay income gap. From these main findings we are left with additional questions including: why does the lesbian premium exist, and why do protective reforms seem to chip away at it? While we review some relevant theories and offer our own, in the end these findings remain a puzzle.

#### Keywords

Discrimination, Sexuality, Gender, Same-Sex, LGBT, Gay, Lesbian, Anti-discrimination, U.S., Income, Unemployment, American Community Survey, ACS

#### **Disciplines**

Demography, Population, and Ecology | Economic Policy | Gender and Sexuality | Income Distribution | Labor Economics | Lesbian, Gay, Bisexual, and Transgender Studies | Political Economy | Public Policy | Quantitative, Qualitative, Comparative, and Historical Methodologies | Social Policy | Social Statistics | Social Welfare | Urban Studies and Planning

# Interactions between Non-Discrimination Laws and Socioeconomic Status of Sexual Minorities

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Submitted to the Philosophy, Politics and Economics Program at the University of Pennsylvania in partial fulfillment of the requirements for Honors.

Thesis Advisor: Janice Madden, Ph.D.

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INTERACTIONS BETWEEN NON-DISCRIMINATION LAWS AND SOCIOECONOMIC
STATUS OF SEXUAL MINORITIES
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#### **ABSTRACT**

At its core, this project analyzes the interactions between state non-discrimination laws and the socioeconomic status of same-sex households in the United States. There is a large body of work examining the earnings gap for sexual minorities, but there is a dearth in studies looking at the effect of such protective laws. Using annual American Community Survey (ACS) data from 2000 to 2016, we examine the personal total income, household income, and unemployment in the ten states experiencing relevant reform. This study has two main findings. First, we confirm that sexual minorities experience substantial earnings differences, finding that lesbian women experience an income premium of 32.2 percent and gay men face an income penalty of 21.4 percent. Second, we find that non-discrimination laws seem to be decreasing the pay gap in both directions, shrinking the lesbian premium by 6.7 percent and the gay penalty by 12.1 percent. While we are unable to say these effects are causal, in the context of a history of wage penalties for gay males and wage premiums for lesbian women, protective reforms are positively and strongly correlated with closing the lesbian and gay income gap. From these main findings we are left with additional questions including: why does the lesbian premium exist, and why do protective reforms seem to chip away at it? While we review some relevant theories and offer our own, in the end these findings remain a puzzle.

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#### INTRODUCTION

With the passage of the Civil Rights Act in 1964, social scientists began to look at the impact that greater inclusion to society had on individuals and the collective system. These studies showed how discrimination and inclusivity affected the welfare of individuals as well as the larger economy. Similar studies showed the extent and implications of the gender pay gap, beginning in the 1970's. LGBT people are in a similar place of rapidly changing social status, and there is much to be learned from a closer examination. While there is sizable discourse about LGBT discrimination, the impact of anti-discrimination laws is less studied.

This study examines the ten states where legislative protections were added within the period of 2000 to 2016. We use data from the ACS, which surveys roughly 1% of the population annually. The variables are the same as are available in the Census, and the ACS is publicly accessible through the ACS Public Use Microdata Sample (PUMS). It is by far the largest survey of its kind. While there is not a question which directly asks one's sexual orientation, those living in same-sex households can be identified. While this method comes with its own complications, it is the most widely used data set for analyzing the demographics of lesbian and gay (LG) Americans and allows researchers to study large numbers of an otherwise elusive population.

The goal of this research is to identify the effect of sexual orientation anti-discrimination legislation by comparing indicators of economic success for the LG population in ten states. For this paper, the factors most closely looked at are income and unemployment. This research adds to the discourse by examining discrepancies in pay and unemployment rates across a period of legislative change and controlling for socio-demographic factors.

Using their "global barometer of gay rights scorecard," Dicklitch, Thompson, and Yost (2016) describe five distinct relevant aspects to the status of sexual minorities: "constitutional protection of homosexuals, de facto (civil and political) persecution of homosexuals, level of gay rights advocacy,

protection of socioeconomic rights of homosexuals, and societal persecution of homosexuals." This research examines what Dicklitch, Thompson and Yost call socioeconomic rights of homosexuals.

The critical population for this study are same-sex partners, both married and unmarried. An "unmarried partner" can be of the same-sex or of the opposite sex of the householder and is an adult who is unrelated to the householder, but shares living quarters and has a close personal relationship with the householder (U.S. Census Bureau). This sample is compared to a population that is in an opposite-sex marriage or partnership controlling for exogenous demographic factors.

Income is an indicator of available resources and can be compared to those with otherwise similar qualifications. A similar comparison can be made with respect to unemployment. These are common measures of socioeconomic status, and the research literature generally finds a substantial earnings premium for lesbian women and penalty for gay men.

To date, there is no explicit federal protection for LGBT people against Sexual Orientation or Gender Identity (SOGI) discrimination in the U.S., and only 22 states and the District of Columbia maintain laws protecting individuals on the basis of sexual orientation. Using ACS data to examine policy changes in ten states throughout 17 years, this study aims to examine how these policies interact with lesbian and gay socioeconomic status. Overall, we find that such non-discrimination policies counteract the preexisting lesbian and gay earnings gaps. While we are able to offer a number of theories, we are unable to explain this effect.

#### LITERATURE REVIEW

Acceptance of LGBT people has shifted dramatically in the last twenty-five years. Historical data from the General Social Survey show that 72 percent of adults in 1991 considered homosexual behavior as "always wrong," whereas in 2010 that share had fallen to 44 percent (Smith 2011). Conversely, the proportion of adults who support gay marriage grew from 37 percent in 2007 to 62 percent in 2017 (Pew Research Center 2017b).

#### **Earnings Gaps**

Beginning with Lee Badgett's (1995) econometric study of the effects of sexual orientation on earnings, a growing body of research has attempted to explore sexual orientation earnings differences. Almost all studies have found a gay male penalty after controlling for other characteristics (Carpenter 2007; Klawitter 2011). Most studies have found a lesbian female premium (Jepsen 2007). Marieka Klawitter (2015) performs a meta-analysis of thirty-one studies finding an average earnings penalty of 11 percent for gay men and an earnings premium of 9 percent for lesbian women (Klawitter 2015). There is a wide range of estimates, though, with the endpoints of the range showing penalties for lesbians and no significant effect for gays. She also finds a strong relationship between the approaches and data in a study and its findings, suggesting that this is why we see such a large range of findings. In particular, choice of dataset, choice of controls, measure of income, measure of sexual orientation, and methods could explain the wide variation of findings.

One of the few studies to explicitly examine the interaction between law and discrimination is Baumle and Poston (2011). While they find an initial gay male penalty of 12.5 percent, in states with anti-discrimination laws the gap narrows to about 9.9 percent. They do not find such a shift for lesbian women but do find that lesbians earn a significant and large premium of 3.5 to 9 percent. Using 1990 census data instead of 2000, (Klawitter 1998) finds that an anti-discrimination law had no statistically significant effect on earnings.

In addition to their findings about the interaction between reform and income, Buamle and Poston find that the lesbian earnings premium persists even when controlling for part-time work and the presence of children. This is an important finding because it challenges prevailing theories that lesbian women earn more because they are less likely to have children or work part-time (Badgett 2001; Badgett 1995). Baumle (2009) suggests that it is possible, however, that employers *perceive* lesbians to have a greater labor force attainment than heterosexual women.

Baumle and Poston's study (2011), which to our knowledge is the first to assess state antidiscrimination policies across a multitude of states and years, suggests that an important factor in the socioeconomic status of sexual minorities is legal rights. In addition to the presence of an antidiscrimination law, their study also incorporates state level controls such as the presence of a sodomy law, concentration of same-sex couples, and religious beliefs. In using census 1990 and census 2000 data, however, they are unable to track changes before and after a law, as we do here.

This study argues that those living in states without an anti-discrimination law could choose to avoid disclosing their sexual orientation and thereby avoid discrimination in the workplace. They point to the findings of Badgett (2001) that gays and lesbians were more likely to disclose their sexual orientation in the workplace when an employer had a non-discrimination policy in place. This suggests that individuals are more likely to disclose sexual orientation in environments where they feel protected. Just as race and gender discrimination have their own respective set of intricacies and intersections, so too does sexual orientation discrimination. Klawitter (2015) points to these complexities as an explanation for the wide spread in findings. The variability of findings, in part, comes as a consequence of the complexities of the data. Sexual orientation is not as easily perceived as race or gender. This further leads to intricacies in the ways in which individuals *identify themselves*, but also the ways in which the Census *identifies them*. This will be discussed in more detail in the methods section.

It is often posited that changing attitudes towards sexual orientation have resulted in a reduction of discrimination (Clarke and Sevak 2013). Most recently, Carpenter and Eppink (2017) find that, along with lesbian women, gay men earn a 10 percent income *premium* over their heterosexual counterparts. They suggest a number of reasons that would explain this finding, but notably, reject the hypothesis that increasingly accepting attitudes towards sexual minorities are responsible for these findings.

First, they suggest it is not clear why improved attitudes towards LGBT would produce an earnings premium. Second, they find that gay men have significantly lower employment rates than comparable heterosexual men. This is inconsistent with a decrease in discrimination. Third, unlike their findings for males, Carpenter and Eppink find a lesbian earnings premium which remains in line with other studies' estimates. If improved attitudes of LGBT are responsible for increasing gay earnings, would they not do the same for lesbian earnings? Fourth, increased acceptance has not been universal, and many sexual minorities have faced backlash to the legislative gains sexual minorities have made. These findings suggest there is more to the socioeconomic progress of American sexual minorities than increased acceptance. Carpenter and Eppink argue that equality in the right to marriage accounts for these differences.

In line with Carpenter and Eppink's findings that gay males no longer face an earnings premium, there is reason to believe that the status of sexual minorities is changing. Klawitter (2015) finds that over time, these gaps—a penalty for males and premium for females—are converging towards zero. While she declines to say with certainty, she points to decreasing discrimination and study design as potential reasons for this.

Madden and Kyei (2013) suggest that gender norms, not discrimination, is the primary cause for the gay and lesbian earnings gaps. Using the gender composition of a worker's occupation as proxy for the gender "typicality" of his or her unmeasured characteristics, Madden and Kyei posit sexual minorities of different genders possess differing "unmeasured gender-linked characteristics" that ultimately affect earnings. This hypothesis conjectures that the labor market rewards stereotypically masculine traits such as strength and risk-willingness. If lesbian women possess more of these traits than do heterosexual women, they would be rewarded by the labor market. Conversely, if gay men possess less of these traits than do heterosexual men, they would be punished by the labor market.

Citing evidence that gay men are more likely to disclose their sexual orientation than lesbian women, and that they may face greater degrees of discrimination, Madden and Kyei suggest a second hypothesis of "greater bias against gay men." If biases against homosexuality are greater for gay men than they are lesbian women, then gay men would face an earnings penalty and lesbian women might have earnings more equivalent to their heterosexual counterparts. On its own, however, this theory cannot explain a lesbian earnings premium. Madden and Kyei suggest a third contributor is household gender roles amongst homosexual couples.

Most studies which examine the pay-gap between same-sex and different-sex couples have been unable to prove discrimination. While we observe gay male couples earning less than their heterosexual counterparts, for example, there are various factors involved. Although researchers attempt to control for those differences, most cannot directly examine an individual's experience with discrimination. Convincing accounts of sexual minorities' experience with discrimination are made by the few audit studies which exist on the matter.

#### **Audit Studies on Hiring Rates of Sexual Minorities**

Weichselbaumer (2003) conducted a correspondence test in Austria's greater Vienna area of Austria, sending out 613 pairs of resumes with female names for open positions. One resume in each pair was assigned volunteer experience for a gay or lesbian rights organization, while the other was assigned volunteer experience for a non-profit or cultural center. Weichselbaumer found that, to a statistically significant level, signaling lesbian orientation reduces one's rate of invitation to be interviewed by 12 to 13 percentage points. This is to say that in a given pair of resumes, the one assigned lesbian was invited to interview 38 percent of the time, while the one assigned straight was invited back 50 percent of the time (Weichselbaumer 2003). These findings correspond to Adam's (1981) findings of an 11 percent reduction of invitation rates for lesbian females in the Toronto.

Drydakis (2009) follows suit of Weichselbaumer (2003) and Adam (1981), sending 1714 pairs of male resumes to job openings in Athens, Greece one marked with volunteer work for a gay

organization, the other marked with volunteer work for an environmental group. Of the 696 postings which sent out an invitation for interview, 230 invited both the gay and straight applicant, 457 invited just the straight applicant, and in just nine cases was only the gay applicant invited. This equates to a 64.3 percent rate of net discrimination<sup>1</sup> against the gay resumes, despite coming three years after laws prohibiting discrimination on the grounds of sexual orientation went into effect under the European Union's Employment Equality Directive.

Drydakis also notes sexual minorities far too often live with the consequences of discrimination thinking that it is normal. Drydakis further notes that few employers understand what constitutes sexual orientation discrimination and underscores the importance of such research to policy and social science.

Tilcsik's 2011 study marks the first large-scale audit study in the U.S. and adds three major findings to the discourse, as well as a nuanced framework for understanding sexual orientation discrimination. First, the study provides direct evidence of discrimination against gay men, finding that in 3538 resumes to 1769 job postings, gay men were about 40 percent less likely to be given an interview than the heterosexual applicant. Tilcsik calls this result as being consistent with other indicators of discrimination against sexual minorities, and of a similar magnitude to the gap between black and white applicants (Bertrand and Mullainathan 2004; Badgett et al. 2009).

Moreover, conducting the study across seven states in distinct regions, Tilcsik finds regional differences. Employers in the South and Midwest show stronger discrimination than those in the West and Northeast. Perhaps most notable for our own work is the finding that those employers in states and counties with relevant anti-discrimination laws were significantly less likely to discriminate.

Lastly, Tilscik identifies employers who emphasize the importance of stereotypically masculine traits as being especially likely to discriminate against gay men. Tilcsik takes this finding to suggest that, discrimination "is partly rooted in specific stereotypes and cannot be completely

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<sup>&</sup>lt;sup>1</sup> Calculated as the number of times a minority applicant was treated less favorably on a single type of firm behavior than the majority applicant. Then the number of times the majority applicant was treated less favorably was subtracted.

reduced to a general antipathy against gay employees" (2011, p. 616). Tilcsik further proposes that, viewed in the framework of Arrow's (1973) statistical discrimination, this finding shows that individuals have the practice of extrapolating beliefs about a group to the character of a member of that group. More specifically, Tilcsik suggests that if some employers believe masculine traits to be associated with better job performance, and if those same employers believe gay men are less masculine, then we would expect discrimination. This finding shows that discrimination against lesbians and gays does not live in its own realm of sexual orientation discrimination, but rather should be viewed in the same ecosystem as discrimination stemming from existing power hierarchies and cultural norms (such as those measured in gender). From the findings of his study Tilcsik pushes us to understand ascriptive inequality: how members of dominant groups perceive those in subordinate groups, especially those characteristics related to inequality-generating decisions.

#### **Policy Review**

At the federal level, sexual orientation has only been considered a protected form of identity when interpreted as part of sex and gender. A major change occurred in 2014 when President Obama signed Executive Order 13672 expanding anti-discrimination policies for LGBT people serving as federal and federally contracted employees. A policy established in 2015 by the Equal Employment Opportunity Commission (EEOC), as well as a ruling in April 2017 by the Seventh Circuit Court of Appeals, label sexual orientation discrimination as part of sex discrimination, making it illegal as part of Title VII of the 1964 Civil Rights Act. However, EEOC rulings are not binding on private employers, and federal courts may rule differently.

Furthermore, the federal policy's future remains unclear. In the summer of 2017, the Justice department began to reverse the Obama era interpretation of Title VII. In February of 2018, the United States Court of Appeals for the Second Circuit rejected the Justice Department's argument and became the second appeals court to rule that the Civil Rights Act should be extended to include sexual orientation. However, a third appellate court in Atlanta has ruled differently, perhaps positioning an

appeal to be taken up by the Supreme Court which could make title VII a federal discrimination ban. Currently there is no legislation in the United States that explicitly bans discrimination on the basis of sexual orientation.

In lieu of a federal non-discrimination law, there exist many state laws which protect employees from unfair treatment based on their sexual orientation. At the conclusion of 2016, 19 states and the District of Columbia had laws protecting individuals form discrimination on the basis of sexual orientation and gender identity, while an additional three states had protections on the basis of sexual orientation only (Movement Advancement Project 2018). While the level of protection can vary substantially, employment non-discrimination laws protect LGBT people from being fired, not hired, or discriminated against in the workplace by private employers on the basis of sexual orientation or gender identity. Most large cities have at least some protections, and about 50 U.S. municipalities in 15 states have added LGBT non-discrimination measures since 2015, when same-sex marriage was legalized nationwide. The Movement Advancement Project (2018) finds that 50 percent LGBT people live in states prohibiting employment discrimination based on sexual orientation. They also find that an additional portion of the population is protected by laws for state employees or by local ordinances. Twenty-eight states have no employment non-discrimination laws.

#### **METHOD**

#### **Data Selection**

This study uses data from the 1-year American Community Survey Public Use Microdata Sample. These data are composed of microdata, such that each record is an individual person. In our analysis we used structures of data which are organized by households, making it possible to study characteristics of people in the context of their families or other co-residents. Beginning in 2005, the ACS data represents 1 percent of the national population. From 2000 to 2004, there is some variance in the sample size, and the 2000 data are not the ACS but the 5 percent sample of the U.S. Census

(Table A1). We begin our analysis in 2000 because it marks the first year in which annual data are available and end at the last available dataset in 2016.

With our data set spanning 17 years, we chose to examine every state which had an applicable legislative change within that period except for Utah (Hasenbush et al. 2014).<sup>2</sup> These represent the 12<sup>th</sup> through 22<sup>nd</sup> states to add sexual orientation non-discrimination laws. Because the remaining 28 states are likely to be less progressive, our sample is on the progressive side of the political spectrum.

We determine an individual's sexual orientation as most researchers have done, by examining the two questions pertaining to sex and relationship to head of household. We can assume that the relationship between two people is spouse/partner if a person chooses "husband/wife" or "unmarried partner." It is unlikely that roommates and housemates misidentify themselves as partners because there is a response choice for that type of relationship. Knowing who identify themselves as spouses/partners, we can then use the sex of partners to distinguish between those in same-sex and different-sex marriages/partnerships. Beginning in Census 2000, we are able to discern four classes of unmarried cohabitating couples: same-sex male couples, same-sex female couples, unmarried different-sex couples, and married different-sex couples. Starting in 2013, the ACS data distinguish between married and unmarried same-sex couples, bringing the number of classes to six.

We limit our sample to those who fall into these four classes (or six beginning in 2013). We further limit our sample to match the properties of the measured labor force, including only civilians who are 16 years or older and are not in institutions such as prisons or mental hospitals. In the few cases in which income was negative or in which it was zero, income was set to equal 0.1.3 There were also a handful of respondents which were allocated as same-sex married-couple but missing valid responses for their sex or relationship to householder, so these cases were removed from the sample.

<sup>2</sup> In March of 2015, Utah made it illegal to discriminate based on sexual-orientation. It was decided that this was too recent of a change to effectively measure in this study.

<sup>&</sup>lt;sup>3</sup> 5,211 of the 3,421,589 observations had a personal total income of less than zero, or 0.15 percent. An additional 36,274 have a personal total income equal to zero, or 1.2 percent. 0.02 percent had a household income of less than zero, and 0.02 percent less than or equal to zero.

#### Challenges

The Census and its related surveys such as the ACS, collect information about the relationships of those living in households. On the ACS, a householder and others living in the home are identified, along with their relationship to the householder. Logically, if the householder marks that he or she lives with a partner or spouse of the same-sex, these two people can be considered to be a same-sex couple. This is how we derive our sample population of lesbian and gay Americans.

A more straightforward way to ascertain information regarding one's sexual orientation would be a question that asks directly. There are surveys in the U.S. such as the General Social Survey (GSS) which ask questions to individuals regarding a range of demographic factors, including their sexual orientation. Since 2008 when the GSS began asking about one's sexual orientation,<sup>4</sup> the sample size has been around 2000 respondents per year. In general, this is a large enough sample to be considered nationally representative, but when considering a minority group, it is too small. In 2016, for example, 46 responded "gay lesbian or homosexual," 56 responded "bisexual", and 1641 responded "heterosexual or straight" (Smith et al. 2016). Given our interest in looking at policy changes within a state, these numbers easily become low single digits. While the GSS can provide valuable insights into LGB trends, a study of policy changes requires a much larger data set. The only nationally representative and substantial surveys containing a specific question on sexual orientation exist in the UK and Canada. In the U.S, we must infer sexual orientation through cohabitation properties in the ACS. This method comes with its challenges.

#### **Procedural Changes**

First there is the challenge that procedural changes to the collection of data have significant impacts on data. In our data set ranging from 2000-2016, significant changes to the collection of data

<sup>4</sup> Prior to 2008 the General Social Survey asked questions about same-sex sexual behavior, but not explicitly about sexual orientation.

took place in 2000, 2008 and again in 2013. It is important to understand these definitional intricacies to properly analyze the data.

In 1990 the Census added the category of unmarried partner to its question regarding relationship to householder. If the participant reported their relationship as same-sex, unmarried partners were allowed but married couples were edited in such a way that the sex of one individual reflected an opposite-sex arrangement (File 2016). In 2000, this practice was changed so that instead of changing the sex of one of the partners, the relationship would be changed from married to unmarried partner. While this change does not occur in the midst of our sample, it is important to understand the composition of our sample and its intricacies. For example, Gates and Steinberger (2010), find about .25 percent of different-sex married couples miscode the sex of a spouse, and 30 percent of identified same-sex couples in the ACS are in fact misclassified different-sex married couples. In using this data set, is important to heed caution due to its imperfections.

Between 2007 and 2008 two categories of change occurred: (1) processing and editing changes and (2) formatting changes to the questionnaire (O'Connell et al. 2008). In regard to processing and editing, the system of transcribing paper responses was somewhat automated and improved. Additionally, how surveys with multiple boxes checked for sex and relationship were also treated differently. Prior to 2008, multiple marks for sex would be edited to "male," and surveys with relationships marked as "husband/wife" as well as another response were marked as "husband/wife." Starting in 2008, these questions with multiple markings were changed to be considered left blank.

Perhaps the most impactful change that occurred between 2007 and 2008 was the format change from a grid-based questionnaire to a sequential ordering of questionnaire items. Beginning in 2008, all core demographic responses for a single person were in one vertical column with a distinct sequential numbering of questions. In 2007, these items were spread over two pages with less specific instructions and without a numbering system. A preliminary evaluation indicated significantly higher proportion of persons who reported themselves as male than as female in the grid format (O'Connell

et al. 2008). Additionally, the 2008 form instructed the respondent to mark only one box each for the relationship and the sex items, while prior space limitations prevented this instruction from being included.

While the estimate of same-sex unmarried partners does not change much between 2007 and 2008, the number of couples reporting themselves as same-sex spouses declined from 341,000 in 2007 to 150,000 in 2008, or 27 percent of all same-sex couples in 2008. O'Connell et al. (2008) credit these changes for the dramatic drop and say that it marks an improvement in data collection and avoiding erroneous responses. In analyzing the data, again, it is important to note the method and changes to the procedure of data collection.

Lastly, in 2013 the ACS stopped recoding those who marked themselves as same-sex married couples from married to unmarried partners (U.S. Census Bureau 2014). Along with this change came the introduction of a Same-sex Married Couple variable "SSMC."

#### **Data Limitations**

To begin, the Census cannot identify those who identify as LGB but rather those who cohabitate with someone of the same-sex. This means that our data only speaks to a portion of the population that is living in a partnership with someone—single people who identify as LGB cannot be discovered through the current means of the ACS. One can imagine that the partnered segment of the population differs from the segment of those who are single (non-partnered people account for 42% of the population) (Pew Research Center 2017a).

A statistical problem arises in the analysis of a relatively small critical population: a low rate of random error in a large group (opposite-sex married couples) creates large errors in the estimates for a small group (same-sex married couples). With 56 million opposite-sex married households, up to 0.5% have been found to misreport a spouse's sex—about 280,000 households (File 2016). Adding these 280,000 households in error to same-sex households is hugely significant considering the estimate of same-sex married couples is around 400,000. Krieger et al (2017) compared the sex

reported in the 2010 ACS with the Social Security record and found that about 57 percent of those reported as same-sex couples in the 2010 ACS are likely opposite-sex in the Social Security data file (Kreider, Bates, and Mayol-Garcia 2017). They identify this primarily as a consequence of mismarks by the respondent.

Procedural changes to the Census and ACS have been proposed which would bring this number down. In testing of the 2016 ACS census, putting the survey online, adding automated formatting (such as referring to house members by their names), and prompting the respondent to check their answer, were found to reduce this number from .5 percent to .03 percent (Kreider, Bates, and Mayol-Garcia 2017). While the percentages are small, this reduction represents a substantial decrease in erroneous responses and would bring the number of misreported same-sex married couples down from approximately 280,000 to around 16,800.

Despite the challenges unique to the data available in the U.S. and the presence of "better" data elsewhere such as the UK or Canada, this kind of policy-based analysis is uniquely compelling in the U.S. given states' abilities to serve as "laboratories of democracy." This nature of governance allows us to uniquely isolate state anti-discrimination legislation as a variable, and it allows us to observe multiple instances of legislative change across many states.

#### **MODELS**

Our analysis focus on three related models of increasing complexity, each applied to three dependent variables: *LogPersonalTotalIncome*, *LogHouseholdIncome*, and *Unemployment*.

- (1)  $DependentVariable_i = \eta + \alpha*SameSexHH_i + \varepsilon_i$
- (2)  $DependentVariable_i = \eta + \alpha*SameSexHH_i + \lambda*Reform + \beta*DemographicTraits_i + \varepsilon_i$
- (3)  $DependentVariablei = \eta + \alpha*SameSexHHi + \lambda*Reform + \varphi*SameSexHH*Reform + \beta*DemographicTraitsi + \varepsilon i$

<sup>&</sup>lt;sup>5</sup> "Laboratories of democracy" is a phrase popularized by Justice Louis Brandeis in 1932 to describe how a "state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country."

SameSexHH is a dummy variable equaling one when the couple is identified as a same-sex couple, and zero if not. For any given state, *Reform* is a dummy variable equaling one for the years following the implementation of a state-wide sexual orientation anti-discrimination law. If a law was passed in 2007, for example, *Reform* will equal zero for the years 2000-2007, and one for years 2008-2016. The reason we apply this variable in the year following legislation as opposed to the actual year of legislation is because of time differences of implementation across states. Furthermore, it is unlikely that a given reform will have taken effect in the year of its passing. This equation is applied separately to men and women to highlight the gender-based differences in labor market outcomes.

DemographicTraits is a set of sociodemographic factors, including age, race and ethnicity, and educational attainment. Also included are a set of year and state dummy variables which control for differences measured over time and across states. There is also a control for unemployment, as well as one for reform. The last year and the last state dummy will be undefined because of singularities. Likewise, for each state, one control year will not be listed because it is captured in PostReform (Table A7). The first model of each dependent variable includes just the SameSexHH variable, the second adds DemographicTraits, and the third adds interaction terms between SameSexHH and Reform.

The models for LogPersonalTotalIncome and LogHouseholdIncome (columns (1) through (6) in Table 1 and Table 2) are estimated as ordinary least squares (OLS) models and vary only in the dependent variable. The models for Unemployment (columns (7) through (9) in Table 1 and Table 2) differ in that they are logistic regressions with the binomial unemployment as the dependent variable. This term is zero for those employed and one for those unemployed. The set of demographic traits remains identical across dependent variables except for the exclusion of unemployment as a control in the income analysis. For each of the three dependent variables, the independent variables of interest are the interaction terms between SameSexHH and Reform. The coefficients of  $\alpha$  indicate the

perceived difference in income and unemployment for couples based on sexual orientation. The coefficients of  $\varphi$  indicate the differences pertaining to same-sex couples in respect to reform.

#### **RESULTS**

Tables 1 and 2 present the results for personal total income (columns 1 through 3), household income (columns 4 through 6), and unemployment (columns 7 through 9). Table 1 is based on females and Table 2 is based on males. Omitted are the dummies for states and years, but other sociodemographic factors are included to serve as points of comparison.

For ease in reading these results, all coefficients of columns (1) through (6) are described as percent effects using the standard formula:  $\%\Delta y = (e^{\beta_1} - 1) \cdot 100$  where y is a given dependent variable and  $\beta_1$  is the coefficient of an independent variable. Coefficients of columns (7) through (9) are described here as odds instead of log of odds.

#### **Personal Total Income**

Before including the interaction term, in model (2) we find that lesbian women face a 32.2 percent earnings premium. In other words, from 2000 to 2016, we expect a woman in a same-sex household to earn 32.2 percent more than her heterosexual counterpart. Men living in a same-sex household from 2000-2016 are expected to face a 21.4 percent earnings penalty. Note that these data refer to annual income, so they reflect differences in both pay rates and total hours worked.

In model (3) we include the interaction between being in a same sex household and being protected by state anti-discrimination legislation. These findings show that lesbian women see their earnings premium decline by 6.7 percentage points in the years following reform, despite earning 38.3 percent more than their heterosexual counterparts in the years prior to reform. In the years following a reform, gay men earn an additional 12.1 percent while earning 26.5 percentage points less than their heterosexual counterpart prior to reform. This is to say that for those in same-sex households, women lose 6.7 percent of their premium given a reform, while men gain back 12.1

percent. All of the numbers reported above for personal total income are significant at the 1 percent level.

#### **Household Income**

While lesbian women earn substantially more than heterosexual women, the household income for lesbians is 8.4 percent lower than that of heterosexual households. Lesbian households earn substantially less than heterosexual men.

Males in same-sex households have a household income that is 12.1 percent greater than that of heterosexual households. Although gay men individually earn less than their heterosexual counterparts, this premium is expected because women in different-sex households earn around half as much as their partners.

Before reform, household income for gay men is 7.1 percent higher than that of the heterosexual household, and in the years following reform that premium rises by another 7.4 percentage points. The lesbian household income in the period following reform increases by 2.0 percent (significant to the 5 percent level). Unless otherwise noted, all of the findings for household income reported above are significant at the 1 percent level.

#### Unemployment

It appears that lesbian women have slightly greater odds at being unemployed while gay men have substantially greater odds. Overall, women in same-sex households are found to have odds of unemployment 5.7 percent greater than similar heterosexual women (significant at the 10 percent level). Prior to reform, we find that being in a lesbian household as compared to a heterosexual household, a woman's odds of being unemployed are 10.8 percent greater (significant at the 10 percent level). After reform, the odds for lesbian women decrease by 7.4 percent compared to before (statistically insignificant). Compared to their pre-reform odds, this is notable improvement.

For males in same-sex households, the odds of being unemployed are 34.6 percent greater than the odds of similar males in heterosexual households (significant at the 1 percent level). Prior to reform, gay males have odds 27.0% greater than heterosexual men (significant at the 1 percent level), while following reform the odds are 5.8% greater (statistically insignificant). These findings are noteworthy but should also be put into perspective: for example, the odds of being unemployed as a black male are 108 percent greater than those of a white male.

#### **State-Level Analysis**

Looking at the trends across the sample of states gives us further insight into the results (Table 3). As it pertains to income, this table reports initial pre-reform gaps and overall gaps. The post reform column is to be considered in sum with the pre-reform column. For example, Females in Maryland experience a 34.5 percent personal total income premium in the pre-reform period, but that premium declines by 13.9 percent post reform. Overall, they experience a 26.0 percent earnings premium.

For female personal total income, all states show substantial and statistically significant prereform premiums for same-sex households. Furthermore, the spread for pre-reform premiums is large, with a range of 22.3 percent (Maine) to 59.5 percent (New Mexico). Overall, in the entire 2000-2016 period, the trend is similarly consistent for all states, with a range of at 23.6 percent (Iowa) to 39.4 percent (Washington and Delaware). While the results are less uniformly significant, the post reform column also adds insight. All states show the premium decreasing, with a range of -2.4 percent (New York) to -18.6 percent (New Mexico).

The results for personal total income for males are similar but in the opposite direction. Prereform, males experience statistically significant penalties between -22.9 percent (in Maryland) and -36.7 percent (New Mexico). Overall, in the period from 2000-2016, males face an earnings penalty between -17.0 percent (New York) and -29.1 percent (Iowa). The post reform column show less significant but fairly uniform increases in earnings from 6.2 percent (Colorado) to 39.0 percent (Maine). Notably exceptions of this trend are Iowa and Maryland. These findings are statistically significant at a higher incidence than are the findings for females.

Household income tells a similar story, with lesbian pre-reform households earning between 7.1 percent and 11.0 percent less. Overall, in the period 2000-2016, this trend is the same with a slightly bigger range of -3.4 percent to -11.0 percent. The post reform column shows that same-sex female households in most states earn a little back, but the findings are mostly insignificant.

Same-sex male households experience less uniform penalties in pre-reform household income, but overall the trend is that these households earn a substantial income premium over different-sex couples. The post reform column is more uniformly significant than it is for women, and generally shows substantial increases in household income (again with the exception of Iowa and Maryland).

Unemployment is reported in odds, and while the first and last columns are to be taken in isolation, the post reform column is again to be taken in sum with pre-reform. This means that, in the example of Maryland females, odds of unemployment are 3.7 percent higher pre-reform, and 1.7 percent higher overall. In the period post reform, lesbian women have odds .97 times of those that they did prior to reform. The findings pertaining to unemployment are mostly statistically insignificant, but point to slightly higher odds for pre-reform lesbians, and generally decreased odds post reform. For males, the trend is similar, but effects seem to be larger.

#### **Check for Robustness**

It is likely that other variables influence the results of these models. To test robustness of these models, we create a sample that has been edited to "fake" a change in sexual orientation non-discrimination laws. Looking at neighboring states with laws enacted in different years (e.g. New Mexico, 2003; Colorado, 2007), we hope to test whether our measure *Reform* is picking up other economic factors. In particular, we can look to the interaction terms *SameSexHH\*Reform*.

Female\*Reform, and SameSexHH\*Reform\*Female (Table A3)<sup>6</sup>. If our variable Reform was truly isolated from various economic effects, we would expect to see the "faked" data to show small and insignificant effects of reform. In the example of New Mexico and Colorado (Table A3), looking at these three interaction terms we note that there is in fact a sizable and significant effect of reform for all three dependent variables in the "faked" dataset. The test in Maryland and Delaware is less conclusive, likely because reform in Maryland took place in 2001, leaving only two years of data prior to reform.

We also perform some checks to make sure our dataset composition seems reasonable. One such check is population sizes of same-sex households in our sample versus the 2010 census state-level preferred estimates (Table A2). The estimates derived from our sample do not include weighting so are presented for rough comparisons only. Furthermore, the census preferred estimates are adjusted to account for those households that mismark the sex of their partner/spouse.

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<sup>&</sup>lt;sup>6</sup> The sample used to test for robustness is not separated by gender. This means that the model includes a *Sex (Female*) independent variable and thus a triple interaction term *SameSexHH\*Reform\*Female*.

Table 1 Partnered Females Aged 16 and Above in 10 States 2000-2016

				De	pendent varia	ble:			
	lo	g(Personal Inc	ome)	log	(Household In	ncome)	Ţ	Inemployme	nt
		OLS			OLS			logistic	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(Intercept)	9.960***	8.518***	8.517***	11.270***	9.241***	9.241***	-3.093***	620***	620***
	(.002)	(.019)	(.019)	(.001)	(800.)	(800.)	(.004)	(.052)	(.052)
Same Sex HH	.386***	.279***	.324***	015***	088***	100***	.013	.055*	.103*
	(.012)	(.011)	(.018)	(.005)	(.005)	(.008)	(.032)	(.033)	(.055)
Age		.040***	.040***		.074***	.074***		065***	065***
Age squared		(.001) 0003***	(.001) 0003***		(.0003) 001***	(.0003) 001***		(.002) .0005***	(.002) .0005***
Age squared		(.00001)	(.00001)		(.000003)	(.000003)		(.0003	(.0003
Black		.104***	.104***		141***	141***		.595***	.595***
		(.006)	(.006)		(.002)	(.002)		(.014)	(.014)
Am. Indian / Alaska Native		052***	052***		221***	220***		.670***	.670***
		(.016)	(.016)		(.007)	(.007)		(.034)	(.034)
Asian or Pacific Islander		100***	100***		042***	042***		.305***	.305***
		(.006)	(.006)		(.003)	(.003)		(.017)	(.017)
Other Race		079***	079***		074***	074***		.244***	.244***
		(.007)	(.007)		(.003)	(.003)		(.018)	(.018)
Hispanic or Latinx		096***	096***		058***	058***		.297***	.297***
		(.006)	(.006)		(.003)	(.003)		(.015)	(.015)
Highschool		.384***	.384***		.223***	.223***		578***	578***
		(.006)	(.006)		(.003)	(.003)		(.014)	(.014)
Some College		.572***	.572***		.365***	.365***		774***	774***
Associates		(.006)	(.006)		(.003)	(.003)		(.014)	(.014)
Degree		.719***	.719***		.447***	.447***		-1.091***	-1.091***
Daabalada		(.007)	(.007)		(.003)	(.003)		(.018)	(.018)
Bachelor's Degree		.971***	.971***		.689***	.689***		-1.226***	-1.226***
34		(.006)	(.006)		(.003)	(.003)		(.015)	(.015)
Master's Degree		1.218***	1.218***		.821***	.821***		-1.463***	-1.463***
		(.007)	(.007)		(.003)	(.003)		(.019)	(.019)
Professional Degree		1.551***	1.551***		1.100***	1.100***		-1.572***	-1.572***
		(.010)	(.010)		(.004)	(.004)		(.038)	(.038)
Doctoral Degree		1.477***	1.477***		1.014***	1.014***		-1.658***	-1.658***
		(.013)	(.013)		(.005)	(.005)		(.053)	(.053)
Unemployment	t	-3.688***	-3.688***		503***	503***			
		(.007)	(.007)		(.003)	(.003)			
Post Reform		.007	.008		002	002		098***	096***
Sama Sav		(.007)	(.007)		(.003)	(.003)		(.020)	(.020)
Same Sex HH*Reform			069***			.020**			074
Ol	1.540.464	1.540.464	(.023)	1.540.464	1.540.464	(.010)	1.540.464	1.540.464	(.068)
Observations R <sup>2</sup>	1,548,464	1,548,464 .238	1,548,464	1,548,464	1,548,464 .237	1,548,464	1,548,464	1,548,464	1,548,464
	.001	.238	.238	.00001	.237	.237			
Adjusted R <sup>2</sup> Akaike Inf.	.001	.430	.436	.000004	.431	.431			
Crit.								527,404.700	527,405.600
T. C		11,507.140***			11,482.550***	11,215.630***	:		
F Statistic	(df = 1; 1548462)	(df = 42; 1548421)	(df = 43; 1548420)	(df = 1; 1548462)	(df = 42; 1548421)	(df = 43; 1548420)			
Note:					*	*	*	-0.1.**	05· *** p<0.01

\*p<0.1; \*\*\*p<0.05; \*\*\*\*p<0.01 Omitted: Dummies for years and states

Table 2

Partnered Males Aged 16 and Above in 10 States 2000-2016

1 abic 2				De <sub>l</sub>	pendent variab	le:			
	los	g(Personal Inc	ome)		Household Inc		Ţ	Jnemployme	nt
	`	OLS	,		OLS	,		logistic	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(Intercept)	10.653***	8.883***	8.884***	11.246***	9.351***	9.352***	-3.178***	-1.667***	-1.666***
	(.001)	(.014)	(.014)	(.001)	(800.)	(800.)	(.004)	(.050)	(.050)
Same Sex HH	169***	255***	337***	.196***	.114***	.069***	.162***	.297***	.260***
	(.010)	(.009)	(.015)	(.006)	(.005)	(.009)	(.032)	(.032)	(.056)
Age		.058***	.058***		.066***	.066***		048***	048***
		(.001)	(.001)		(.0003)	(.0003)		(.002)	(.002)
Age squared		001***	001***		001***	001***		.0005***	.0005***
<b>.</b>		(.00001)	(.00001)		(.000003)	(.000003)		(.00002)	(.00002)
Black		391***	391***		115***	115***		.727***	.727***
Am. Indian /		(.004)	(.004)		(.002)	(.002)		(.013)	(.013)
Alaska Native		346***	346***		199***	199***		.842***	.842***
		(.012)	(.012)		(.007)	(.007)		(.031)	(.031)
Asian or Pacific Islander		301***	301***		188***	188***		.135***	.135***
		(.005)	(.005)		(.003)	(.003)		(.019)	(.019)
Other Race		150***	150***		092***	092***		.207***	.207***
		(.005)	(.005)		(.003)	(.003)		(.018)	(.018)
Hispanic or Latinx		131***	131***		122***	122***		053***	053***
		(.004)	(.004)		(.002)	(.002)		(.015)	(.015)
Highschool		.290***	.290***		.213***	.213***		466***	466***
		(.004)	(.004)		(.002)	(.002)		(.012)	(.012)
Some College		.472***	.472***		.380***	.380***		680***	680***
		(.004)	(.004)		(.002)	(.002)		(.013)	(.013)
Associates Degree		.523***	.523***		.421***	.421***		890***	890***
		(.005)	(.005)		(.003)	(.003)		(.017)	(.017)
Bachelor's Degree		.861***	.861***		.704***	.704***		-1.159***	-1.160***
S		(.004)	(.004)		(.002)	(.002)		(.014)	(.014)
Master's Degree		1.027***	1.026***		.828***	.828***		-1.263***	-1.263***
8		(.005)	(.005)		(.003)	(.003)		(.019)	(.019)
Professional Degree		1.451***	1.451***		1.183***	1.183***		-1.970***	-1.970***
Degree		(.006)	(.006)		(.004)	(.004)		(.037)	(.037)
Doctoral Degree		1.165***	1.164***		.938***	.938***		-1.674***	-1.674***
Degree		(.007)	(.007)		(.004)	(.004)		(.042)	(.042)
Unemployment		-2.327***	-2.327***		609***	609***		,	, ,
1 7		(.005)	(.005)		(.003)	(.003)			
Post Reform		.017***	.016***		0001	001		010	011
		(.005)	(.005)		(.003)	(.003)		(.020)	(.020)
Same Sex HH*Reform			.128***			.071***			.056
			(.019)			(.011)			(.068)
Observations	1,845,672	1,845,672	1,845,672	1,845,672	1,845,672	1,845,672	1,845,672	1,845,672	1,845,672
$R^2$	.0002	.208	.208	.001	.240	.240	•		
Adjusted R <sup>2</sup>	.0002	.208	.208	.001	.240	.240			
Akaike Inf.							620,961.800	594,698.500	594,699.800
Crit.	204.522***	11 510 070***	11,252.390***	1 007 050***	12.057.070***	12.526.010***		,	,
F Statistic	284.523 (df = 1;	(df = 42;	(df = 43;	1,097.858 (df = 1;	13,857.870 (df = 42;	(df = 43;			
	1845670)	1845629)	1845628)	1845670)	1845629)	1845628)			

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01
Omitted: Dummies for years and states

Table 3

Income and Unemployment Before and After Reform By State (2000-2016)

FEMALE		PERSONAI	NE TOTAL INCOME	COME	ROONS	HOUSEHOLD INCOME	ME	UNI	UNEMPLOYMENT	T
STATES	Reform Year	Pre-Reform	Post Reform	Overall	Pre-Reform	Post Reform	Overall	Pre-Reform	Post Reform	Overall
MARYLAND	2001	34.5***	-13.9**	26.0***	-11.0***	2.0	***9.6-	1.037	0.977	1.017
<b>NEW YORK</b>	2002	36.3***	-2.4	34.0***	***6.8-	4.5**	-5.9***	1.137	0.837	1.002
<b>NEW MEXICO</b>	2003	59.5**	-18.6	37.2**	-10.5**	2	-8.7**	0.566	2.201*	1.045
ILLINOIS	2005	33.1**	-7.2	27.0***	-8.5**	-4.2*	-11.0***	1.264***	0.956	1.228***
MAINE	2005	22.3**	7.7	28.4**	-7.7**	2.3	-6.5***	0.979	1.231	1.113
WASHINGTON	2006	49.5***	-11.3*	39.4**	***0.6-	1.2	-8.3***	1.107	0.828	0.998
COLORADO	2007	41.2***	-8.9	34.2**	***9.6-	0.7	-3.4**	1.030	0.909	0.973
IOWA	2007	27.3***	-5.7	23.6***	-8.7**	-1.2	-9.3***	1.025	0.902	0.977
OREGON	2007	39.7**	-6.7	34.6***	-10.2**	5.75*	-7.5***	0.949	1.150	1.028
DELAWARE	2009	51.0***	-18.4	39.4**	-7.1*	1.1	**8.9-	1.411	0.426	1.041
10 STATES	-	38.3***	-6.7**	32.2**	-9.5***	2.0**	-8.4**	1.108*	.926	1.057*
								*	p<0.1; **p<0.05; ***p<0.0	; ***p<0.01
MALE		PERSONAI	NE TOTAL INCOME	COME	HOUS	HOUSEHOLD INCOME	ME	UNI	UNEMPLOYMENT	T
STATES	Reform Year	Pre-Reform	Post Reform	Overall	Pre-Reform	Post Reform	Overall	Pre-Reform	Post Reform	Overall
MARYLAND	2001	-22.9**	-2.3	-24.1***	9.5***	-5.8*	4.7***	2.192***	0.840	1.197***
<b>NEW YORK</b>	2002	-25.8**	16.4**	-17.0***	14.8**	***8.9	20.6***	1.341***	1.029	1.370***
<b>NEW MEXICO</b>	2003	-36.7***	31.1**	-23.4**	9.6-	22.3 ***	4.2	1.551	0.694	1.229
ILLINOIS	2005	-31.4**	13.4**	-25.8***	7.5***	3.0	9.5***	1.305***	0.907	1.222***
MAINE	2005	-32.3***	39.0**	-18.6***	6.	13.5**	8.3***	1.003	1.009	1.008
WASHINGTON	2006	-31.5**	10.4**	-27.9***	5.4**	**8.9	5.4***	1.177	1.221	1.313***
COLORADO	2007	-28.8**	6.2	-26.3***	0.7	10.6**	-9.6***	1.443**	0.884	1.350**
IOWA	2007	-22.1***	-23.3**	-29.1***	-3.53	-19.7***	-4.2	0.898	2.246*	1.303
OREGON	2007	-28.2**	11.2	-24.2***	5.1*	5.5	8.0***	1.105	1.140	1.191
DELAWARE	2009	-23.6***	15.7	-19.0**	8.5**	4.6	10.5***	1.224	1.452	1.458*
10 STATES	1	-28.6***	13.7***	-22.5***	7.1***	7.4***	12.1***	1.2697***	1.058	1.346***
Personal Total Income and Household Income are reported above as percentages. Unemployment is reported as odds	ome and House	ehold Income a	re reported abo	ve as percer	itages. Unemp	loyment is repo	rted as odd		*p<0.1; **p<0.05; ***p<0.0]	; ***p<0.01

Personal Total Income and Household Income are reported above as percentages. Unemployment is reported as odds. Pre-Reform denotes an initial premium or penalty, while Post Reform is to be interpreted in sum with Post Reform. For example: Pre-Reform of 34.5 and Post Reform of -13.9 signify that 13.9% of an initial 34.5% premium was lost.

#### **DISCUSSION**

The findings of this study are consistent with prior research indicating that lesbian women experience an earnings premium while gay men experience a penalty. We find similar but smaller differences with unemployment. Furthermore, we hope to add to the discourse by shedding light on the interaction between protective legislation and these socioeconomic indicators, namely that anti-discrimination laws appear to be strongly correlated with a shrinking earnings gap. We contend that this illuminates the importance of equality not just in the eyes of society but also equality in the eyes of the law. Most generally, our findings include a number of puzzles; namely, why do homosexual women not face the same discrimination that homosexual men do, and why do homosexual women seem to be hurt by anti-discrimination laws?

First, the results of this study replicate others in that lesbian women experience an earnings premium while gay men experience an earnings penalty. Using 2000-2016 ACS data from ten states, we measure a lesbian earnings premium of 32.2 percent for personal total income, and a male penalty of 21.4 percent. There is also quite a substantial difference between states (Table 3). Compared to heterosexual households, the household income of gays is 12.1 percent greater, while for lesbians it is 8.4 percent lower. Household income results differ from personal income results by sexual orientation due to the pay gap between men and women.

We also find that those living in same-sex households have greater odds of being unemployed. Gay men face unemployment at odds 34.6 percent greater than heterosexual men, while lesbian women have odds that are 5.7 percent greater than heterosexual women. These findings are significant at the 1 percent level and 10 percent level, respectively.

Second, these findings show that the existence of legislative protections for sexual minorities is positively correlated to increased personal incomes for gay men and decreased personal incomes for lesbian women. We measure gay males to recover 12.1 percent of their earnings, while lesbian females lose 6.7 percent of their premium. The findings also show that household income for gay men

increases by 6.4 percent given reform, while lesbian women recover 2.0 percent of their household income penalty.

The correlation between reform and decreased rates of unemployment for lesbians and gays does not seem to be statistically significant, but it is of the same trend—odds of unemployment may be moving closer to levels of a comparable person in a heterosexual household.

While the results cannot be said to be isolated from other economic and social factors, they are large and significant. Taking what we understand to be a history of wage penalties for gay males and wage premiums for lesbian women, protective reforms are positively correlated with closing the lesbian and gay household income gap.

So, arises the question, why do protections for sexual-minorities seem to help gay men but hurt the personal income of lesbian women? This question is not a new one. Researchers have long used a human capital theory to explain the lesbian earnings premium—that is to say, because women are less likely to have children and less likely to work part time compared to full time, they are able to earn more (Badgett 2001; Badgett 1995). But Baumle and Poston (2011) found that even when controlling for these factors, the earnings premium persists. Baumle (2009) suggests that it is possible that employers *perceive* lesbians to have a greater labor force attainment than heterosexual women, but to us this seems inadequate in explain for the findings of such a large premium. Furthermore, there does not seem to be an obvious reason that legislative protection would reduce this false-perception effect. Like Carpenter and Eppink (2017), we are reluctant to accept that improving attitudes toward LGBT is the main cause of the diminishing gay male earnings gap. Most central to this claim of ours is that increasing attitudes towards LGBT does not seem to be in line with decreasing personal earnings for lesbian women. This finding in particular suggests that there is more to the socioeconomic progress of American sexual minorities than increased acceptance.

Thus, arises a second question of which we are also unable to answer: why does the lesbian earnings premium start to erode given protective legislation? In particular, we might look to the

emergence of legal protections and the emergence of equality in the eyes of the law. Carpenter and Eppink (2017) point to increasing access to same-sex marriage as plausibly affecting gay men more than lesbians. This claim is backed up by the finding that before same-sex marriage was legalized, lesbians were more likely to be in same-sex partnerships and formalized partnerships than gay men (Carpenter and Gates 2008). Just as they suggest marriage may have been more beneficial to gay men than lesbian women, it is plausible that anti-discrimination laws may benefit one gender of sexual minorities more than another. We can call this the "greater policy impact for gay men" hypothesis.

To us, the most plausible cause for females and males to experience anti-discrimination laws differently, is that females and males experience discrimination differently. There is some evidence in the literature to support this theory. Madden and Kyei (2013) propose a "greater bias against gay men" hypothesis, in which stronger biases against gay men than against lesbians account for all or some of the gender differential in the gay pay gap. If that were to be the case, then the decline in bias should have stronger effects on the gay pay gap than the lesbian gap. This effect differential is apparent in our findings as well. Still though, this theory does not readily explain the decline in lesbian pay.

Perhaps these legal protections lead to lesbian women feeling comfortable disclosing their identity to an employer when they were not comfortable before. If this were the case, by "coming out" in the workplace, lesbian women could be exposing themselves to pay discrimination that they did not face before. There is some data to support this theory. Badgett (2001) found that gays and lesbians were more likely to disclose their sexual orientation in the workplace when an employer had a non-discrimination policy in place. This suggests that individuals are more likely to disclose sexual orientation in environments where they feel protected. Thus, Baumle and Poston (2011) argue that those living in states without an anti-discrimination law could choose to avoid disclosing their sexual orientation and thereby avoid discrimination in the workplace. The decrease in lesbian pay following reform could feasibly be an effect of this dynamic. That being said, the evidence is yet to be

sufficiently convincing. This paradoxical relationship does convince us, however, that sexual orientation discrimination is a complex and at times nonintuitive subject matter.

Most generally, this study presents numerous puzzles to social scientists. We find that lesbian women earn a substantial premium compared to heterosexual women and that protective legislation reduces their relative earnings. The theory of improving attitudes towards LGBT is incapable of explaining numerous recent findings including these, and while a theory of a greater policy impact for gay men seems more plausible, it remains unproven.

It is important to consider a progressive understanding of gender norms in conjunction with attitudes towards LGBT. Tilcsik (2011) illustrated how conceptions of masculinity come into play with regards to hiring discrimination. It seems that if gender norms play a part in patterns of gay male discrimination, they are likely to play a part for lesbian females as well. This is further explored in the theory of unmeasured gender-linked characteristics (Madden and Kyei 2013; Klawitter and Flatt 1998; Black et al. 2003). This underscores the importance in considering gays and lesbians as separate populations in research, and also illustrates the need for more intersectional research. Not only do homosexual men and women experience opposite wage effects connected to their sexuality, but lesbian women experience the intersection of gender and sexuality in their labor market outcomes. More intersectional work would be valuable to the literature, but of course that requires new theoretical developments and more refineddata.

This study's findings may also be indicative of the kind of discrimination lesbian and gay people face, and the kind of discrimination successfully counteracted by legislative protections. Further research should be conducted on the various kinds of discrimination at play for gay and lesbian people. An audit study similar to that of Drydakis (2009) would be illuminating if conducted in the U.S. Tilcsik (2011) conducted the first major U.S. audit study of hiring discrimination for sexual-minorities, but its test sample was exclusively men.

#### **CONCLUSIONS**

The study aims to contribute to two discourses within the literature of queer socioeconomics:

1) the effects of legislative protections for sexual minorities, and 2) the nature of the lesbian earnings premium. Overall, it seems as though anti-discrimination laws are reducing discrepancies in homosexual earnings, but we cannot clearly identify the reasons. Furthermore, we've learned a little bit more about the paradox(es) of the lesbian earnings gap.

Looking back to Tilcsik (2011) we can say that this study adds to the discourse by analyzing multiple regions with respect to the same measure of outcome. His study was one of the few that did that, by sending resumes of "straight" or "gay" applicants to employers in seven geographically dispersed states. Similarly, this study is one of the few studies which looks at differences across states and time. In all of these states, what we are measuring is income and unemployment, as garnered from a federally conducted survey. In this sense, we are able to get away from issues that might arise given cross-study differences. Furthermore, this study looks simply at income and unemployment over a period of time where the one variable is the presence of a protective law. Tilcsik underlines the importance of a multistate study (2011, p. 615).

That being said, the discrimination measure is not discrete—that is to say the measured impact of discrimination likely includes additional factors beyond the scope of employment. It is also worth emphasizing his point that discrimination in the hiring process is distinct and particularly hard to detect and prove in relation to discrimination occurring *within* the workplace. This point further extends to the idea that laws may have differing effects in reducing differing kinds of discrimination.

In conducting a study such as this one, there is a clear need for better data. The current method of determining sexual minorities in the census is fraught with problems. Adding the ability to directly determine one's sexual orientation and gender identity would surely clear up the arena of socioeconomic theories of sexual and gender minorities.<sup>7</sup> Additionally, centralized resources like

<sup>&</sup>lt;sup>7</sup>Census 2020 will not ask for sexual orientation, despite a push from researchers and policymakers.

UCLA's Williams Institute and the Movement Advancement Project create greater access to research.

There does not seem to exist a public database for statewide or countywide attitudinal changes towards LGBT people, although the data does seem to be out there from centers like Pew and Gallup

While better data should be available (from the census, for example), more data would not necessarily reveal the entire picture which embodies the complex relationship between laws, attitudes and discrimination. Tilscik raises the example that even if anti-discrimination laws had no direct effect on discrimination (i.e. in job applications), they may reduce discrimination by improving public opinion of LGBT people. That being said, there is likely a causal effect in the opposite direction: more tolerant views towards LGBT leads to more legislative protection for LGBT people. We would like to isolate these attitudes from discrimination and recommend that a future study take this into consideration.

Further studies like this one could incorporate attitudes of LGBT rights to further the analysis of the LGBT attitudes hypothesis. Additionally, there are many more indicators in many different geographies which can be examined. More than just income and unemployment, we can look at patterns of occupational segregation by gender and sexual orientation, location choices by sexual minorities, family patterns, or other broad economic indicators like access to healthcare, rent and housing prices, or even eviction rates. In addition to there being more indicators to look at, there are more levels to which we can look, as protective policies exist for people working in the federal government, certain counties and cities, as well as many large private employers. Especially ripe for study, one could examine how these indicators differ for people living in same-sex households in protective states versus nonprotective states. Finally, as said before, sexual orientation discrimination should be considered in respect to its intersections with gender and gender identity as well as race.

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## **APPENDIX**

Table A1: Dataset descriptions.

DATASET	SAMPLING RATIO
2000 5%1	5.00%
<b>2001 ACS</b>	0.43%
<b>2002 ACS</b>	0.38%
<b>2003 ACS</b>	0.42%
<b>2004 ACS</b>	0.42%
<b>2005 ACS</b>	1.00%
<b>2006 ACS</b>	1.00%
<b>2007 ACS</b>	1.00%
2008 ACS	1.00%
<b>2009 ACS</b>	1.00%
<b>2010 ACS</b>	1.00%
<b>2011 ACS</b>	1.00%
<b>2012 ACS</b>	1.00%
<b>2013 ACS</b>	1.00%
<b>2014 ACS</b>	1.00%
<b>2015 ACS</b>	1.00%
<b>2016 ACS</b>	1.00%

**Table A2**: Total same-sex couples in sample vs census in 2010.8  $\%\Delta = \frac{sample-census}{sample}$ 

Sample = (Total same-sex households) · 100 Total Same-Sex Couples in Sample vs. Census

STATE	SAMPLE	CENSUS	% ∆
MARYLAND	12,400	12,538	-1.1%
<b>NEW YORK</b>	47,600	48,932	-2.7%
<b>NEW MEXICO</b>	6,200	5,825	6.4%
ILLINOIS	22,900	23,049	-0.6%
MAINE	4,400	3,958	11.2%
WASHINGTON	17,100	19,003	-10.0%
COLORADO	12,300	12,424	-1.0%
IOWA	4,200	4,093	2.6%
OREGON	10,100	11,773	-14.2%
DELAWARE	3,100	2,645	17.2%

= (Total same-sex households) · 100

opulation is US Census Bureau's state-level preferred estimates for sameopulation is US Census Bureau's state-level preferred estimates for sameopulation is US Census Bureau's state-level preferred estimates for sameopulation is US Census Bureau's state-level preferred estimates and fust same population is US Census Bureau's state-level
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s a same-sex couple.

iple-census

**Table A3:** Test for robustness – New Mexico and Colorado with Colorado "faked."

## Testing the Reform Variable -- NM and CO (2000-2007)

			Dependent var	riable:		
-	log(Persona	al INCOME)	•	NCOME)	Unemp	loyment
	0	OLS	0	PLS	log	istic
	NM	CO	NM	CO	NM	CO
	(1)	(2)	(3)	(4)	(5)	(6)
(Intercept)	6.125***	6.491***	10.507***	10.760***	0.146	0.325***
	(0.076)	(0.043)	(0.032)	(0.020)	(0.143)	(0.098)
Same Sex HH	-0.294**	-0.405***	-0.178***	-0.084***	0.237	$0.370^{**}$
	(0.133)	(0.071)	(0.056)	(0.032)	(0.263)	(0.182)
Sex (female)	-0.801***	-0.752***	0.044***	$0.040^{***}$	0.069	0.112***
	(0.021)	(0.011)	(0.009)	(0.005)	(0.044)	(0.034)
Age	0.151***	0.139***	0.005***	0.010***	-0.100***	-0.112***
	(0.003)	(0.002)	(0.001)	(0.001)	(0.007)	(0.005)
Age squared	-0.001***	-0.001***	-0.00002	-0.0001***	0.001***	0.001***
	(0.00004)	(0.00002)	(0.00002)	(0.00001)	(0.0001)	(0.0001)
Black	-0.114	-0.105***	-0.166***	-0.160***	0.454***	0.783***
	(0.072)	(0.030)	(0.030)	(0.013)	(0.146)	(0.064)
Am. Indian / Alaska Native	-0.315***	-0.173***	-0.232***	-0.195***	0.900***	0.613***
	(0.032)	(0.048)	(0.014)	(0.022)	(0.056)	(0.103)
Asian or Pacific Islander	-0.118	-0.109***	0.035	-0.087***	0.083	0.396***
	(0.072)	(0.029)	(0.030)	(0.013)	(0.181)	(0.076)
Other Race	-0.002	-0.035*	-0.032***	-0.045***	0.173***	0.213***
	(0.024)	(0.020)	(0.010)	(0.009)	(0.049)	(0.048)
Hispanic or Latinx	-0.009	-0.112***	-0.140***	-0.219***	$0.100^{**}$	0.170***
	(0.021)	(0.016)	(0.009)	(0.007)	(0.046)	(0.040)
Highschool	0.572***	0.676***	0.196***	0.051***	-0.549***	-0.428***
	(0.026)	(0.017)	(0.011)	(800.0)	(0.046)	(0.037)
Some College	0.770***	0.862***	0.310***	0.158***	-0.909***	-0.713***
	(0.027)	(0.017)	(0.011)	(800.0)	(0.052)	(0.041)
Associates Degree	0.948***	0.926***	0.398***	0.197***	-1.034***	-0.772***
	(0.038)	(0.022)	(0.016)	(0.010)	(0.090)	(0.060)
Bachelor's Degree	1.110***	1.202***	0.559***	0.396***	-1.202***	-1.028***
	(0.031)	(0.018)	(0.013)	(0.008)	(0.076)	(0.047)
Master's Degree	1.334***	1.368***	0.721***	0.526***	-1.480***	-1.008***
-	(0.038)	(0.021)	(0.016)	(0.010)	(0.121)	(0.066)
Professional Degree	1.658***	1.668***	1.002***	0.776***	-1.332***	-1.758***
	(0.064)	(0.032)	(0.027)	(0.015)	(0.215)	(0.163)
Doctoral Degree	1.605*** (0.065)	1.566*** (0.041)	0.937*** (0.027)	0.684*** (0.019)	-1.462*** (0.242)	-1.266*** (0.172)
	(0.003)	(0.071)	(0.021)	(0.01)	(0.272)	(0.172)

Table A3 (continued)

Unemployment	-2.760***	-2.609***	-0.327***	-0.273***		
	(0.035)	(0.022)	(0.015)	(0.010)		
Post Reform	-0.019	0.034	0.155***	0.116***	-0.352***	-0.374***
	(0.046)	(0.026)	(0.020)	(0.012)	(0.108)	(0.068)
2000	-0.385***	-0.256***	-0.136***	-0.116***	-0.034	-0.752***
	(0.038)	(0.022)	(0.016)	(0.010)	(0.084)	(0.056)
2001	-0.134***	-0.004	-0.080***	-0.044***	-0.149	-0.394***
	(0.050)	(0.031)	(0.021)	(0.014)	(0.114)	(0.081)
2002	0.013	0.020	-0.014	-0.015	0.069	-0.100
	(0.053)	(0.031)	(0.022)	(0.014)	(0.115)	(0.077)
2003						
2004	-0.083*	-0.085***	-0.133***	-0.090***	0.435***	0.284***
	(0.044)	(0.025)	(0.019)	(0.011)	(0.098)	(0.065)
2005	-0.058	-0.125***	-0.099***	-0.091***	0.239***	0.185***
	(0.035)	(0.018)	(0.015)	(800.0)	(0.084)	(0.050)
2006	-0.021	-0.054***	-0.027*	-0.040***	$0.170^{**}$	-0.003
	(0.035)	(0.018)	(0.015)	(800.0)	(0.085)	(0.052)
2007						
Same Sex HH*Female	0.800***	0.766***	0.027	-0.037	-0.406	-0.328
	(0.183)	(0.098)	(0.077)	(0.044)	(0.395)	(0.277)
Same Sex HH*Reform	0.176	0.227**	0.218**	0.135***	-0.041	-0.360
	(0.205)	(0.111)	(0.087)	(0.050)	(0.442)	(0.311)
Female*Reform	0.224***	$0.092^{***}$	-0.002	-0.019**	0.201***	0.032
	(0.034)	(0.018)	(0.014)	(0.008)	(0.076)	(0.052)
Same Sex HH*Reform*Female	-0.477*	-0.388**	-0.217*	-0.098	0.173	0.342
	(0.280)	(0.155)	(0.118)	(0.070)	(0.638)	(0.437)
Observations	59,116	161,367	59,116	161,367	59,116	161,367
$\mathbb{R}^2$	0.268	0.252	0.148	0.107		
Adjusted R <sup>2</sup>	0.268	0.252	0.147	0.107		
Akaike Inf. Crit.					24,628.100	51,894.960
F Statistic		1,943.547*** (df = 28; 161338)				

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table A4:** Test for robustness – Maryland and Delaware with Delaware "faked."

Testing the Reform Variable -- MD and DE (2000-2009)

			Dependent var			
-	log(Personal	l INCOME)	log(HH I		Unemp	loyment
	Ol		O.		logi	•
	MD	DE	MD	DE	MD	DE
	(1)	(2)	(3)	(4)	(5)	(6)
(Intercept)	6.347***	6.420***	10.997***	10.834***	-0.207**	-0.360**
	(0.033)	(0.066)	(0.014)	(0.029)	(0.090)	(0.174)
Same Sex HH	-0.168**	-0.208	0.039	$0.117^{*}$	0.554***	0.163
	(0.066)	(0.149)	(0.029)	(0.065)	(0.186)	(0.523)
Sex (female)	-0.613***	-0.618***	0.031***	0.036***	0.088**	0.040
	(0.010)	(0.023)	(0.004)	(0.010)	(0.035)	(0.084)
Age	0.146***	0.144***	-0.001**	0.005***	-0.107***	-0.110***
	(0.001)	(0.003)	(0.001)	(0.001)	(0.004)	(800.0)
Age squared	-0.001***	-0.001***	0.00004***	-0.00005***	0.001***	0.001***
	(0.00002)	(0.00003)	(0.00001)	(0.00002)	(0.00005)	(0.0001)
Black	-0.102***	-0.201***	-0.107***	-0.179***	0.805***	0.722***
	(0.009)	(0.022)	(0.004)	(0.010)	(0.024)	(0.059)
Am. Indian / Alaska Native	-0.118*	-0.320***	-0.038	-0.417***	0.568***	0.104
	(0.062)	(0.118)	(0.027)	(0.052)	(0.162)	(0.368)
Asian or Pacific Islander	-0.314***	-0.247***	-0.129***	-0.134***	0.381***	0.492***
	(0.015)	(0.044)	(0.006)	(0.019)	(0.050)	(0.141)
Other Race	-0.076***	-0.106**	-0.071***	-0.150***	$0.292^{***}$	$0.241^{*}$
	(0.021)	(0.051)	(0.009)	(0.022)	(0.058)	(0.139)
Hispanic or Latinx	-0.124***	-0.095**	-0.110***	-0.207***	$0.097^{*}$	0.046
	(0.018)	(0.043)	(800.0)	(0.019)	(0.051)	(0.117)
Highschool	0.597***	0.606***	0.083***	0.121***	-0.488***	-0.382***
	(0.013)	(0.026)	(0.005)	(0.011)	(0.030)	(0.066)
Some College	$0.806^{***}$	0.748***	0.243***	0.240***	-0.898***	-0.727***
	(0.013)	(0.027)	(0.006)	(0.012)	(0.034)	(0.075)
Associates Degree	$0.907^{***}$	0.878***	0.287***	0.325***	-1.090***	-0.964***
	(0.017)	(0.034)	(0.007)	(0.015)	(0.057)	(0.118)
Bachelor's Degree	1.181***	1.150***	$0.486^{***}$	0.491***	-1.193***	-1.121***
	(0.013)	(0.028)	(0.006)	(0.012)	(0.039)	(0.091)
Master's Degree	1.347***	1.289***	0.614***	0.625***	-1.320***	-1.334***
	(0.015)	(0.034)	(0.006)	(0.015)	(0.054)	(0.136)
Professional Degree	1.702***	1.619***	0.908***	0.889***	-1.520***	-1.360***
	(0.020)	(0.053)	(0.009)	(0.023)	(0.093)	(0.246)
Doctoral Degree	1.488***	1.534***	$0.709^{***}$	0.840***	-1.482***	-1.548***
	(0.023)	(0.059)	(0.010)	(0.026)	(0.110)	(0.299)

Table A4 (continued)

Unemployment	-3.200***	-2.553***	-0.339***	-0.303***		
	(0.017)	(0.035)	(0.007)	(0.015)		
Post Reform	0.119***	$0.072^{*}$	0.275***	0.196***	0.635***	0.828***
	(0.021)	(0.039)	(0.009)	(0.017)	(0.067)	(0.121)
2000	-0.200***	-0.186***	-0.041***	-0.075***	-0.198***	-0.179*
	(0.018)	(0.028)	(0.008)	(0.012)	(0.060)	(0.099)
2001						
2002	-0.148***	-0.035	-0.249***	-0.144***	-0.344***	-0.493***
	(0.021)	(0.036)	(0.009)	(0.016)	(0.061)	(0.104)
2003	-0.153***	-0.059*	-0.207***	-0.113***	-0.303***	-0.396***
	(0.020)	(0.036)	(0.009)	(0.016)	(0.057)	(0.101)
2004	-0.143***	-0.070*	-0.181***	-0.122***	-0.414***	-0.365***
	(0.020)	(0.036)	(0.009)	(0.016)	(0.060)	(0.101)
2005	-0.082***	-0.056	-0.119***	-0.089***	-0.505***	-0.550***
	(0.015)	(0.038)	(0.007)	(0.017)	(0.046)	(0.113)
2006	-0.050***	-0.006	-0.083***	-0.053***	-0.569***	-0.555***
	(0.015)	(0.038)	(0.007)	(0.017)	(0.047)	(0.114)
2007	-0.014	-0.033	-0.019***	-0.027*	-0.460***	-0.605***
	(0.015)	(0.038)	(0.007)	(0.017)	(0.045)	(0.114)
2008	-0.010	0.023	-0.008	0.013	-0.565***	-0.412***
	(0.015)	(0.038)	(0.007)	(0.017)	(0.046)	(0.109)
2009						
Same Sex	0.374***	0.706***	-0.179***	-0.209**	-0.617**	0.326
HH*Female						
C C	(0.091)	(0.217)	(0.039)	(0.095)	(0.294)	(0.706)
Same Sex HH*Reform	-0.031	-0.024	-0.001	-0.065	-0.081	-0.274
	(0.088)	(0.182)	(0.038)	(0.080)	(0.245)	(0.653)
Female*Reform	0.067***	$0.048^{*}$	-0.014**	-0.038***	-0.073*	-0.124
	(0.013)	(0.029)	(0.006)	(0.013)	(0.044)	(0.102)
Same Sex HH*Reform*Female	0.107	-0.177	0.039	0.080	0.157	0.048
	(0.121)	(0.268)	(0.052)	(0.118)	(0.379)	(0.888)
Observations	239,793	43,963	239,793	43,963	239,793	43,963
$R^2$	0.317	0.300	0.166	0.157		
Adjusted R <sup>2</sup>	0.317	0.300	0.166	0.156		
Akaike Inf. Crit.					73,853.770	15,229.260
	3,717.771***	628.775***	1,591.896***	272 000***	,	•
F Statistic	(df = 30; 239762)	(df = 30; 43932)	(df = 30; 239762)	272.098*** (df = 30; 43932)		
Note:				*p<0	.1; **p<0.05	5; ***p<0.01

**Table A5:** Expanded female regression including state and year dummies.

Partnered Females Aged 16 and Above in 10 States 2000-2016

					ependent varia	wie:			
•	lo	g(Personal Inco	ome)	log	(Household Ir	ncome)	J	Jnemployme	nt
		OLS			OLS			logistic	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(Intercept)	9.960***	8.518***	8.517***	11.270***	9.241***	9.241***	-3.093***	620***	620***
	(.002)	(.019)	(.019)	(.001)	(800.)	(800.)	(.004)	(.052)	(.052)
Same Sex HH	.386***	.279***	.324***	015***	088***	100***	.013	.055*	.103*
	(.012)	(.011)	(.018)	(.005)	(.005)	(800.)	(.032)	(.033)	(.055)
Age		.040***	.040***		.074***	.074***		065***	065***
		(.001)	(.001)		(.0003)	(.0003)		(.002)	(.002)
Age squared		0003***	0003***		001***	001***		.0005***	.0005***
		(.00001)	(.00001)		(0.00000)	(0.00000)		(.00002)	(.00002)
Black		.104***	.104***		141***	141***		.595***	.595***
		(.006)	(.006)		(.002)	(.002)		(.014)	(.014)
Am. Indian / Alaska Native		052***	052***		221***	220***		.670***	.670***
		(.016)	(.016)		(.007)	(.007)		(.034)	(.034)
Asian or Pacific Islander		100***	100***		042***	042***		.305***	.305***
		(.006)	(.006)		(.003)	(.003)		(.017)	(.017)
Other Race		079***	079***		074***	074***		.244***	.244***
		(.007)	(.007)		(.003)	(.003)		(.018)	(.018)
Hispanic or Latinx		096***	096***		058***	058***		.297***	.297***
		(.006)	(.006)		(.003)	(.003)		(.015)	(.015)
Highschool		.384***	.384***		.223***	.223***		578***	578***
		(.006)	(.006)		(.003)	(.003)		(.014)	(.014)
Some College		.572***	.572***		.365***	.365***		774***	774***
		(.006)	(.006)		(.003)	(.003)		(.014)	(.014)
Associates Degree		.719***	.719***		.447***	.447***		-1.091***	-1.091***
		(.007)	(.007)		(.003)	(.003)		(.018)	(.018)
Bachelor's Degree		.971***	.971***		.689***	.689***		-1.226***	-1.226***
		(.006)	(.006)		(.003)	(.003)		(.015)	(.015)
Master's Degree		1.218***	1.218***		.821***	.821***		-1.463***	-1.463***
		(.007)	(.007)		(.003)	(.003)		(.019)	(.019)
Professional Degree		1.551***	1.551***		1.100***	1.100***		-1.572***	-1.572***
		(.010)	(.010)		(.004)	(.004)		(.038)	(.038)
Doctoral Degree		1.477***	1.477***		1.014***	1.014***		-1.658***	-1.658***
		(.013)	(.013)		(.005)	(.005)		(.053)	(.053)
Unemployment		-3.688***	-3.688***		503***	503***			
		(.007)	(.007)		(.003)	(.003)			
Post Reform		.007	.008		002	002		098***	096***
		(.007)	(.007)		(.003)	(.003)		(.020)	(.020)
2000		534***	534***		342***	342***		183***	183***
		(.009)	(.009)		(.004)	(.004)		(.029)	(.029)
2001		267***	267***		280***	280***		023	023
		(.012)	(.012)		(.005)	(.005)		(.040)	(.040)
2002		224***	225***		264***	264***		.254***	.254***
		(.012)	(.012)		(.005)	(.005)		(.038)	(.038)
2003		219***	219***		250***	250***		.263***	.262***
		(.011)	(.011)		(.005)	(.005)		(.035)	(.035)
2004		213***	213***		225***	225***		.278***	.277***
		(.011)	(.011)		(.005)	(.005)		(.035)	(.035)

Table A5 (continued)

2005		206***	207***		223***	223***		.197***	.197***
		(.009)	(.009)		(.004)	(.004)		(.029)	(.029)
2006		177***	177***		186***	186***		.114***	.114***
		(800.)	(800.)		(.004)	(.004)		(.027)	(.027)
2007		144***	144***		147***	147***		.054**	.054**
		(.008)	(.008)		(.003)	(.003)		(.027)	(.027)
2008		118***	118***		119***	119***		.003	.003
		(.008)	(.008)		(.003)	(.003)		(.027)	(.027)
2009		080***	080***		119***	119***		.525***	.525***
		(.008)	(.008)		(.003)	(.003)		(.025)	(.025)
2010		083***	083***		141***	141***		.663***	.663***
		(800.)	(800.)		(.003)	(.003)		(.024)	(.024)
2011		100***	100***		142***	142***		.654***	.654***
		(.008)	(.008)		(.003)	(.003)		(.024)	(.024)
2012		101***	101***		118***	118***		.543***	.543***
		(.008)	(800.)		(.003)	(.003)		(.025)	(.025)
2013		081***	081***		088***	088***		.430***	.429***
		(.008)	(.008)		(.003)	(.003)		(.025)	(.025)
2014		073***	073***		070***	070***		.246***	.246***
		(.008)	(.008)		(.003)	(.003)		(.026)	(.026)
2015		045***	045***		034***	034***		.093***	.093***
		(.008)	(.008)		(.003)	(.003)		(.027)	(.027)
2016									
Colorado		033***	033***		009***	009***		156***	156***
		(.006)	(.006)		(.003)	(.003)		(.018)	(.018)
Ilinois		.114***	.114***		.057***	.057***		225***	225***
		(.011)	(.011)		(.005)	(.005)		(.034)	(.034)
lowa		018***	018***		.010***	.010***		029**	029**
		(.005)	(.005)		(.002)	(.002)		(.014)	(.014)
Maine		085***	085***		153***	153***		538***	538***
		(.007)	(.007)		(.003)	(.003)		(.023)	(.023)
Maryland		117***	117***		209***	209***		150***	150***
•		(.009)	(.009)		(.004)	(.004)		(.029)	(.029)
New Mexico		.157***	.157***		.176***	.176***		286***	286***
		(.006)	(.006)		(.003)	(.003)		(.019)	(.019)
New York		140***	140***		157***	157***		128***	128***
		(.009)	(.009)		(.004)	(.004)		(.026)	(.026)
Oregon		.041***	.041***		.039***	.039***		020	020
		(.005)	(.005)		(.002)	(.002)		(.014)	(.014)
Washington		082***	082***		116***	116***		.071***	.071***
D 1		(.007)	(.007)		(.003)	(.003)		(.019)	(.019)
Delaware									
Same Sex HH*Reform			069***			.020**			074
			(.023)			(.010)			(.068)
Observations	1,548,464	1,548,464	1,548,464	1,548,464	1,548,464	1,548,464	1,548,464	1,548,464	1,548,464
$R^2$	.001	.238	.238	.00001	.237	.237			
Adjusted R <sup>2</sup>	.001	.238	.238	0.00000	.237	.237			
Akaike Inf.							EE2 047 000	EOT 404 TOO	507.405.60
							<i>3</i> 33,047.900	527,404.700	321,405.60
rit.									
Crit. F Statistic	957.387*** (df = 1;	$11,507.140^{***}$ (df = 42;	$11,239.810^{**}$ (df = 43;	* 7.844*** (df = 1;	11,482.550*** (df = 42;	11,215.630*** (df = 43;	•		

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

 Table A6: Expanded male regression including state and year dummies.

Partnered Males Aged 16 and Above in 10 States 2000-2016

		Pari	mered Males		Above in 10 S pendent variab		10		
	lo	g(Personal Inc	ome)		(Household Inc		1	Unemployme	nt
	10	g(i cisoliai ilic OLS	onic)	log	OLS	onic)	,	logistic	iit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(Intercept)	10.653***	8.883***	8.884***	11.246***	9.351***	9.352***	-3.178***	-1.667***	-1.666***
_	(0.001)	(0.014)	(0.014)	(0.001)	(0.008)	(800.0)	(0.004)	(0.050)	(0.050)
Same Sex HH	-0.169***	-0.255***	-0.337***	0.196***	0.114***	0.069***	0.162***	0.297***	0.260***
	(0.010)	(0.009)	(0.015)	(0.006)	(0.005)	(0.009)	(0.032)	(0.032)	(0.056)
Age		0.058***	0.058***		0.066***	0.066***		-0.048***	-0.048***
		(0.001)	(0.001)		(0.0003)	(0.0003)		(0.002)	(0.002)
Age squared		-0.001***	-0.001***		-0.001***	-0.001***		0.0005***	0.0005***
		(0.00001)	(0.00001)		(0.00000)	(0.00000)		(0.00002)	(0.00002)
Black		-0.391***	-0.391***		-0.115***	-0.115***		0.727***	0.727***
Am. Indian /		(0.004)	(0.004)		(0.002)	(0.002)		(0.013)	(0.013)
Alaska Native		-0.346***	-0.346***		-0.199***	-0.199***		0.842***	0.842***
		(0.012)	(0.012)		(0.007)	(0.007)		(0.031)	(0.031)
Asian or Pacific Islander		-0.301***	-0.301***		-0.188***	-0.188***		0.135***	0.135***
		(0.005)	(0.005)		(0.003)	(0.003)		(0.019)	(0.019)
Other Race		-0.150***	-0.150***		-0.092***	-0.092***		0.207***	0.207***
		(0.005)	(0.005)		(0.003)	(0.003)		(0.018)	(0.018)
Hispanic or Latinx		-0.131***	-0.131***		-0.122***	-0.122***		-0.053***	-0.053***
		(0.004)	(0.004)		(0.002)	(0.002)		(0.015)	(0.015)
Highschool		0.290***	0.290***		0.213***	0.213***		-0.466***	-0.466***
		(0.004)	(0.004)		(0.002)	(0.002)		(0.012)	(0.012)
Some College		0.472***	0.472***		0.380***	0.380***		-0.680***	-0.680***
		(0.004)	(0.004)		(0.002)	(0.002)		(0.013)	(0.013)
Associates Degree		0.523***	0.523***		0.421***	0.421***		-0.890***	-0.890***
D 1 1 1		(0.005)	(0.005)		(0.003)	(0.003)		(0.017)	(0.017)
Bachelor's Degree		0.861***	0.861***		0.704***	0.704***		-1.159***	-1.160***
		(0.004)	(0.004)		(0.002)	(0.002)		(0.014)	(0.014)
Master's Degree		1.027***	1.026***		0.828***	0.828***		-1.263***	-1.263***
		(0.005)	(0.005)		(0.003)	(0.003)		(0.019)	(0.019)
Professional Degree		1.451***	1.451***		1.183***	1.183***		-1.970***	-1.970***
		(0.006)	(0.006)		(0.004)	(0.004)		(0.037)	(0.037)
Doctoral Degree		1.165***	1.164***		0.938***	0.938***		-1.674***	-1.674***
		(0.007)	(0.007)		(0.004)	(0.004)		(0.042)	(0.042)
Unemployment		-2.327***	-2.327***		-0.609***	-0.609***			
		(0.005)	(0.005)		(0.003)	(0.003)			
Post Reform		0.017***	0.016***		-0.0001	-0.001		-0.010	-0.011
		(0.005)	(0.005)		(0.003)	(0.003)		(0.020)	(0.020)
2000		-0.333***	-0.333***		-0.389***	-0.389***		0.018	0.018
2001		(0.007)	(0.007)		(0.004)	(0.004)		(0.029)	(0.029)
2001		-0.201*** (0.009)	-0.201*** (0.009)		-0.324*** (0.005)	-0.324*** (0.005)		0.147*** (0.039)	0.147*** (0.039)
2002		-0.169***	-0.169***		-0.294***	-0.294***		0.496***	0.496***
2002		(0.009)	(0.009)		(0.005)	(0.005)		(0.036)	(0.036)
2003		-0.184***	-0.184***		-0.287***	-0.287***		0.494***	0.494***
		(0.008)	(0.008)		(0.005)	(0.005)		(0.033)	(0.033)
2004		-0.177***	-0.177***		-0.266***	-0.266***		0.396***	0.396***
		(800.0)	(800.0)		(0.005)	(0.005)		(0.033)	(0.033)

Table A6 (continued)

2005		-0.160***	-0.160***		-0.246***	-0.246***		0.236***	0.236***
		(0.007)	(0.007)		(0.004)	(0.004)		(0.028)	(0.028)
2006		-0.128***	-0.128***		-0.208***	-0.208***		$0.051^*$	$0.051^{*}$
		(0.006)	(0.006)		(0.004)	(0.004)		(0.027)	(0.027)
007		-0.097***	-0.096***		-0.168***	-0.168***		$0.089^{***}$	0.089***
		(0.006)	(0.006)		(0.003)	(0.003)		(0.026)	(0.026)
2008		-0.088***	-0.087***		-0.140***	-0.140***		0.053**	0.053**
		(0.006)	(0.006)		(0.003)	(0.003)		(0.026)	(0.026)
2009		-0.059***	-0.059***		-0.128***	-0.128***		$0.750^{***}$	0.750***
		(0.006)	(0.006)		(0.003)	(0.003)		(0.023)	(0.023)
010		-0.122***	-0.122***		-0.152***	-0.152***		0.892***	0.892***
		(0.006)	(0.006)		(0.003)	(0.003)		(0.023)	(0.023)
011		-0.140***	-0.140***		-0.152***	-0.152***		0.757***	0.757***
		(0.006)	(0.006)		(0.003)	(0.003)		(0.023)	(0.023)
012		-0.115***	-0.115***		-0.126***	-0.126***		0.628***	0.628***
		(0.006)	(0.006)		(0.003)	(0.003)		(0.024)	(0.024)
2013		-0.085***	-0.085***		-0.095***	-0.095***		0.491***	0.491***
		(0.006)	(0.006)		(0.003)	(0.003)		(0.024)	(0.024)
2014		-0.073***	-0.073***		-0.075***	-0.075***		0.262***	0.262**
		(0.006)	(0.006)		(0.003)	(0.003)		(0.025)	(0.025)
2015		-0.033***	-0.033***		-0.033***	-0.033***		0.094***	0.094***
		(0.006)	(0.006)		(0.003)	(0.003)		(0.026)	(0.026)
2016		, ,	,		,	,		,	, ,
Colorado		-0.048***	-0.048***		-0.010***	-0.010***		-0.197***	-0.197**
Solorado		(0.004)	(0.004)		(0.003)	(0.003)		(0.018)	(0.018)
llinois		0.037***	0.037***		0.077***	0.077***		-0.275***	-0.275**
miois		(0.008)	(0.008)		(0.005)	(0.005)		(0.033)	(0.033)
owa		0.008**	0.008**		0.033***	0.033***		0.026*	0.026*
Owa		(0.004)	(0.004)		(0.002)	(0.002)		(0.014)	(0.014)
Maine		-0.187***	-0.187***		-0.124***	-0.125***		-0.506***	-0.506**
viaine			(0.005)		(0.003)			(0.022)	
Nouvilou d		(0.005) -0.233***	-0.233***		-0.180***	(0.003) -0.180***		-0.084***	(0.022) -0.084**
Maryland									
		(0.007)	(0.007)		(0.004)	(0.004)		(0.027)	(0.027)
New Mexico		0.115***	0.115***		0.177***	0.177***		-0.439***	-0.439**
		(0.004)	(0.004)		(0.003)	(0.003)		(0.018)	(0.018)
New York		-0.171***	-0.171***		-0.148***	-0.148***		-0.095***	-0.095**
		(0.007)	(0.007)		(0.004)	(0.004)		(0.025)	(0.025)
Oregon		-0.013***	-0.013***		0.060***	0.060***		-0.031**	-0.031**
		(0.003)	(0.003)		(0.002)	(0.002)		(0.013)	(0.013)
Vashington		-0.148***	-0.148***		-0.114***	-0.114***		0.173***	0.173***
		(0.005)	(0.005)		(0.003)	(0.003)		(0.017)	(0.017)
Delaware									
Same Sex			0.128***			0.071***			0.056
HH*Reform			(0.019)			(0.011)			(0.068)
N1 4'	1.045.670	1.045.670		1.045.670	1.045.670		1.045.670	1.045.670	
Observations	1,845,672	1,845,672	1,845,672	1,845,672	1,845,672	1,845,672	1,845,672	1,845,672	1,845,67
$\mathcal{E}^2$	0.0002	0.208	0.208	0.001	0.240	0.240			
Adjusted R <sup>2</sup> Akaike Inf. Crit.	0.0002	0.208	0.208	0.001	0.240	0.240	620,961.800	594,698.500	594,699.8
.11l.	284 522***	11 510 070***	11,252.390***	1 007 050***	12 057 070***	12 526 010***			
F Statistic	284.523 (df = 1;	(df = 42;	11,252.390 (df = 43;	1,097.858 (df = 1;	13,857.870 (df = 42;	13,536.910 (df = 43;			
	1845670)	(df = 42, 1845629)	(df = 43, 1845628)	1845670)	1845629)	1845628)			

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Table A7: Condensed Models 1 through 3 by State. Males and Females in CO 2000-2016 (Reform in 2007)

									Dependent variable:	ariable:								
			log(Person	log(Personal Income)					log(Housek	log(Household Income)					Unemployment	oyment		
			0	STO					0	STO					logistic	stic		
		Female			Male			Female			Male			Female			Male	
	(1)	(2)	(3)	(4)	(5)	(9)	(7)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept)	9.948***	8.149***	8.149***	10.692***	8.715***	8.716***	11.277***	9.024***	9.024***	11.253***	9.108***	9.109***	-3.167***	-1.205***	-1.206***	-3.366***	-2.256***	-2.258***
	(.005)	(.060)	(.060)	(.003)	(.041)	(.041)	(.002)		(.025)	(.002)	(.025)	(.025)	(.014)	(.164)				(.163)
Same Sex HH	.403***	.294***	.345***	316***	305***	340***	035**	105***	101***	.055***	.058***	700.	076	027	.030	.224*	.300**	.367**
	(.039)	(.035)	(.052)	(.033)	(.030)	(.042)	(.016)	(.015)	(.022)	(.020)	(.018)	(.025)	(.110)	(.111)	(.175)	(.118)	(.119)	(.175)
Same Sex HH*Reform			093			.072			007			.101***			095			123
			(.071)			(.060)			(.029)			(.036)			(.227)			(.238)
Observations 132,873	s 132,873	132,873	132,873	132,873 161,887 161,887	161,887	161,887	161,887 132,873	132,873	132,873	132,873 161,887	161,887	161,887	132,873	132,873	132,873	132,873 132,873 161,887 161,887	161,887	161,887
$\mathbb{R}^2$	.001	.207	.207	.001	.178	.178	.00003	.204	204	50000	215	.215						
Adjusted R <sup>2</sup>	.001	.207	.207	.001	.178	.178	.00003	.204	204	.00004	215	.215						
Akaike Inf. Crit.													$44,958.160\ 43,227.910\ 43,229.740\ 47,465.000\ 45,903.680\ 45,905.410$	43,227.910	43,229.740	47,465.000	45,903.680	45,905.410
F Statistic	105.183*** (df = 1; 132871)	105.183**** 1,086.309**** 1,053.449**** 92.905**** 1,097.193**** 1,063.992****       (df = 1;     (df = 32;     (df = 33;     (df = 33;     (df = 33;       132871)     132840)     132839)     161885)     161854)     161853)	1,053.449*** (df = 33; 132839)	** 92.905*** (df = 1; 161885)	1,097.193*** (df = 32; 161854)	1,063.992*** (df = 33; 161853)		1,064.300*** (df = 32; 132840)	4.506** 1,064.300*** 1,032.043*** 7,397*** 1,388.497*** 1,346.720*** (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (132871) 132840) 132839) 161885) 161885) 161854) 161853)	' 7.397*** 1 (df = 1; 161885)	,388.497*** (df = 32; 161854)	1,346.720*** (df = 33; 161853)						
Note:									ļ.m.O	Poliode	) soithaeanom	P<0.1; *** p<0.05; *** p<0.01	lethnicity ed	te leuciteon	re tueminett	p<0.	p<0.1; ** p<0.05; *** p<0.01	*** p<0.01

Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment), Year dummies.

Males and Females in Delaware 2000-2016 (Reform in 2009)

									Dependent variable:	variable:								
			log(Persor	log(Personal Income) OLS					log(Household Income) OLS	ehold Income					Unemployment logistic	oyment stic		
		Female			Male			Female			Male			Female			Male	
	(1)	(2)	(3)	(4)	(5)	9)	(7)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept) 10.078*** 8.497***	10.078***	8.497***	8.498***	8.498*** 10.687*** 8.783***		8.783***	11.302***	9.210***	9.210***	11.281***	9.354***	9.355***	-3.179***	560	556	-3.280***	-1.046***	-1.046***
	(.010)	(.010) (.123)	(.123)	(.123) (.008) (.088)	(.088)	(.088)	(.004)	(.053)	(.053)	(.004)	(.049)	(.049)	(.032)	(.370)	(.370)	(.031)	(.353)	(.353)
Same Sex HH	.453***	.332***	.412***	059	211***	269***	.020	**070	074*	.240***	.100***	.082**	069	.040	.344	.224	.377*	.202
	(.084)	(.074)	(.095)	(.061)	(.055)	(.070)	(.036)	(.032)	(.041)	(.035)	(.030)	(.039)	(.265)	(.267)	(.314)	(.225)	(.229)	(.327)
Same Sex HH*Reform			203			.146			.011			.045			853			.373
			(.151)			(.112)			(.065)			(.062)			(009.)			(.458)
Observations 25,999	25,999	25,999	25,999	30,321	30,321	30,321	25,999	25,999	25,999	30,321	30,321	30,321	25,999	25,999	25,999	30,321	30,321	30,321
$\mathbb{R}^2$	.001	.232	.232	.00003	.200	.200	.00001	.234	.234	.002	.252	.252						
Adjusted R <sup>2</sup>	.001	.231	.231	000003	.199	.199	00003	.233	.233	.002	.251	.251						
Akaike Inf. Crit.													8,724.229	8,458.860	8,458.631	8,724.229 8,458.860 8,458.631 9,485.266 9,131.458 9,132.793	9,131.458	,132.793
F Statistic	28.832*** (df = 1; 25997)	28.832*** 245.596*** 238.216*** (df = 1; (df = 32; (df = 33; 25997) 25966) 25965)	238.216*** (df = 33; 25965)	* .922 (df = 1; 30319)	28.832*** 245.596*** 238.216*** .922 (df 236.246*** 229.144*** (df = 1; (df = 32; (df = 33; = 1; (df = 32; (df = 33; 25997) 25966) 25965) 30319) 30288) 30287)	229.144*** (df = 33; 30287)	.318 (df = 1; 25997)	247.935*** (df = 32; 25966)	(df = 32; (df = 33; (df = 1; (df = 32; 25966) 25965) 30319) 30288)	46.720*** (df = 1; 30319)	M.	308.474*** (df = 33; 30287)						
Note:																*p<0.1;	*p<0.1; ** p<0.05; *** p<0.01	** p<0.01

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01 Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment), Year dummies.

Table A7 (continued)

Males and Females in Iowa 2000-2016 (Reform in 2007)

									Depende	Dependent variable:								
			log(Person	log(Personal Income) OLS					log(Househ	log(Household Income)					Unemployment logistic	loyment stic		
		Female			Male			Female			Male			Female	0		Male	
	(1)	(2)	(3)	(4)	(5)	9)	(7)	(8)	6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept)	9.866***	8.226***	8.226***	8.226*** 10.484***	* 8.942***	8.943***	11.074***	9.132***	9.132***	11.061***	9.238***	9.239***	-3.585***	566***	566***	-3.595***	-1.258***	-1.262***
	(.005)	(.005) (.054)	(.054)	(.054) (.004) (.045)	(.045)	(.045)	(.002)	(.025)	(.025)	(.002)	(.025)	(.025)	(.020)	(.210)	(.210)		(.200)	(.200)
Same Sex HH	.275***	.212***	.241***	375***	344**	250***	072***	***860'-	091	**690	043	.036	.037	023	.025	.285	.265	108
	(.054)	(.049)	(.068)	(.052)	(.048)	(.060)	(.025)	(.022)	(.031)	(.030)	(.027)	(.034)	(.217)	(.220)	(.297)	(.213)	(.215)	(.323)
Same Sex HH*Reform			059			265***			013			220***			103			*608.
			(.098)			(.101)			(.045)			(.056)			(.441)			(.436)
Observations 100,760 100,760	s 100,760	100,760	100,760	100,760 112,534 112,534	112,534	112,534	100,760	100,760	100,760	112,534	112,534	112,534	100,760	100,760	100,760	112,534	112,534	112,534
$\mathbb{R}^2$	.0003	.171	.171	.0005	.130	.130	.0001	.193	.193	.00005	.189	.189						
Adjusted R <sup>2</sup>	.0003	.171	.171	.0005	.130	.130	.0001	.193	.193	.00004	.188	.189						
Akaike Inf. Crit.												•	25,026.920;	24,026.160	24,028.100	25,026.920 24,026.160 24,028.100 27,763.000 26,621,430 26,619.950	26,621.430	26,619.950
F Statistic	$26.351^{***} 6$ (df = 1; 100758)	26.351*** 651.140*** 631.415*** 52.848*** 526.664*** 510.941 (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 31); (df = 32; (df = 32); (df = 32;	631.415***; (df = 33; 100726)	* 52.848*** (df = 1; 112532)	526.664*** (df = 32; 112501)	510.941*** (df = 33; 112500)		8.256*** 752.901*** 730.082*** (df = 1; (df = 32; (df = 33; 100758) 100727) 100726)	730.082*** (df = 33; 100726)	5.385** (df = 1; 112532)	\$17.605***, (df = 32; 112501)	817.605*** 793.393*** (df = 32; (df = 33; 112501)						
M																*	**	**

Note:

 $^*p<0.1;\ ^{**}p<0.05;\ ^{***}p<0.01$  Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment). Year dummies.

Males and Females in Illinois 2000-2016 (Refrom in 2005)

									Depend	Dependent variable:								
			log(Person	log(Personal Income)					log(Housel	log(Household Income)					Unemployment	loyment		
			Ö	STO					0	OTS					logi	logistic		
		Female			Male			Female			Male			Female			Male	
	(E)	(2)	(3)	(4)	(5)	(9)	(7)	(8)	6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept) 9.909***	***606.6	8.387***	8.387***	10.667***	8.619***	8.620***	11.263***	8.988	8.988	11.248***	6.097***	9.097***	-3.035***	***809'-	***809'-	-3.075***	-1.705***	-1.706***
	(.003)	(.039)	(.039)	(.002)	(.028)	(.028)	(.001)	(.016)	(.016)	(.001)	(.016)	(.016)	(.008)	(.101)	(.101)	(.008)	(960.)	(960.)
Same Sex HH	.236***	.239***	.286***	214***	298***	377***	109***	116***	***680'-	.169***	.091	.072***	.274***	.205***	.235*	.072	.201***	.266**
	(.032)	(.028)	(.046)	(.023)	(.021)	(.034)	(.013)	(.012)	(0.019)	(.013)	(.012)	(.020)	(.071)	(.072)	(.122)	(.074)	(.075)	(.126)
Same Sex HH*Reform			075			.125***			043*			.030			045			860'-
			(.058)			(.043)			(.024)			(.024)			(.152)			(.157)
Observations 327,404		327,404	327,404 393,802	393,802	393,802	393,802	327,404	327,404	327,404	393,802	393,802	393,802	327,404	327,404	327,404	393,802	393,802	393,802
$\mathbb{R}^2$	.0002	.249	.249	.0002	215	.215	.0002	.225	.225	.0004	.235	.235						
Adjusted R <sup>2</sup>	.0002	.249	.249	.0002	215	.215	.0002	.225	.225	.0004	.235	.235						
Akaike Inf. Crit.													122,229.400	115,864.200	115,866.100	142,540.100	122,229.400 115,864.200 115,866.100 142,540.100 135,351.700 135,353.300	135,353,300
F Statistic	$53.306^{***}$ 327402)	53.306*** 3,386.288*** 3,283.731*** 84.112**** 3,371.341*** 3,269.496*** (df = 1; (df = 32; (df = 13; (df = 13; (df = 33; (df = 13; (df = 33; (df = 33; 327402) 393769) 393769) 393768)	3,283.731*** (df = 33; 327370)	84.112*** 3 (df = 1; 393800)	3,371.341***; (df = 32; 393769)	3,269.496*** (df = 33; 393768)	67.867*** 2 (df = 1; 327402)	(df = 32; 327371)	2,877.037*** (df = 33; 327370)	(df = 1; 393800)	3,772.983*** (df = 32; 393769)	67.867*** 2.966.826*** 2.877.037*** 1772.983*** 3.772.983*** 3.558.699*** (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; 327371) 327370) 393800) 393769) 393768)						
Note:																*	"p<0.1. ** p<0.05: *** p<0.01	*** p<0.01

ore:

 $^*p<0.05;^{***}p<0.05;^{***}p<0.01$  Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment), Year dummies.

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Males and Females in Maryland 2000-2016 (Reform in 2001)

									Dependent variable:	variable:								
			log(Person	log(Personal Income)					log(Housek	log(Household Income)					Unemployment	oyment		
			<u>ى</u>	OLS					<u>ں</u>	OLS					logistic	stic		
		Female			Male			Female			Male			Female			Male	
	(1)	(2)	(3)	(4)	(5)	(9)	6	(8)	6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept)	10.220***	8.266***	8.265***	10.859***	8.792***	8.792***	11.481***	9.053***	9.053***	11.467***	9.149***	9.148***	-3.293***	981	981***	-3.497***	-2.137***	-2.141***
	(.005)	(.058)	(.058)	(.003)	(.041)	(.041)	(.002)	(.024)	(.024)	(.002)	(.023)	(.023)	(.014)	(.185)	(.185)	(.014)	(.190)	(.190)
Same Sex HH	.356***	.231***	.345***	271***	276***	260***	017	101***	116***	.075***	.046***	.091	047	.017	.036	.502***	.651***	.785***
	(.037)	(.032)	(.065)	(.031)	(.027)	(.054)	(.015)	(.013)	(.027)	(.018)	(.015)	(.030)	(.113)	(.114)	(.257)	(.107)	(.108)	(.218)
Same Sex HH*Reform			150**			023			.020			*090			023			174
			(.074)			(.062)			(.031)			(.035)			(.287)			(.251)
Observations 153,814 153,814	s 153,814	153,814	153,814	153,814 179,080 179,080	179,080	179,080	153,814	153,814	153,814	179,080	179,080	179,080	153,814	153,814	153,814 153,814 153,814 179,080 179,080	179,080	179,080	179,080
$\mathbb{R}^2$	.001	.259	259	.0004	.248	.248	.00001	270	.270	.0001	269	.269						
Adjusted R <sup>2</sup>	.001	.259	259	.0004	.248	248	.000002	270	.270	.0001	269	.269						
Akaike Inf. Crit.													47,478.670 45,504,730 45,506.720 47,760.600 45,381.060 45,382.590	5,504.730	45,506.720	47,760.600	45,381.060	15,382.590
F Statistic	94.724*** ] (df = 1; 153812)	94.724*** 1,682.239**** 1,631.419*** 74.456**** 1,842.493*** 1,786.656*** 1.253 (df 1,781.407*** 1,727.432*** 17.241**** 2,003.074*** 2,000.665*** (df = 3; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1); (df = 32; (df = 33; (df = 1); (df = 32; (df = 33; (df = 1); (df = 32; (df = 33; (df	1,631.419*** (df = 33; 153780)	(df = 1; (179078)	4.456*** 1,842.493*** (df = 1; (df = 32; 179078) 179047)	1,786.656*** (df = 33; 179046)	* 1.253 (df <sub>1</sub> = 1; 153812)	1,781.407*** (df = 32; 153781)	(df = 33; (153780)	17.241*** 2 (df = 1; 179078)	2,063.074*** (df = 32; 179047)	2,000.665*** (df = 33; 179046)						

Note:

 $^*\text{p=}6.0.1; ^{**}\text{p=}6.0.05; ^{***}\text{p=}6.01$  Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment), Year dummies.

## Males and Females in Maine 2000-2016 (Reform in 2005)

									Depende	Dependent variable:	•							
			log(Personal Income)	al Income)					log(Household Income)	old Income					Unemployment	oyment		
			OLS	S					O	OTS					logistic	stic		
		Female			Male			Female			Male			Female			Male	
	(1)	(2)	(3)	(4)	(5)	(9)	(7)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept)	9.823***	8.215***	8.216*** 10.432*** 8.790***	10.432***	8.790***	8.793***	11.043***	9.043***	9.043***	11.018***	9.075***	8.076	-3.253***	861***	855***	-3.190***	828***	828***
	(.008)	(.100)	(.100)	(.100) (.006) (.075)	(.075)	(.075)	(.004)	(.044)	(.044)	(.004)	(.042)	(.042)	(.026)	(306)	(309)	(.024)	(.276)	(.276)
Same Sex HH	.405***	.250***	.207**	154***	206***	391***	.039	067***	**080'-	.125***	.080	600.	019	.107	021	090	800.	.003
	(.063)	(.057)	(680.)	(.058)	(.054)	(.081)	(.028)	(.025)	(.039)	(.034)	(.030)	(.046)	(.205)	(.208)	(.346)	(.235)	(.237)	(365)
Same Sex HH*Reform			.074			.329***			.023			.127**			.208			600.
			(.116)			(.109)			(.051)			(.061)			(.433)			(.480)
Observations 41,051	3, 41,051	41,051	41,051	46,205	46,205	46,205	41,051	41,051	41,051	46,205	46,205	46,205	41,051	41,051	41,051	46,205	46,205	46,205
$\mathbb{R}^2$	.001	.182	.182	.0002	.145	.145	.00005	.199	.199	.0003	204	.204						
Adjusted R <sup>2</sup>	.001	.182	.182	.0001	4.	.145	.00002	.198	.198	.0003	.203	.203						
Akaike Inf. Crit.													13,059.250	12,580.250	12,582.020	15,382.180	13,059.250 12,580.250 12,582.020 15,382.180 14,763.150 14,765.150	4,765.150
F Statistic	41.302*** (df = 1; 41049)	41.302*** 286.137*** 277.474*** 6970*** 244.687*** 237.593*** 2.015 (df 318.551*** 308.898*** 13.579*** 369.129*** 338.101*** (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1); (df = 33; (df = 33; (df = 1); (df = 33; (df = 33; (df = 1); (df = 33; (df	277.474*** (df = 33; 41017)	6.970*** (df = 1; 46203)	244.687*** (df = 32; 46172)	237.593*** (df = 33; 46171)	2.015 (df 3 = 1; 41049)	318.551***; (df = 32; 41018)	308.898*** (df = 33; 41017)	13.579*** (df = 1; 46203)	369.129*** (df = 32; 46172)	358.101*** (df = 33; 46171)						
Note:											;	,				* p<0.	*p<0.1; ** p<0.05; *** p<0.01	*** p<0.01

Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment), Year dummies.

## Table A7 (continued)

# Males and Females in New Mexico 2000-2016 (Reform in 2003)

									$Depend\epsilon$	Dependent variable:								
			log(Personal Income)	al Income)					log(Household Income)	old Income	0				Unemployment	loyment		
			0	OLS					0	OTS					logistic	istic		
		Female			Male			Female			Male			Female			Male	
	(1)	(2)	(3)	(4)	(5)	(9)	(7)	(8)	6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept) 9.677*** 7.676*** 7.671*** 10.371*** 8.678***	**** 279.6	7.676***	7.671***	10.371***		8.681***	11.021***	8.716***	8.716***	8.716*** 10.961***	8.785***	8.788	-2.903***	265	245	-3.053***	-1.461***	-1.464***
	(.010)	(.010) (.115)		(.115) (.007) (.079)		(0.079)	(.004)	(.049)	(.049)	(.004)	(.047)			(.269)	(.269)	(.021)	(.247)	(.248)
Same Sex HH	.528***	.316***	.467***		180***	457***	.041	091	106**	.117***	.041	101	033	.044	569	.077	.206	.439
	(.072)	(.072) (.063)	(.122)	(.122) (.063) (.056)	(.056)	(.104)	(.030)	(.027)	(.052)	(.038)	(.034)	(.062)	(.158)	(.162)	(.393)	(.182)	(.185)	(.295)
Same Sex HH*Reform			206			.271**			.020			.201***			*687:			365
			(.142)			(.123)			(090)			(.074)			(.431)			(379)
Observations 43,238	43,238	43,238	43,238	53,448	53,448	53,448	43,238	43,238	43,238	53,448	53,448	53,448	43,238	43,238	43,238	53,448	53,448	53,448
$\mathbb{R}^2$	.001	.251	.251	.0002	.215	.215	.00004	.241	.241	.0002	.231	.231						
Adjusted R <sup>2</sup>	.001	.250	.250	.0001	.215	.215	.00002	.241	.241	.0002	.231	.231						
Akaike Inf. Crit.													17,674.230	16,570.690	16,568.850	19,657.170	17,674.230 16,570.690 16,568.850 19,657.170 18,695.290 18,696.380	18,696.380
F Statistic	53.586*** (df = 1; 43236)	53.586*** 452.009*** 438.386*** 8.141*** 458.200*** 444.494*** 1.823 (df 429.064*** 416.057*** 9.368*** 501.987*** 487.059*** (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df	438.386*** (df = 33; 43204)	8.141*** (df = 1; 53446)	458.200*** (df = 32; 53415)	444.494*** (df = 33; 53414)	1.823 (df . = 1; 43236)	429.064***, (df = 32; 43205)	416.057*** (df = 33; 43204)	9.368*** (df = 1; 53446)	501.987*** (df = 32; 53415)	487.059*** (df = 33; 53414)						
Note:									Omitted:	Sociodemo	graphics (a	ige, race and	$^*$ p<0.1; $^**$ p<0.05; $^{***}$ p<0.01 Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment), Year dummies.	ducational a	ttainment, a	b>d*	p<0.1; **p<0.05; ***p<0.01 nployment), Year dummies.	*** p<0.01

Males and Females in New York 2000-2016 (Reform in 2002)

									Depende	Dependent variable:								
			log(Personal Income)	al Income)					log(House	log(Household Income)					Unemployment	loyment		
			OTS	S					<u>ى</u>	STO					logistic	stic		
		Female			Male			Female			Male			Female			Male	
	(1)	(2)	(3)	(4)	(5)	(9)	(7)	(8)	6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept)	10.014***	8.459***	8.458***	$10.660^{***}$	8.672***	8.674***	11.322***	9.016***	9.017***	11.290***	9.125***	9.125***	-3.046***	206**	207**	-3.118***	***688	***888
	(.003)	(.038)	(.038)	(.002)	(.028)	(.028)	(.001)	(.017)	(.017)	(.001)	(.017)	(.017)	(.007)	(.097)	(.097)	(.007)	(680.)	(.089)
Same Sex HH	.407***	.293***	.310***	036**	186***	299***	.014	061***	093***	.322***	.187***	.138***	046	.002	.128	.126**	.315***	.294***
	(.024)	(.020)	(.038)	(.018)	(.016)	(.031)	(.010)	(600.)	(.017)	(.011)	(600.)	(.018)	(.059)	(.060)	(.109)	(.054)	(.054)	(.108)
Same Sex HH*Reform			024			.152***			.044**			***990			178			.029
			(.045)			(.036)			(.020)			(.021)			(.130)			(.125)
Observations 453,341	3 453,341	453,341	453,341	539,883	539,883	539,883	453,341	453,341	453,341	539,883	539,883	539,883	453,341	453,341	453,341	539,883	539,883	539,883
$\mathbb{R}^2$	.001	.268	.268	.00001	225	.225	.000004	.235	.235	.002	.238	.238						
Adjusted R <sup>2</sup>	.001	.268	.268	.00001	225	.225	.000002	.235	.235	.002	.238	.238						
Akaike Inf. Crit.													167,342.400	167,342.400 159,851.400 159,851.600 189,594.800 182,847.500 182,849.400	159,851.600	189,594.800	182,847.500	182,849.400
F Statistic	295.139*** (df = 1; 453339)	5,177.861*** (df = 32; 453308)	$295.139^{****} 5,077.861^{****} 5,020.957^{****} 3,964^{***} 4,895.807^{****} 4,748.122^{****} 1.844 (df 4,349.950^{****} 4,218.319^{****} 909.113^{****} 5,263.292^{****} 5,104.169^{****} (df = 1; (df = 32; (df = 13; (df = 1$	3.964** 2 (df = 1; 539881)	4,895.807*** (df = 32; 539850)	4,748.122*** (df = 33; 539849)	1.844 (df 4 = 1; 453339)	(df = 32; 453308)	4,218.319*** (df = 33; 453307)	909.113*** (df = 1; 539881)	5,263.292*** (df = 32; 539850)	5,104.169*** (df = 33; 539849)						
Note:																*d	p<0.1; ** p<0.05; *** p<0.01	5; *** p<0.01

 $^*p\text{-}0.1; \ ^*p\text{-}0.05; \ ^{***}p\text{-}0.01$  Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment), Year dummies.

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Males and Females in Oregon 2000-2016 (Reform in 2007)

									Depende	Dependent variable:								
			log(Person	log(Personal Income) OLS					log(Housek	log(Household Income) OLS					Unemployment logistic	oyment stic		
		Female			Male			Female			Male			Female			Male	
	(1)	(2)	(3)	(4)	(5)	(9)	()	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept)	808.6	8.275***	8.274***	8.274** 10.512*** 8.667***		8.668***	11.128***	8.979***	8.980***	11.103***	***080.6	9.081***	-2.924***	894***	893***	-2.956***	-1.684***	-1.683***
	(900.)	(.071)	(.071)	(.004) $(.051)$	(.051)	(.051)	(.003)	(.029)	(.029)	(.003)	(.029)	(.029)	(.015)	(.170)	(.170)	(.014)	(.160)	(.160)
Same Sex HH	.459***	.297***	.334***	215***	277***	331***	.025	***840'-	108***	.138***	.077	*050	112	.028	052	890.	.175	.100
	(.043)	(.039)	(.057)	(.039)	(.035)	(.050)	(.018)	(.016)	(.024)	(.022)	(.020)	(.029)	(.108)	(.110)	(.171)	(.114)	(.116)	(.180)
Same Sex HH*Reform			069			.106			.056*			.054			.140			.131
			(.078)			(.070)			(.032)			(.040)			(.223)			(.235)
Observations 98,029	98,029	98,029	98,029	98,029 117,336 117,336	ı	117,336	98,029	98,029	98,029	117,336	117,336	117,336	98,029	98,029	98,029	117,336 117,336	117,336	117,336
$\mathbb{R}^2$	.001	.191	191.	.0003	.173	.173	.00002	.197	197	.0003	.203	.203						
Adjusted R <sup>2</sup>	.001	.191	.191	.0003	.173	.173	.00001	.197	197	.0003	.203	.203						
Akaike Inf. Crit.												-	39,413.920	37,828.130	37,829.730	39,413.920 37,828.130 37,829.730 46,236.820 44,412.650 44,414.330	44,412.6504	4,414.330
F Statistic	112.195*** (df = 1; 98027)	112.195****723.886**** 701.973*** 30.732**** 769.180*** 745.948*** 1.864 (df 750.989*** 728.337*** 37.811*** 933.735*** 905.500**** (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33;	701.973*** (df = 33; 97995)	* 30.732*** 7 (df = 1; 117334)	701.973**** 30.732**** 769.180**** 745.948*** (df = 33; (df = 1; (df = 32; (df = 33; 97995) 117334) 117303) 117302)	745.948*** (df = 33; 117302)	1.864 (df ' = 1; 98027)	$750.989^{***}$ 7 (df = 32; 97996)	728.337***; (df = 33; 97995)	* 37.811 *** (df = 1; 117334)	37.811*** 933.735*** 9 (df = 1; (df = 32; 117334) 117303)	905.500*** (df = 33; 117302)						
Note:																* p<0.	p<0.1; ** p<0.05; *** p<0.01	*** p<0.01

Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment), Year dummies.

Males and Females in Washington 2000-2016 (Reform in 2006)

									0		,							
									Dependent variable:	wiable:								
			log(Person	log(Personal Income)					log(Househ	log(Household Income)					Unemploymen	oyment		Ī
			O,	STO					9	OLS					logistic	stic		
		Female			Male			Female			Male			Female			Male	
	(1)	(2)	(3)	(4)	(5)	(9)	(7)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(Intercept)	9.923***	8.291***	8.291***	10.692***	8.635***	8.636***	11.261***	8.971***	8.971***	11.237***	9.097***	6.097	-2.996***	619***	620***	-3.136***	-2.060***	-2.057***
	(.005)	(.055)	(.055)	(.003)	(.036)	(.036)	(.002)	(.022)	(.022)	(.002)	(.022)	(.022)		(.134)		(.011)	(.133)	(.133)
Same Sex HH	.453***	.332***	.402***	276***		379***	010	087***	094***	.134**	***880.	.053**	115	002	.102	.130	.272***	.163
	(.034)	(.030)	(.047)	(.027)	(.025)	(.036)	(.014)	(.012)	(0.019)	(.016)	(.015)	(.021)	(.088)	(680.)	(.130)	(.091)	(.092)	(.140)
Same Sex HH*Reform			120*			**660.			.012			**990			189			.200
			(.062)			(.049)			(.025)			(.029)			(.178)			(.186)
Observations 171,955	171 955	171,955	171,955	211,176	211,176	211,176	171,955	171,955	171,955	211,176	211,176	211,176	171,955 171,955		171,955	211,176	211,176	211,176
$\mathbb{R}^2$	.001	.196	.196	.0005	.184	.184	.000003	.213	.213	.0003	.218	.218						
Adjusted R <sup>2</sup>	.001	.196	.196	.0005	.184	.184	000003	.213	.213	.0003	.218	.218						
Akaike Inf. Crit.													65,743.880 62,815.420 62,816.300 73,212.050 70,442.510 70,443.350	52,815.420	62,816.300	73,212.050	70,442.510	70,443.350
F Statistic	178.267*** (df = 1; 171953)	178.267**** 1,312.718*** 1,273.075**** 103.782**** 1,491.561**** 1 (df = 1; (df = 3; (df = 1; (df = 3; (17192) 171921) 211174) 211143)	1,273.075*** (df = 33; 171921)	(df = 1; 211174)	1,491.561*** (df = 32; 211143)	1,446.506*** (df = 33; 211142)		1,457.987*** (df = 32; 171922)	$1,413.806^{***}$ (df = 33; $171921$ )	66.517*** 1 (df = 1; 211174)	,837.760*** (df = 32; 211143)	485 (df 1,457,987**** 1,413.806***** 66.517**** 1,837.760**** 1,782.261**** = 1; (df = 32; (df = 33; (df = 1; (df = 32; (df = 33; 171953) 171922) 171921) 211174) 211143) 211142)						
:																*	**	***

Note:

Omitted: Sociodemographics (age, race and ethnicity, educational attainment, and unemployment), Year dummies.