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The Effects of State-Level Employment Nondiscrimination Policies on Income

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Abstract

The gay rights movement and parallel fight to end discrimination on the basis of sexual orientation has precipitated a number of policy debates in the past 40 years and various legislative responses across states. By 2010, a majority of states had adopted some form of legislation outlawing prejudice on the basis of sexual orientation in either private or public employment. A primary objective driving this movement is to reduce the negative effects caused by discrimination against this targeted minority of people by providing them with comprehensive legal protection and recourse. This paper uses data from the 2010 American Community Survey to estimate the consequences of adopting statewide employment nondiscrimination policies on wages for all people and specifically amongst the protected class. After controlling for individual characteristics that affect wages, the results show no indication that employment nondiscrimination policies convey a unique benefit for gays and lesbians. The important symbolic meaning of legitimizing the identities of gays and lesbians as fully contributing members of society by adopting these antidiscrimination protections might serve as a more compelling equality measure than evaluating the isolated income effects alone.

INTRODUCTION

America's commitment to equal employment opportunity dates back to the Civil Rights Act of 1964 and originates at least partly from the assumption that employment discrimination reduces earnings amongst the targeted group. Various groups of people including women and racial and ethnic minorities have eventually gained federal employment protections from discrimination in public accommodation, housing, and employment, but that does not mean that all marginalized groups of Americans enjoy these same protections. The landmark Supreme Court ruling on marriage equality in June 2015 marked a significant and positive change in the public perception and acceptance of lesbian, gay, and bisexual (LGB) people in America. Unfortunately, marriage equality is the only federal protection currently guaranteed for this minority of people. Because sexual orientation is not considered a protected identity under any present federal law, LGB people can still be fired from their jobs, evicted from their homes, or denied services just because of whom they love.

While an increasing number of cities, states, and localities have adopted policies that prohibit discrimination based on sexual orientation, the possibility for intolerance and prejudice still exists. The presence of an antidiscrimination policy may generate increased earnings for lesbian and gay members living in states where they are protected by reducing inequity in hiring, firing, promotion,

or pay practices. It is likely that the adoption of an antidiscrimination policy will generate effects influencing the overall workplace atmosphere toward gay people in a positive manner by encouraging a greater satisfaction at work, and in turn, promoting higher levels of worker productivity. I will use census data from the 2010 American Community Survey (ACS) in conjunction with state-level employment nondiscrimination policies across the country that had been adopted by the 2010 Census to analyze the effect of being gay on earnings and to isolate the effects associated with providing legal safeguards for all people on the basis of sexual orientation in the workplace.

My work will add to the existing general literature on sexual orientation-based discrimination by considering the effects of state employment nondiscrimination legislation on all people living in a protected state. Since the advent of the "unmarried partner" category in 1990, the U.S. Census has provided a new wave of data used to study the effects of employment nondiscrimination policies on workplaces outcomes and other measures of economic wellbeing according to sexual preference. I will employ a similar methodology when using this data as other researchers have done to compare differences in average incomes for married heterosexual, unmarried heterosexual, and gay unmarried individuals.[1] Matching census data to a set of policy indicators for states that adopted either private or public sector employment nondiscrimination legislation allows me to investigate if the variation in wages across gender, marital status, and sexual orientation is smaller as a result of this policy adoption.

A natural hypothesis would suggest that antidiscrimination provisions are associated with increased earnings amongst the protected class. After controlling for a standard set of worker characteristics that affect income, my findings suggest that average wages in states that eventually choose to adopt antidiscrimination policies are actually lower for everyone at the time of policy implementation. Additionally, I find that the duration effects associated with each type of policy protection offered vary significantly across couple-type cohorts and policy regimes, indicating that the type of employment protection carries strong explanatory power when accounting for wage discrepancies.[2] Before discussing these comparative differences, I will first describe the existing evidence of sexual orientation-based discrimination in the workplace and the possible economic impacts associated with adopting a state-level nondiscrimination policy.

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[1] Prior to releasing data from the 2010 American Community Survey, the Census Bureau recoded all gay and lesbian couples that reported themselves to be married as unmarried partners, regardless if their state of residence had already adopted marriage equality.

[2] Couple-type cohorts are based on the marital status, sexual preference, and the gender composition of cohabiting respondents.

DISCRIMINATION AGAINST GAYS AND LESBIANS

There has been a recent shift by the general American public in the last fifty years toward emphasizing the importance of employing people based on the quality of what they can produce on the job rather than simply based on who they are. The Civil Rights Act of 1964 and its subsequent revisions outlaw discrimination in the workplace based on an individual's race, color, religion, sex, or national origin. Even though half of the states had already adopted laws prohibiting prejudice on the grounds of race and national origin prior to 1964, the advent of a federal antidiscrimination legislative agenda strengthened existing enforcement mechanisms and expanded protections to include states that were unlikely to adopt such laws [Burstein, 1985]. Other salient aspects of human identity, including sexual orientation, remain beyond the scope of current legal protections.

Prejudice is a strong risk factor indicative of the potential for inferior health outcomes among members of socially disadvantaged groups. Hatzenbuehler Bellatorre, and Muennig [2014] add to a growing body of scientific research supporting a coupled theory suggesting that individuals who entertain prejudiced beliefs might also be at an increased risk for poor overall health. This study observes the public health impact of antigay intolerance and found that harboring this prejudice is associated with an elevated mortality risk among the heterosexual population. Reflecting on these results in conjunction with previous studies suggesting that harboring an antigay prejudice damages the mental and physical health of sexual minorities, Hatzenbuehler Bellatorre, and Muennig advocate for larger efforts to improve antigay attitudes as a means to improve public health outcomes at a population level.

Becker [1957] describes the theory of discrimination in the workplace in terms of prejudiced tastes by employees and employers that manifest in the differential treatment of equally productive workers. He suggests that workplace discrimination is the outcome of prejudiced behaviors and tendencies by employers, coworkers, or customers. Applying Becker's discrimination model to gay and lesbian workers in the labor market, engaging in such biased practices will give rise to inevitable segregation and possibly earnings differentials. Ultimately, gay and lesbian workers end up earnings less than their heterosexual peers in this short-run equilibrium.

Cushing-Daniels and Yeung [2009] highlight the fact that discrimination targeted at any particular group of workers can manifest in a number of ways. In the most obvious sense, discrimination may uncover itself in the form of depressed wages for comparable work. Employers may exhibit disapproval of gay lifestyles, in which case individuals who are open about their sexual orientation may face much lower prospects of employment than the dominant societal group or may not even be hired at all. In terms of job-cycle effects, employees with preferential characteristics may encounter more safeguards to protect them when other workers are being laid off during periods of slack demand. Elmsie and Tebaldi [2007] point out that prejudiced behavior could equally originate from

preferred customer tastes, which ultimately dictate an employer's actions. In all aforementioned cases of sexual orientation discrimination, one would anticipate negative returns to sexual orientation for gay and lesbian workers when compared to their heterosexual counterparts.

Plug, Webbink, and Martin [2014] elaborate on the idea of labor market segregation and earnings discrimination for gay and lesbian workers. Intuitively, one would expect prejudiced workers to demand additional compensation for working alongside gay and lesbian employees. Through the optimization process, even the most inclusive and unprejudiced employers would eventually find the burden of hiring gay and lesbian employees and discriminatory straight workers simultaneously to be too high and too expensive to maintain in the long run. The equilibrium outcome will end in segregation. An additional interpretation might be that prejudiced employers regard gay and lesbian employees as more costly than they actually are, giving gay and lesbian workers incentive to sort away from discriminatory occupational settings and instead look for more unbiased employers. The equilibrium here will still result in segregation, where the employers that hire gay and lesbian workers determine their long-run equilibrium wages. Market segregation and earnings discrimination will occur if there is a shortage of unbiased employers willing to hire all gay and lesbian workers. Plug, Webbink, and Martin make the argument that since the gay and lesbian workforce is fairly small and largely indeterminable, it is not clear whether to observe earnings discrimination against gay and lesbian workers in particular.

An alternative cause driving the variation in earnings across sexual preferences originates from other individual differences that are not so easily disentangled from the discrimination. Certain characteristics that I want to control for are themselves largely affected and shaped by prejudice (such as occupation, duration and place of education, and hours of work). Considering the consequences of discrimination on a prejudiced minority, especially during periods of building and maintaining human capital, can help to explain why gay and straight people make different investments in their human capital that can affect earnings throughout their lifetimes.

Looking at the data from 2010, both gay men and women appear to have higher levels of education compared to men and women belonging to both married and unmarried different-sex couples (Table A1 gives the distribution of educational attainment for individuals retained in the sample according to sex and couple-type). Within this sample, women make up the highest percentage of people with a master's or other professional degree at 21 percent of this most educated group, followed by gay males at 17 percent.[3] The percentages of married heterosexual men and women holding a master's or other professional degree are roughly 15 percent, respectively. The least represented group within the most

[3] The sample contains individuals age 18-65 and is restricted to only include individuals who are in cohabiting relationships. Individuals working on average less than 30 hours per week and less than 40 weeks per year have also been removed from the dataset.

highly educated attainment bracket is unmarried heterosexual men and women. Blumstein and Schwartz [1983] also observed higher levels of educational attainment for gay and lesbian couples than for opposite-sex couples, whereas Badgett [1995] found levels of education among full-time workers who were both gay and straight to be virtually indistinguishable. Laumann et al. [1994] consider the possibility that homosexual behavior occurs more often among those with higher education, and their findings suggest this theory generally holds, with the exception of those who did not graduate high school.

Perhaps gays and lesbians find educational settings to be generally more amiable places and have thus chosen to pursue higher levels of education in these relatively hospitable environments. Another explanation may be that gays and lesbians consciously choose to get more education in order to compensate for the negative effects of future discrimination. Because the sample used for this paper only includes individuals in cohabiting relationships, I cannot rule out the possibility that perhaps living with a partner might not be as commonplace among gays and lesbians with lower levels of education. Irrespective of sexual preference, higher educational attainment is generally associated with increased earnings, which is why I will control for this factor when evaluating the effects of labor force discrimination on income.

The gender-based wage gap continues to have a significant effect on income, and the results of this persistent form of workplace discrimination are doubled for same-sex couples. This might explain why lesbians have higher average levels of education. Because they cannot rely on any male earnings to supplement household income, lesbians might choose to invest in higher levels of education or to be more committed in the labor market to offset their inherently lower wages. Accounting for the fact that child-rearing responsibilities can detract from the available time and energy a woman has to give in the labor market, Klawitter and Flatt [1998] also found that lesbians are much less likely to be living with children than are married women. Cohabiting gay males on the other hand, will likely benefit from a shared household income bolstered by the presence of two male wage earners. Perhaps gay men anticipate these gender effects of a shared income between two males and therefore dedicate less time and effort to the labor market. To isolate the effects of gender on income, I generate a set of interaction terms between sex and each type of policy measure. This allows a policy to have differential effects on men and women, and the coefficients on these variables will capture any differences across genders.

Variation in earnings among individuals can be the result of a discriminatory work environment, differences in human capital and labor force attachment, and gender-based wage differentials. The objective of this paper is to isolate the discrimination effect on wages and capture which of these factors dominates in determining wage differentials between individuals based on marital status, sex, and sexual orientation. I will control for many immutable individual and worker characteristics that might affect wages in order to measure if the observed effects of prejudice in the workplace are lower in states that provide

antidiscrimination protections on the basis of sexual orientation. The multivariate models I employ include a standard set of factors that could impact wages: age, race, educational attainment, and English proficiency.

WORKPLACE OUTCOMES OF GAYS AND LESBIANS

Empirical studies on labor market earnings differentials between gay and lesbian workers and their heterosexual counterparts typically find that gay male workers earn less than do heterosexual males [Badgett 1995; Klawitter and Flatt 1998; Clain and Leppel 2001; Berg and Lien 2002; Black et. al 2003; Blandford 2003; Elmsie and Tebaldi 2007; Ahmed and Hammarstedt 2010]. These results are consistent with and reinforce Becker's prejudice-based model of discrimination. The results of similar studies on earnings differentials for lesbian workers indicate that lesbian workers often earn more than do heterosexual female workers [Klawitter and Flatt 1998; Clain and Leppel 2001; Berg and Lein 2002; Black et. al 2003; Blandford 2003; Elmsie and Tebaldi 2007; Ahmed and Hammarstedt 2010]. Not only do these findings counteract Becker's prejudice model of labor market discrimination, but they also point to differential labor market outcomes for gay and lesbian workers.

Plug, Webbink, and Martin [2014] consider the substantial variation in in discriminatory attitudes across occupations in their study regarding prejudice, segregation, and sexual orientation. The authors explore the question of whether gay and lesbian workers naturally sort into more tolerant occupations in the labor market. Their findings that gay and lesbian workers tend to shy away from choosing more discriminatory occupations are also consistent with prejudice-based theories of employer and employee discrimination. The authors of the study note that their results are chiefly determined by the workplace outcomes of gay and lesbian workers who disclose their sexual identities openly.

A consistent theme in most of these studies recognizes that occupational choice has important explanatory power when observing wage disparities between gay, lesbian, and heterosexual workers. Elmsie and Tebaldi [2007] look at the direct relationship between sexual orientation and occupational segregation to explain some of these earnings differentials. They find that generally speaking, gay men are more likely to work in lower-ranked, more traditionally female-oriented occupations than heterosexual men, and conversely, lesbian women are more likely to work in higher-ranked, less traditionally female-oriented jobs than their heterosexual counterparts. Using the prejudice-based discrimination model, Emlslie and Tebaldi observe that after controlling for human capital, occupational choice, and other demographic differences, gay males are more likely to experience workplace discrimination resulting in depressed wages relative to heterosexual male workers.

EMPLOYMENT NONDISCRIMINATION POLICIES

In contrast to discrimination research regarding other traditionally marginalized groups in the workplace, such as women, racial and ethnic minorities, there has been strikingly little research done about the effects of existing employment nondiscrimination acts (ENDAs) covering sexual orientation and the impact of future nondiscrimination legislation. Even with a glaring scarcity of compelling scientific research in the field of sexual orientation and gender identity discrimination, the policy debate over such antidiscrimination policies continues to gain increased attention and visibility at the federal level. The Equality Act [2015] offers a comprehensive approach to defending the rights of lesbian, gay, bisexual, and transgender (LGBT) Americans at a national level. This bill would amend the Civil Rights Act of 1964 to prohibit discrimination on the basis of sexual orientation, gender identity, and sex where it is not already included. The Equality Act enumerates specific safeguards in the areas of employment, housing, public accommodations, credit, and education. If enacted, the legal protections guaranteed in the Equality Act would cover all people living every state and would provide recourse for LGBT people who are unfairly discriminated against.[4]

When quantifying the effects of LGBT-inclusive legislation, it is important to consider the possible costs associated with the net economic gains from implementing inclusive policy measures. Antidiscrimination protections for gay people may provide the long-term value of additional health and education services not previously available to this class of people. Badget et. al [2014] suggest that incorporating sexual orientation as a protected class into existing legal frameworks that have already been established for other vulnerable classes of people would likely generate positive investment in human capital that would pay off in the future, making net gains to society positive. The results of a related study by Badgett et. al [2013] suggest that an increasingly diverse workforce in terms of personal characteristics will lead to lower costs and/or higher revenues. The authors of this study conclude a positive relationship between LGBT-supportive policies and workplace climates with outcomes that ultimately benefit employers, such as greater job commitment, improved workplace relationships, increased job satisfaction, and improved health outcomes.

Table 1 identifies the number of states that adopted employment nondiscrimination policies by each decennial census year, the employment sector coverage associated with these policies, and the percentage of individuals in the sample protected under each category of employment protection. By 2000, thirteen states had adopted employment nondiscrimination provisions covering sexual orientation in the private sector, and only one state offered antidiscrimination protections for sexual orientation in public sector employment. It is important for these analyses to be aware that all jurisdictions with private

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[4] This study only focuses on the effects of protecting sexual orientation from discrimination. Gender identity issues and transgender protections are beyond the scope of this paper.

Table 1. The number of state antidiscrimination policies adopted and the percent of sample covered by each level of protection by year.

Type of Employment Protection by 2000	Number of States*	Percent of Total Population
No Employment Protection	37	73
Public-Sector Only Protection	1	2
Private-Sector Protections	13	25
Type of Employment Protection by 2010		
No Employment Protection	20	39
Public-Sector Only Protection	9	18
Private-Sector Protection	22	43

* Includes District of Colombia.

sector coverage also include protections for public sector workers. By 2010, another nine states had adopted private sector ENDAs, and eight more states began to offer protections for sexual minorities in the public sector.

Measuring the impact of sexual orientation nondiscrimination policies has become increasingly manageable as more states continue to adopt new laws and the effects of older laws become more entrenched over time. Prior to 2000, 73 percent of all adults in the sample living in 37 different states were not protected by any state-level ENDA policy covering sexual orientation.[5] By 2010, only 20 states had yet to adopt any similar type of ENDA. In the course of a decade, the percentage of the American population protected under some form of employment nondiscrimination policy jumped from 27 percent to 61 percent of the sample.

Exploring any shortcomings of any state and local antidiscrimination protections relative to the federal employment nondiscrimination agenda informs the contemporary policy debate over the necessity for expanded protections. Martell [2013] observes that ENDAs decrease wage differentials by nearly 20 percent for behaviorally gay men by reducing the portion of wage differentials usually connected to the effects of prejudice. A subsequent study by Martell [2014] finds that employment nondiscrimination protections actually motivate gay men to work around 15-20 hours more per week and simultaneously increase the probably of behaviorally gen men participating in the labor supply by 7 percent at any given time. The results of this study imply that ENDAs grow the labor market

[5] The sample dataset only includes individuals ages 18-65 working full time (30 hours or more per week and working an average of 40 weeks per year). Individuals are retained in the dataset include only self-reported spouses of a respective householder, household heads with identifiable spouses, and unmarried partners with a distinguishable household head.

supply and workplace attachment of behaviorally gay male workers due to the direct improvement in professional and social conditions that govern workplace tolerance toward homosexuality.

It would make sense that the level of inclusivity toward the LGBT community people plays a key role in helping states advance in the race for economic development [Box, 2015]. Denying a group of people full participation in a society simply because of their identity is a definitive human rights violation that is likely to have adverse effects on the levels of economic development within that region. Badgett et. al [2014] also conduct empirical research and analysis to measure the relationship between LGBT inclusion and economic development. Similarly to Box's findings, the authors of this study uncover links between affirmative social inclusion of LGBT people in society and positive economic development in 39 countries. There is strong evidence from the results of this study to support the claim that countries with more enumerated rights and protections for LGBT people tend to have higher levels of economic development. After accounting for other standard factors that influence economic development measures, the inclusion of one additional right for lesbian, gay, and bisexual people is associated with roughly $1400 more per capita GDP.

Accounting for the presence of anti-sodomy and hate crime laws is one more way to measure a region's underlying perception of and attitude toward gay people in conjunction with an assessment of the likelihood that a region may adopt any kind of antidiscrimination policy. Soule and Earl [2001] observe in that states where sodomy laws have previous been in place and subsequently repealed, the legislative process is more susceptible to the diffusion of criminal hate crime laws. The authors of this study suggest that as more states adopt hate crime laws that provide increased penalties for crimes motivated by bias or prejudice, states that disposed of their anti-sodomy statutes are more likely to emulate this example. By 1995, thirty-seven states passed some form of law that would allow for criminal action against hate crimes. Soule and Earl also conclude several intrastate characteristics that influence a state's likelihood of adopting criminal hate crime laws. Whereas higher state per capita income is associated with a positive rate of policy diffusion, the presence restrictive data collection policies in regards to civil hate crime laws indicate a slower rate of policy adoption. This is an important observation to note because it illustrates that states are likely to employ new legislative shields to preempt them from criminalizing hate crimes. Prohibiting and obscuring collection of the most relevant data on hate crimes shrouds attempts at criticism that a state is not actively attending to an important social problem by criminalizing hate crimes.

Burstein [1985] highlights the importance of enforcement capacity in federal antidiscrimination legislation aimed at improving wages for protected groups of people. Stricter enforcement has the propensity to improve the effectiveness of recourse for the targeted group. However, Gunderson [1989] concludes that equal pay legislation is doubtful to have significant effects if the enforcement mechanism is inadequate. A complaints-based system used to

evaluate prejudiced wage differentials within a given occupation and establishment contributes to an ineffective enforcement system, whereas a collective bargaining channel or wage-fixing tribunal can have substantial effects on wages. Though there is not a resounding consensus supporting the effectiveness of the latter two enforcement methods, Gunderson points to the measurable wage increase resulting from many examples of these policy agendas that do not appear to have caused any large adverse workplace effects.

It is valuable to consider broader impacts of cultural themes and social movement theory when analyzing political outcomes. The progression of gay rights as a political movement in America has resulted in the mobilization and increased visibility of LGBT communities over the past four decades and contributes to the growing number of policy debates regarding legal protections for this sexual minority of people. Some lawmakers have responded positively to this campaign by advocating for basic legislative changes in their local communities including legal safeguards protecting access to education and other basic services. Some of the voices standing in vociferous opposition to the gay rights movement at the state-level have endeavored to prevent the spread of inevitable social progress that comes with adopting nondiscrimination ordinances by pushing their own legislative proposals intended to preempt any local gay rights laws.

The findings from a case study of by Button, Rienzo, and Wald [1997] support the urbanism theory that local governments are more likely to adopt nondiscrimination legislation in areas with larger or more urban populations, higher levels of education, and more nonfamily households. Regional public opinions and tastes regarding gays and lesbians also serve as strong indicators for the likelihood of an area to adopt an antidiscrimination policy covering sexual orientation. Button, Rienzo, and Wald identify a certain set of factors that influence an area's prospects of including sexual orientation as a protected class such as local political opportunity structure, potential for organizational mobilization among the LGBT community, and the presence of fundamentalist religious groups.

AMERICAN COMMUNITY SURVEY

The data guiding this research is provided by the U.S. Census Integrated Public Use Microdata Series (IPUMS). I will use a 5-year ACS sample, which captures a 5% random national sampling of the population. As is the case for all surveys, any information provided by the respondent is both voluntary and self-reported. IMPUS data is comprised of large, high-precision samples regarding the American population, but none of the surveys included in the data has yet to inquire about certain behavioral characteristics such as sexual preference or typical sexual behaviors.

A primary concern accompanying any research regarding gay and lesbian people in the United States is the question of how to define sexual orientation and the important problem of measurement error. According to Black et. al [2000], because gays and lesbians only make up a relatively small fraction of the American population, even modest miscalculations can lead to significant errors when interpreting the results of a study. While the General Social Survey provides a small sample of gay and lesbian individuals in the United States for demographic research, the U.S. Census provides a much larger sample for study, but only for unmarried cohabiting same-sex partners. For many researchers conducting analyses of the gay and lesbian population, same-sex couple data functions as a proxy for differences across couple-types and for variations in the visibility of same-sex couples and of LGBT people in general.

The shortage of research concerning wage differentials and sexual orientation is largely attributable to the overwhelming lack of data on sexual orientation at a national level. Klawitter [1998] expresses her discontentment with most national surveys that decline to inquire about the sexual preference or tendencies of respondents. She describes certain structural and social barriers to studying the economic impacts of sexual orientation ranging from discrimination against sexual minorities in general to the lack of support for this kind of economic research and overall insufficient data sources and modeling techniques. Though the changing climate is shifting in this country regarding sexual orientation and nontraditional family structures, even a national survey conducting research on sexual behavior would need to oversample sexual minorities in order to attain a viable sample size.

Though the ACS provides one of the most abundant and frequently used data resources for research on same-sex couples, serious measurement problems in these data still persist. DiBennardo and Gates [2013] conclude that as many as 40 percent of same-sex couples indexed in Census 2000 and as many as 28 percent of same-sex couples in Census 2010 were plausibly misclassified and subsequently recoded as different-sex couples. Additional survey research indicates that Census 2010 likely failed to identify an estimated 15 percent of same-sex couples living in the United States at that time. As with any survey data based research, selection bias is always a potential concern affecting the interpretation of results. DiBennardo and Gates [2013] note that the willingness of homosexual couples to report their relationships in the census varies geographically and regionally. Unwillingness to report a minority sexual preference is a definite indicator of a region's level of tolerance and outward acceptance of LGBT people in the community.

LIMITATIONS OF CENSUS DATA

Because of the glaring lack of data available on the presence and income characteristics of non-cohabitating gays and lesbians, there is no way of knowing

the true demographic composition of this group of people within the larger U.S. population. For now, the only dataset with a sample size large enough to measure the effect of being a cohabitating gay worker on output and subsequent earnings is the decennial census, however this information is still largely imperfect in terms of collection and final editing practices. We can only hope that future censes questionnaires will feature some capacity in which respondents can identify their sexual orientation or express behavioral evidence of sexual preference.

Even though a number of states had legalized same-sex marriage in between the 2000 and 2010 census years, the Census Bureau reclassified respondents as unmarried cohabiting partners if two people of the same gender indicated that they were married. Cohn [2014] explains how the Census Bureau has acknowledged ongoing problems in counting and recording this relatively small portion of the population sand recommends that any statistics on same-sex couples be considered with caution. Issues when filling out survey forms, such as selecting the wrong sex for them or their partners, seem to account for a large portion of these unintentional recording errors.

It is important to recognize how measurement error negatively transforms any statistical analysis and to recognize that any inferences made from these regressions are intrinsically biased. DiBennardo and Gates [2014] emphasize how the glaring shortage of LGBT data represents a distinctive need to study and understand the exact impact of measurement error. The U.S. Census Bureau's same-sex couple tabulations represent the only current data source available for statistical research purposes regarding the distribution of this hard-to-reach and vulnerable population at a sub-state level.

METHODOLOGY

Because there is no current mechanism by which I can accurately estimate workplace outcomes for a significant sample of behaviorally gay people, my approach toward capturing this policy effect resembles that of previous literature and existing research methods. In my multivariate model, the coded policy variables indicate the presence of sexual orientation nondiscrimination protections in the state where the respondent lives and the coefficients on these policy variables capture the effect of that measure on a specified group of people. This framework and corresponding methodology serve as an effective proxy to measure if the existence of legal protections can increase earnings for gay people in the same way that existing antidiscrimination protections for women and groups of other minorities have done.

Different internal and external factors dictate the complex nature and dynamics associated with adopting nondiscrimination protections within the United States. Taylor et. al [2012] emphasize the importance of taking a multidimensional approach when considering the content of a public policy initiative, the likelihood of legislative adoption, and the subsequent inclusion of

LGBT people in society. Credible and reliable empirical analyses of the gay and lesbian population may provide economists and other social science researchers with new insights about this sexual minority class of people. Black et. al [2000] describe the positive potential outcomes of such analyses as providing researchers and lawmakers with a more nuanced understanding of sexual preference as it either determines or is influenced by labor market choices, accumulation of human capital, specialization within households, prejudiced behaviors, and decisions regarding temporary and permanent geographic location.

Klawitter and Flatt [1998] use a multilevel analysis similar to the one I employ to evaluate the effects of antidiscrimination policies on earnings for gays and lesbians using U.S. Census Data from 1990. The data provided by the 1990 decennial census census marks the first time lesbian and gay couples could identify themselves on a national survey by reporting their categorized relationship to the household head as "unmarried partner." The findings from this study show no evidence of a unique effect of antidiscrimination policies on earnings for members of same-sex couples.

I utilize very similar mechanism to Klawitter and Flatt in my research on workplace outcomes for gays and lesbians in tandem with an analysis of nondiscrimination policy adoption and the duration effects of these laws across states and between specific cohorts of people. It is essential to accurately disentangle the effects of ENDAs from other aspects that are likely to influence the adoption of antidiscrimination legislation and any additional circumstances that might affect incomes for gays and lesbians. In the multivariate regression analysis presented in this paper, I account for individual characteristics that may affect earnings including age, race, educational attainment, and English proficiency. Whereas Klawitter and Flatt control for regional and geographic factors that might affect earnings, I exclude these characteristics from my model and only include controls for individual worker characteristics that have the potential to effect income.

This empirical model considers the log of individual wage and salaried income as the dependent variable in the regression framework. The independent variables in this multilevel regression designate worker characteristics, identity specifications such as couple-type, and the interactions of these variables with certain policy indicators. The coefficients on couple-type (unmarried heterosexual male/female, unmarried homosexual male/female, and married heterosexual male/female as the omitted category) capture wage differentials amongst designated cohorts based on sex, sexual preference, and marital status. The control group in these regressions is comprised of white, married, heterosexual people living in states without employment any protections by 2010.

THE EFFECTS OF ANTIDISCRIMINATION POLICIES ON INCOME

Table 2 gives the proportion of individuals in the sample that are living in states with no employment policy protection, a policy that only covers the public sector, or a policy that protects private sector employment. It appears that a larger proportion of gays and lesbians live in states that have adopted private sector employment protections. By 2000, state ENDAs including private sector employment protections covered 31 percent of both the gay and lesbian populations in the sample. By this time, nearly 66 percent of all gays and lesbians and nearly 70 percent of all heterosexual people in the sample lack any employment nondiscrimination protections in their state. However, gays and lesbians do appear to make up the largest group of cohabiting adults covered by public employment protections in 2000, compared to 26 percent of married men living in states with protections, 25 percent of married women, and 28 percent of both the male and female unmarried cohorts.

Table 2. Proportion of non-single individuals with antidiscrimination coverage.

	No Employment Policy	**Public Sector Employment**	**Private Sector Employment**
Policy Coverage in 2000			
Men			
Married Heterosexual	70	5	26
Unmarried Heterosexual	68	4	28
Gay Unmarried	66	4	31
Women			
Married Heterosexual	70	4	25
Unmarried Heterosexual	67	5	28
Gay Unmarried	66	4	31
All	70	4	26
Policy Coverage in 2010			
Men			
Married Heterosexual	38	19	43
Unmarried Heterosexual	34	19	47
Gay Unmarried	34	14	51
Women			
Married Heterosexual	38	19	43
Unmarried Heterosexual	33	19	48
Gay Unmarried	33	17	51
All	38	19	44

Between the 2000 and 2010 censuses, 17 more states passed their own employment nondiscrimination ordinances. It makes sense that in this same time period, the sample of gay and lesbian people covered by private sector protections jumped to 51 percent, representing an overall increase in coverage for gays and lesbians by 20 percent. It appears that the average number of all people in the sample who were not covered by nondiscrimination coverage in 2000 is almost cut in half by 2010, dropping from 70 percent of all people in the sample to nearly 38 percent of the sample.

Table 3 reports average individual wage and salaried incomes and standard deviations associated with each couple-type and specific policy regime. For individuals belonging to each couple-type, average incomes appear to be higher in all cases for states that have adopted private sector employment nondiscrimination protections than in states with either no employment policy present or states with public-sector coverage only. This correlation may serve as evidence consistent with the urbanization theory that metropolitan areas, high-wage jurisdictions, and places with higher levels of education are more likely to adopt nondiscrimination provisions. In states with private sector protections and in states with no employment protections by 2010, married heterosexual males have the highest average incomes, followed by gay men, lesbian women, unmarried heterosexual men, and then unmarried heterosexual women. This ordering of wages points to the gender-based wage differential favoring male incomes and a wage premium that persists for married heterosexual people.

For men in the sample living in states covered by only public-sector protections, married heterosexual men make the most on average, followed by gay men, and then unmarried heterosexual men. In contrast to states that have not adopted any ENDA by 2010, it appears that public employment protections are associated with smaller average incomes for males in all couple types. This pattern does not hold true for females in the sample. Women in all couple types covered by public sector employment protections only still appear to make more on average than women living in states without any employment coverage, but less than females living in states with private sector protections.

I hypothesize that the type of state employment policy offered might have differential effects across groups of people within a protected state and even between groups identified within the very category of people that the laws are meant to protect. Different ENDA specifications may generate a set of effects for individuals who are not even the deliberate class of beneficiaries (married and unmarried heterosexual people) and can potentially result in contrasting effects among different groups of the same protected class (gay men versus lesbian women). Though Table 3 does not demonstrate clear statistical evidence for the effects of nondiscrimination policies on wages, I will now consider differences in the type of ENDA protection offered and the differential effects that may develop separately for protected gay men and lesbian women.

Table 3. Average individual wage and salaried income by type of antidiscrimination policy offered in 2010 and couple-type.

	No Employment Policy Present	Public Sector Employment Protection	Private Sector Employment Protection	All
	Mean	Mean	Mean	Mean
Individual Earnings in 2010				
Men				
Married Heterosexual	$59,374 (61,780)*	$58,127 (56,107)	$69,843 (76,501)	$63,693 (67,868)
Unmarried Heterosexual	30,272 (28,458)	30,027 (26,123)	37,200 (36,607)	33,470 (32,342)
Gay Unmarried	45,697 (48,776)	44,753 (44,244)	59,975 (67,708)	52,911 (59,214)
Women				
Married Heterosexual	37,417 (34,571)	37,640 (32,884)	45,858 (45,020)	41,090 (39,355)
Unmarried Heterosexual	25,946 (22,333)	26,888 (22,210)	33,352 (30,373)	29,658 (26,690)
Gay Unmarried	40,779 (37,709)	41,767 (40,351)	52,598 (50,833)	46,920 (45,570)

* Standard deviations are listed in parentheses under the mean

MULTIVARIATE ESTIMATES OF THE EFFECTS OF NONDISCRIMINATION LEGISLATION

In order to generate more defensible and efficient measures estimating the overall effects of nondiscrimination policies, I used multivariate regression analyses of the natural log of individual wage and salaried income for non-single cohabiting individuals retained in the sample.

To account for the effects that certain individual characteristics have on earnings, the regressions include a set of dummy variables for age, race, educational attainment, and English proficiency. I include a set of dummy couple-type variables to act as indicators for the differential and specific effects that these policy regimes have on different cohorts of people as defined by their sex, marital status, and sexual preference. The coefficients on these variables capture the effects of prejudice on wages and variations in productivity and human capital that are not related to educational attainment, age, or other explanatory variables.

To examine the differences between employment nondiscrimination policy regimes, I include dummy variables denoting individuals living in states with only public-sector employment protections, states with private employment

protections, and states that have yet to adopt employment protections by 2010. By omitting the category of states without ENDAs from the regression, the coefficients on these general policy variables represent the change in wages for everyone – or the effect of a policy on heterosexual people only – in areas with either type of employment protection covering sexual orientation. If the theory of urbanization holds, I anticipate that areas with higher (or lower) average incomes are are more (or less) likely adopt local nondiscrimination policies and expect the coefficients on these variables to be positive (or negative) and statistically significant.

The first set of interaction terms are between the couple-type variables identifying gay respondents in the sample and the indicators for public sector and private sector employment protections. The next level of interactions includes the duration variables for each type of ENDA interacted with the couple-type variables. The final stage of generating interaction terms splits the previous interaction variables by sex of the respondent to capture any gender-based income disparities. The coefficients associated with these variables represent the differential effects that the two types of employment protections (and the additional interaction variables for the duration that accompany them) have on gay men and women living in states that offer either type of employment protection. If the coefficients associated with the indicators on sex and sexual preference are positive and significant, these results would suggest that ENDAs increase earnings for gay and lesbian individuals who are covered by some form of employment policy protection relative to those living in states that have not adopted this kind of protection.

The regression results in Table 4 give selected coefficients and robust standard errors from the analyses of individual wage and salaried incomes for both men and women retained in the 2010 sample. These multivariate estimates include a set of controls for individual characteristics that impact wages (age, race, educational attainment, and English proficiency). Because the outcome variables in these regressions are logged, the coefficients do not quantify income differences in dollars, but instead capture the effects of a wage premium or a wage discount observed for a specific group of people or associated with a particular policy initiative. The results in Table 4 show no evidence that either-sector employment protections significantly increase individual earnings for gays and lesbians covered under them. None of the coefficients on the specific policy interactions for gays and lesbians are statistically significant, indicating that state-specific nondiscrimination laws do not transmit any unique advantages on gays and lesbians apart from the general effects.

The coefficients on the policy indicators for all people represent the general effects and are negative in sign and statistically significant, revealing that average incomes were lower at the time of policy adoption for all people living in states that adopted an ENDA by 2010. For both men and women in the sample, average incomes at the time of a policy adoption are lower in states that eventually adopt private sector employment protections that they are in states that

Table 4. Selected coefficients and from regressions of logged individual earnings.

	Men's Earnings		Women's Earnings	
Variable	Coefficient	SE	Coefficient	SE
Individual characteristics				
Unmarried heterosexual	-0.352***	0.00464	-0.125***	0.00516
Gay or lesbian	-0.320***	0.0124	0.0695***	0.0124
Policy variables for all people				
Public employment only	-0.0610***	0.00383	-0.0367***	0.00454
Public employment duration	0.00542***	0.000858	0.00806***	0.00101
Private employment	-0.128***	0.00348	-0.0975***	0.0041
Private employment duration	0.0443***	0.000713	0.0469***	0.000826
Policy variables for gays and lesbians				
Public employment only	-0.0863	0.0679	-0.0056	0.0564
Private employment	-0.063	0.05	-0.0541	0.0466
Constant	8.243***	0.00861	7.903***	0.0103
N	2,057,362		1,551,689	
R^2	0.248		0.217	

Notes: Reference categories are married heterosexual with no employment policy for each regression. Full regression results are in Table A.2.
** Statistically significant at the 5-percent level.
*** Statistically significant at the 1-percent level.

later adopt public sector protections. These results are in contrast to the simple comparison of average individual earnings in Table 3. Running an additional test on these two policy indicators conveys that differences in incomes associated with either public sector or private sector employment protections are statistically significant. This suggests that after controlling for all other factors, average incomes for all people are lower in states that eventually adopt employment protections and are even lower in states that eventually adopt a policy only covering public sector employment.

The duration effect of a given policy may also provide greater revelations about how these laws develop and become more entrenched in society over time. To test whether policies are more successful in places that adopted them earlier or if the effects of the law become stronger and more established over time, I added measures of the time-since-implementation for both types of employment policies. Coefficients on these measures are positive in sign and statistically significant at the 1 percent level for both men and women. These results convey that regardless of the type of policy protection, ENDAs increase earnings over time for everyone living in protected states. The only significant identifiable

effect unique to either gays or lesbians conveys a weak positive duration effect for gay men living in states with private employment protections.[6] I also added measures capturing the duration-squared effects, in which these coefficients will account for diminishing returns to income associated with the laws over time. Just as the age-squared coefficient represents the eventual diminishing returns to wages in the workplace as age increases past a certain point, the coefficients on duration-squared for each type of ENDA express similar diminishing returns over time. This finding suggests that while the duration effects of employment protections are positive for all people, as these laws become older and more entrenched, the benefits of these policies will also begin decrease over time.

Table 5. Predicted earnings differences for men and women one year following a policy adoption (reported as percentages).

Couple type specification	**Men's Earnings**	**Women's Earnings**
Married		
No employment policy	(base)	(base)
Public employment only	-5	-3
Private employment	-8	-5
Unmarried		
No employment policy	-29	-12
Public employment only	-33	-14
Private employment	-35	-16
Gay		
No employment policy	-27	+7
Public employment only	-31	+4
Private employment	-33	+2

Note: Table is based on the duration effects from Table 4 regression results. Predicted percentage differences are calculated relative to the base case as exp (coef.) -1.

The results in Table 5 use the results from Table 4 to estimate and predict percentage differences in average earnings by couple-type and policy status. The base of comparison for the regressions on both men and women is comprised of married heterosexual people living in states with no employment policy protection. Holding all other characteristics in the regression constant, the spread of average individual earnings associated with every possible policy regime varies by 8 percent at most within each couple-type. The direction of these differences in

[6] The coefficient on the interaction term for duration of private employment protections and protected gay men (0.0228) is positive and statistically significant at the 5 percent level. The rest of the duration effects and public sector policy interactions unique to gays and lesbians are not statistically significant on either men's or women's earnings. Private sector protections for lesbian women and their duration effects are also not statistically significant.

earnings are contradictory to my initial hypothesis and in opposition to the prejudice based theory of discrimination, particularly for gays and lesbians, who are the intended group covered by such legal protections and the anticipated beneficiaries. These results make predictable sense considering that the coefficients on nearly all the policy interactions for gays and lesbians are insignificant, regardless of policy regime.

Looking at the predicted earnings differences in Table 5, it appears that unmarried heterosexual men and women living in states without an employment nondiscrimination policy earn on average 29 percent and 12 percent less, respectively, than married men and women with the same level of policy coverage. Unmarried men living in states with private sector employment protections appear to earn 27 percent less than married men living in states with the same level of protection; unmarried females with private sector employment coverage seem to make 11 percent less than married females living with private employment protections.

CONCLUSIONS

Though my research is methodology is focused on isolating specific characteristics for a group of individuals, restricting the sample to only include non-single people has its own set of effects guiding the interpretation of my results. According to a recent analysis of U.S. Census data by the Martin Prosperity Institute, single people now appear to make up more than half of the adult population ages 16 and older [Cohn, 2014]. The results from another report on marriage trends using U.S. census data indicate that while marriage rates have been in general decline over the past several decades, data from the U.S. Census's Current Population Survey points to the fact that young adults are postponing the average age at which they first marry [Fry, 2014]. Additionally, it appears that marriage rates are actually declining most rapidly among less educated adults, whereas marriage rates have been slowly rising since 2011 among college educated adults.

Irrespective of policy coverage, both unmarried heterosexual men and women make significantly less than married men and women. Married men and women also appear to make significantly more than any other couple-type, which makes sense for this generally older cohort of people. Considering the urbanization theory on income in conjunction with overall trends in marriage rates can help to explain the results from Table 5 that average incomes are higher for both the male and female married populations. Lifetime earnings profiles of all people are naturally associated with higher earnings over time as age in the labor force also increases. Declining marriage rates among less educated people might amplify the wage discount ascribed to unmarried individuals – or conversely, the wage premium associated with being married – because the unmarried population now includes a greater proportion of less educated adults who will inherently earn lower wages based on their human capital investments.

Examining the effects of sexual orientation discrimination includes the added task of isolating characteristics that are not easily disentangled from the effects of discrimination themselves. Identifying better ways of capturing these unobserved differences in human capital such as labor market experience, job training, and labor force attachment, would help to distinguish some of these characteristic effects. An ideal dataset would also include information regarding the degree of workplace openness in terms of sexual orientation. Unlike other immutable characteristics such as race and ethnicity, sexual preference is something gay and lesbian workers have the option to conceal at work. One interpretation of the positive income effects for lesbian women in the sample might indicate the absence of workplace prejudice. However, these earnings differences might rather reflect a tendency of lesbian women to conceal their behavioral identities in the work environment.

The scope of Americans' commitment to protecting and ensuring equal employment opportunities under the law for all people should not be restricted to only looking at the effects of monetary gains from antidiscrimination policies. Considering the more symbolic implications of greater social acceptance associated with adopting these kinds of protections is equally important when looking at the overall impact of a policy regime. Though these policies themselves may not yield a measurable impact on the majority of people in a protected area, they may generate other important consequential effects. Social outcomes such as the ability to be open at work can reinforce feelings of citizenship and encourage active, pro-social participation by gays and lesbians in their communities. While the presence of a law covering sexual orientation as a protected class may advance wages for some individuals, granting a group of marginalized people recourse from discrimination represents a positive and noteworthy step toward equality for everyone that extends beyond any measurable changes in income.

APPENDIX

Table A.1. Distribution of educational attainments for people in each couple type.

Educational Attainment	Lesbian female	Gay male	Straight unmarried female	Straight unmarried male	Straight married female	Straight married male	Total
Did not graduate high school	3.5	4.3	7.9	14.1	4.6	7.4	6.5
High school diploma or equivalent	18.6	19.3	31.1	40.0	24.4	26.1	25.8
Some college no degree	31.6	31.6	35.8	30.4	33.2	29.6	31.2
Bachelor's degree	25.2	27.5	18.5	13.3	23.0	22.2	22.2
Master's or other professional degree	21.2	17.3	6.7	4.4	14.8	14.7	14.4

Table A.2. Coefficients and robust standard errors from regressions of logged individual wage and salaried incomes for both men and women.

	Men's Earnings		**Women's Earnings**	
Variable	Coefficient	SE	Coefficient	SE
Individual characteristics				
Unmarried heterosexual	-0.352***	0.00464	-0.125***	0.00516
Gay or lesbian	-0.320***	0.0124	0.0695***	0.0124
Policy variables for unmarried people				
Public employment only	-0.0253***	0.00774	0.0134	0.00822
Private employment	0.0262***	0.00596	0.0400***	0.00647
Policy variables for all people				
Public employment only	-0.0610***	0.00383	-0.0367***	0.00454
Public sector policy duration	0.00542***	0.000858	0.00806***	0.00101
Public sector policy duration squared	-0.000108***	2.19e-05	-0.000167***	2.58e-05
Private employment	-0.128***	0.00348	-0.0975***	0.0041
Private sector policy duration	0.0443***	0.000713	0.0469***	0.000826
Private sector policy duration squared	-0.00162***	2.91e-05	-0.00169***	3.35e-05
Policy interactions for gays and lesbians				
Public employment only	-0.0863	0.0679	-0.0056	0.0564
Public sector policy duration	0.0215	0.0149	-0.00387	0.0124
Private employment	-0.063	0.05	-0.0541	0.0541

Private sector policy duration	0.0228**	0.0201	0.00462	0.00915
Age	0.0952***	0.000398	0.0804***	0.000463
Age squared	-0.00101***	4.54e-06	-0.000829***	5.31e-06
Race				
Hispanic	-0.0957***	0.00229	-0.0431***	0.0028
Black	-0.264***	0.00219	-0.0291***	0.00238
Asian	-0.0857***	0.00292	0.0574***	0.00335
Other	-0.176***	0.00436	-0.0862***	0.00497
Educational Attainment				
High school	0.191***	0.00214	0.261***	0.00331
Some college	0.372***	0.00215	0.483***	0.00329
Bachelor's degree	0.740***	0.00227	0.849***	0.00339
Master's or other professional degree	1.011***	0.00248	1.119***	0.0035
English proficiency				
Speaks no English	-0.492***	0.00602	-0.531***	0.00808
Speaks okay English	-0.357***	0.00358	-0.368***	0.00506
Speaks English well	-0.0913***	0.00209	-0.0631***	0.00247
Constant	8.243***	0.00861	7.903***	0.0103
R^2	0.248		0.217	
N	2,057,362		1,551,689	

Note: The omitted categories for each regression are: no employment policy, married, heterosexual, white, native English speaker, and less than a high school education.
** Statistically significant at the 5-percent level.
*** Statistically significant at the 1-percent level.

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