

Customer-Based Discrimination and Sexual Orientation:  
Evidence from Geographic Variation in Occupational Sorting

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**Abstract**

Discrimination against minorities in the work place is a complex phenomenon that has several labor market effects as well as a rich variety of causes. One such cause of discriminatory practices against minority workers is customer-based discrimination. This occurs when prejudice leads individuals to prefer commercial interactions with certain groups of workers over others. Under customer-based discrimination, otherwise identical employees across different classes of workers are not perfect substitutes, as race, gender or sexual orientation becomes a component of workplace productivity.

While several studies address customer discrimination as a component of racial discrimination, to my knowledge this is the first paper to attempt to specifically identify customer discrimination against gay and lesbian workers. To test the prevalence of customer discrimination against gay and lesbian workers in the United States, I exploit geographic variation in attitudes towards homosexuality to see if occupational sorting choices vary amongst gay workers in less prejudiced parts of the country versus more prejudiced parts of the country. To this end, I construct a novel state-level index of attitudes towards homosexuality using individual survey responses to questions about taste. Multiple specifications provide evidence that gay men do sort away from customer service jobs in areas of the country with strong levels of distaste for homosexuality. This sorting is consistent with the model of customer-based discrimination. I find less evidence that this occupational sorting exists amongst lesbian women consistent with many studies across the discrimination literature that find less labor market penalties for lesbians than for gay men.

## Introduction

A rapidly developing segment of economic research is devoted to understanding the relationship between individuals who identify as gay, lesbian, or bisexual and the labor market. Beginning with the formative work by Becker (1957), economists have studied the relationship between discrimination and the labor market. Recently, this has included discrimination against individuals on the basis of sexual orientation. Over the last twenty years, a number of empirical papers have been published that attempt to quantify and explain a wage gap between gay and heterosexual workers. Badgett (1995), Clain and Leppel (2001), Allegreto and Arthur (2001), Berg and Lien (2002), Antecol, Jong, and Steinberger (2007) and others unanimously find evidence of a wage gap between gay and heterosexual males, though the magnitude of this wage gap varies between studies. Most studies, however, find that while a labor market penalty exists for gay men, lesbians are paid a labor market premium. Klawitter (2015) offers a meta-analysis summarizing 34 studies with gay men finding an average wage penalty of 11% and 29 studies with lesbians finding an average wage premium of 9%.

Different researchers explain the causes of the wage gap differently. For example, Badgett (1995) argues that non-conformity of gender roles among gay individuals explains the difference in pay, while Berg and Lien (2002) argue it is the differences in budget constraints between gay and heterosexual couples that leads to an income effect altering labor market outcomes. Antecol, Jong, and Steinberger (2007) attempt to explain the gap empirically, and though they find some evidence of differential levels of human capital, particularly education, and occupational sorting differences, they conclude that the “entire wage penalty suffered by gay men relative to their married counterparts was largely unexplained.”

Though the presence of discrimination against members of minority group proves difficult to identify empirically, the persistence of the wage gap against gay men is consistent with the existence of discrimination. Discrimination is defined as the unequal treatment of minority groups compared with the treatment of the majority group. Discrimination can take a variety of forms, each with their own impacts. Employer, taste-based discrimination occurs when a firm prefers to hire majority workers over minority workers on account of distaste for the presence of minority workers. Co-worker discrimination occurs when prejudiced workers demand a premium to work alongside a minority group. A third type of discrimination is customer-based discrimination. Here, it is the preferences of a firm’s customers that dictate the firm’s hiring and wage-setting practices. It is this third variety I will focus on in this paper.

Customer-based discrimination occurs when a firm’s customers have preferences toward the type of individuals they interact with. Since customers prefer not to interact with individuals from a minority group, the customer will spend less money, or partake in fewer transactions with firms who hire minority workers in roles where customer interaction is necessary. Thus, otherwise equally productive employees across different classes become imperfectly substitutable, as race, gender, or sexual orientation become components of productivity. Consider two workers, one of type A, the majority group, and one of type B. Suppose Worker A and Worker B are identical in every way (level of human capital, skills, etc.) with the exception of their type. In the presence of discriminating customers, a profit-maximizing employer would prefer hiring Worker A to Worker B, and would only hire Worker B at a lower wage. As a result a wage gap will emerge,

as minority workers choosing to work in occupations that interact with customers will do so at a lower wage than their majority counterparts.

This paper examines the presence of customer-based discrimination against gay workers. Though, to my knowledge, this topic has not been explored, there are existing papers examining the extent of customer-based discrimination against racial minorities. The most heavily cited of these papers is Holzer and Ihlanfeldt (1998). Here, they find the racial composition of customers at a firm impacts the probability a minority worker will get hired. The magnitudes of these effects are found to vary based on the level of customer interaction necessary for the open job. Leonard, Levine, and Giuliano (2007) find modest evidence that sales are greater when a store's employees closely resemble potential customers. Evidence consistent with customer discrimination is also prevalent in the world of professional sports. Kahn and Sherer (1988) found that when controlling for player performance, white NBA players made more money on average than black NBA players. Concurrently, they found that attendance to NBA games was greater when the team employed more white players, suggesting the pay gap was explained on the basis of customer-based discrimination.

This paper examines the extent of customer-based discrimination by exploring the occupation sorting choices of gay workers versus their heterosexual counterparts. Holzer and Ihlanfeldt (1998) found that discrimination against minority workers was greater in occupations that require more interaction with customers, suggesting different occupations lead to different levels of discrimination and employment outcomes. In addition, Allegrito and Arthur (2001) and Ahmed, Andersson, and Hammarstedt (2015) find that labor market outcomes for gay men and lesbians vary geographically. Specifically, Ahmed, Andersson, and Hammarstedt found that relative employment and earnings are worse for gay men and lesbians living in areas where public opinion toward homosexuality is more negative. This suggests that geographical variance in public opinion leads to variation in levels of discrimination.

Combining these ideas, I will examine the prevalence of customer-based discrimination against gay workers by observing how choice of occupation is affected by attitudes against same-sex couples and individuals. Specifically, I will see if gay workers will choose less interactive jobs in places where attitudes towards them are more negative.

## **Data**

The ideal data set for this project would be a large data set that directly identified an individual's sexual orientation, geographic location, and occupation. I would then need a measure of the level of customer interaction at each occupation, and a measure of public attitude toward homosexuality in each geographic location. While this data set in its entirety does not exist, by combining various data sets, I come very close to creating this ideal.

## *Individuals*

A prominent issue in any empirical study addressing labor market outcomes for gay men and lesbians is identifying the gay individuals themselves. Though the American Community Survey (ACS) never directly indicates the sexual orientation of an individual, it allows a researcher to

identify same-sex couples. Amongst the choices listed for “relationship to head of household” is unmarried partner. When both the head of the household and partner are the same gender, they are classified as a same-sex couple. This is the method has been used frequently in the literature. Though this exercise limits analysis to a sample of individuals in cohabitating same-sex relationships, Carpenter (2012) suggests that this methodology yields similar results to self-reported or behavioral measures of homosexuality when investigation the sexual orientation wage gap. To mitigate biases resulting from this problem, only heterosexuals in committed relationships are kept in the sample as a comparison group. Black et al. (2007) and Gates and Steinberger (2010) draw attention to measurement error in the reallocating of same-sex couples in the ACS. When mailed in responses list two individuals of the same sex as married, the ACS automatically recodes them as cohabitating partners. As a result, many individuals who made an error in listing their sex, are miscoded as gay cohabitating partners. Gates and Steinberger suggest eliminating this measurement error by omitting the subset of individuals exposed to the reallocation; their suggested procedure is used in this study. This procedure requires limiting analysis to the ACS after 2005, thus 2005 is used as the first year for this study.

Using the criteria above, the remaining ACS observations for 2005-2010 are divided into four groups: gay men, heterosexual men, lesbian women, and heterosexual women<sup>1</sup>. As this study is concerned with individuals with jobs, only employed individuals working at least five hours weekly on average are included in the study. Individuals making less than \$2 per hour<sup>2</sup> and more than \$250 per hour were not included as is typical in the wage discrimination literature.

### *Job Tasks*

The next step is to identify the level of customer interaction necessary for each occupation. The Occupational Information Network, O\*NET, provides data regarding the mix of skills and tasks necessary in various occupations. One such piece of information collected by the 2012 O\*NET database is the importance of “performing for or working directly with the public” for a given occupation. For example, a bartender is rated a 96 on O\*NET’s 0-100 scale, whereas a database administrator is rated a 5. This information is matched with individual’s occupations in the ACS data, thereby providing the importance of public interaction for each individual in my ACS subsample.

### *Attitudes Towards Homosexuality*

The last crucial piece of data is information regarding attitudes towards homosexuality across the United States. For this, I construct a novel index using survey questions from The General Social Survey (GSS). The GSS provides the best resource for assessing these attitudes as the survey directly asks questions about feelings toward gay individuals. The following four questions are asked on the GSS and used in my analysis.

1. “What about sexual relations between two adults of the same sex—do you think it is always wrong, almost always wrong, wrong only sometimes, or not wrong at all?”

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<sup>1</sup> Demographic characteristics (e.g. age, race, education) as well as state of residence, and occupation using OCC1990, the 1990 version of the census occupational classification scheme, are also obtained from the ACS.

<sup>2</sup> Hourly wage calculated as pretax income divided by the product of weekly hours worked and weeks worked

(Questions 2-4 use the same pre-question text, “And what about a man who admits that he is a homosexual?”)

2. “Suppose this admitted homosexual wanted to make a speech in your community. Should he be allowed to speak, or not?”
3. “Should such a person be allowed to teach in a college or university, or not?”
4. “If some people in your community suggested that a book he wrote in favor of homosexuality should be taken out of your public library, would you favor removing the book, or not?”

Each of these questions get to the root of the information I am trying to ascertain, namely, what it is the level of distaste for gay individuals and their behavior. Though questions 2-4 specifically ask about gay men, I am going to make the assumption that prejudice against gay men is correlated with prejudice towards gay women and use these questions as the basis for my measure of distaste for all gay individuals.

The information obtained from these questions is collapsed at the state-year level<sup>3</sup>. This provides me with the share of each state that answered these questions in such a way to imply no distaste for homosexuality during each year of the study. Here I consider answering “not wrong at all” for question 1, “yes” for questions 2 and 3, and “no” for question 4 as showing no distaste. All four variables provide insight into attitudes towards gay individuals, but each variable is highly correlated with the others and therefore somewhat redundant. This provides an opportunity to use principle component analysis to reduce the dimensionality of the attitude data and eliminate this redundancy. The first factor alone explains more than 77% of the variation in the four variables, so only the first principle component is retained for further analysis. Thus, the principle component analysis yields a zero-centered comprehensive index of attitude toward homosexuals. The index scores the most gay friendly state-year observations high, and the state-year observations with the strongest distaste for homosexuality the lowest. The index ranges from a maximum of 3.58 (Maine in 2010) to a minimum value of -4.56 (Arkansas in 2008).

Some states in the GSS sample contained very few or no observations with answers to the above questions. This creates a significant amount of measurement error, as an entire state’s designated attitude towards homosexuals would be constructed off very few individuals. In an effort to minimize this measurement error problem, only state-year cells with a minimum of five GSS observations were kept. As a result, twelve states have no observations in my sample, and two other states and the District of Columbia have missing observations. The GSS is only conducted every other year, so in order to include each ACS year (2005-2010), the midpoint of the index value of even years is assigned to the odd years.<sup>4</sup>

Table 1 displays each state’s index value for attitudes toward gay individuals in 2006, 2008, and 2010. As a whole, the country is moving towards a more favorable attitude, as the average index for the country is increasing, fourteen states are monotonically increasing throughout the study, and thirty-one of the thirty-seven states with multiple observations increased their index score

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<sup>3</sup> Though the GSS makes this data public, individual respondents are only geographically identified at the regional level. State-level data may only be obtained through an application for GSS sensitive data.

<sup>4</sup> For example, the midpoint of the 2006 and 2008 index for California will be assigned as California’s value for 2007.

from the beginning to the end of the study. It is this general trend in attitudes that provides the variation necessary for this analysis.

Table 2 provides summary statistics for all the individuals in the sample with the four groups split between those living in high discriminating states, and in low discriminating states<sup>5</sup>. Compared to their heterosexual counterparts, gay men appear to be younger and have fewer children. As a result of the ACS coding married gay couples as being unmarried partners, no gay men are married, whereas, 92% of the heterosexual men are married. Gay men have much more education as heterosexual men where 45% of gay men living in high-discriminating states and 54% of gay men living in low-discriminating states<sup>6</sup> have graduated college as opposed to 33% and 38% of heterosexual men respectively. The mean Working with the Public statistic for gay men is 57.28 and 57.62, around five points higher than that of their heterosexual counterparts. The last row of Table 2 provides a preview of the results of this paper as 18% of heterosexual men work in the customer service sector in both high- and low-discriminating states, meanwhile and 22% of gay workers in high-discriminating states and 24% of gay workers in low-discriminating states are in the customer service sector. This suggests that in general, gay men are more likely to work in customer service jobs across the country, but they are even more likely to be found in the customer service sector in areas with less discrimination.

Lesbian women and heterosexual women display a similar pattern in the data. Lesbian women are younger, have fewer children, and, as discussed above, are never listed as married in the data. Once again, lesbian women get significantly more education than their heterosexual counterparts. Where between 34 and 38% of heterosexual women graduate college, 46% of lesbian women living in high-discrimination states and 54% of lesbian women in low-discrimination states have college degrees. Like with gay men, lesbian women appear to be more likely to work in the customer service sector, though the geographic difference is not present.

## Theoretical Framework

Consider a simplified two-sector model where the economy is segmented into the customer service sector and the non-service sector (subscripts C and N)<sup>7</sup>. Each sector produces one good using a Cobb-Douglas production function with constant returns to scale. Each sector may employ as many workers who choose to work in that sector. Consider also the economy has two types of workers, heterosexual and gay (subscripts H and G).

$$Q_C = K_C^{1-\alpha} (L_{CH} + (1 - D)L_{CG})^\alpha$$

$$Q_N = K_N^{1-\beta} (L_{NH} + L_{NG})^\beta$$

$$0 \leq D \leq 1$$

Here, D is the share of consumers who refuse interactions with gay workers in the service sector. If D = 0, the gay and heterosexual workers are perfect substitutes in the service sector (as is true

<sup>5</sup> High discriminating is defined as below zero on the discrimination index low discriminating is above zero

<sup>6</sup> Graduating college is calculated as having four or more years of college education.

<sup>7</sup> Similar to the model introduced by Kahn (1991)

in the non-service sector). If  $D = 1$ , gay workers are unproductive in the customer service sector ( $MPL_{CG} = 0$ ).

The perfectly competitive industries each pay workers according to their marginal revenue product of labor. The following equations illustrate the wages received by each type of worker in each sector:

$$\begin{aligned}
 w_{CH} &= P_C * MPL_{CH} = P_C * \alpha K_C^{1-\alpha} (L_{CH} + (1-D)L_{CG})^{\alpha-1} \\
 w_{NH} &= P_N * MPL_{NH} = P_N * \beta K_N^{1-\beta} (L_{NH} + L_{NG})^{\beta-1} \\
 w_{CG} &= P_C * MPL_{CG} = P_C * \alpha K_C^{1-\alpha} (L_{CH} + (1-D)L_{CG})^{\alpha-1} (1-D) \\
 w_{NG} &= P_N * MPL_{NG} = P_N * \beta K_N^{1-\beta} (L_{NH} + L_{NG})^{\beta-1} \\
 \\ 
 w_{NH} &= w_{NG} = w_N
 \end{aligned}$$

We can then define variables to represent the relative wages between the two sectors for each type.

$$\text{Let } \frac{w_{CH}}{w_N} = \omega, \frac{w_{CG}}{w_N} = \omega(1-D)$$

Consider now the choice made by individual  $i$  (of either type) to sort into the different sectors.

$$H: \text{Max}[U(w_N, \varphi_{Ni}), U(w_{CH}, \varphi_{Ci})]$$

$$G: \text{Max}[U(w_N, \varphi_{Ni}), U(w_{CG}, \varphi_{Ci})]$$

The utility function  $U$  is increasing in both arguments.  $\varphi_{Ni}$  represents some level of personal utility gained by individual  $i$  if he works in the non-service sector,  $\varphi_{Ci}$  is the utility gained from working in the customer service sector.

Define  $\psi_i = \frac{\varphi_{Ci}}{\varphi_{Ni}}$ , or individual  $i$ 's relative preference for working in the customer-service sector.

If  $\psi_i > 1$ , individual  $i$  would work in the service sector if wages were equal.

Normalize  $\varphi_{Ni} = 1$ ,  $w_N = 1$ , and  $U(w_N, \varphi_{Ni}) = \theta$ . So  $\theta$  is the utility any individual would receive from working in the non-service sector.

Then a heterosexual individual will work in the service sector if  $U(\omega, \psi_i) > \theta$

And a gay individual will work in the service sector if  $U(\omega(1-D), \psi_i) > \theta$

The probability a gay individual will work in the customer service sector depends on the level of discrimination  $D$ . To be precise, since a gay individual's utility obtained from working in the customer service sector is decreasing in  $D$ , as  $D$  increases, a gay worker is less likely to work in the customer service sector. Meanwhile the probability a heterosexual individual will work in the customer service sector does not depend on  $D$ . Therefore, as  $D$  increases, the number of gay workers in the customer service sector will drop, while the number of heterosexual will stay

constant, thereby decreasing the gay share of the customer service sector. Simultaneously, as an increase in D will increase the probability a gay worker will switch to the non-service sector, the gay share of non-service sector will increase with D.

## Methods

To estimate the impact the variation attitudes towards homosexuality have on job sorting decisions, I employ three main specifications. First, I perform Probit analysis at the individual-level estimating the affect variation in attitudes have in the probability a gay worker will have an occupation in the customer service sector. Second, I use OLS to investigate the impact the discriminatory attitudes have on the level of customer service at an individual's job. Third, I execute a state-level strategy to investigate the relationship between a state's attitudes towards homosexuality and the aggregate state-level sorting of workers between the service and non-service sectors.

### *Probit Estimation*

The first of the three main specifications is the Probit estimation performed at the individual level. Here I estimate the effect of distaste for homosexuality on the probability an individual works in the customer service sector.

For this estimation strategy, I need to define what it means for a job to be a customer service job. With no clear definition existing in the literature, I am left to choose from a variety of seemingly arbitrary cutoffs of the Working with the Public measure obtained from the O\*Net database. For the main results I define a customer service job as an occupation where the importance of customer service is in the top quintile of all jobs, and a non-service job is all other occupations. Later, I replicate the estimation using a variety of cutoffs, and will discuss the overall sensitivity to the cutoff in the results section.

The dependent variable in this estimation is a binary variable signifying if the individual works in the customer service sector. The variable of interest here is the interaction of the geographic attitude toward homosexuality with an indicator variable signifying the individual is gay. The full estimation equation is as follows:

$$CS_{its} = \beta(Gay \cdot Att)_{its} + \gamma Gay_{its} + \delta Att_{ts} + \delta X_{its} + \theta Year_t + \eta State_s + \epsilon_{its}$$

$CS_{its}$  indicates that individual  $i$  works in the customer service sector.  $Gay_{its}$  is a dummy variable indicating if a person is gay.  $Att_s$  is the state-year measure of attitude toward homosexuality. Lastly,  $X_i$ <sup>8</sup> is a vector of observable individual-level variables such as education and age.

Here, the theoretical model predicts a negative relationship between discriminatory attitudes and the probability of working in the customer service sector for a gay worker. Recall, the attitude index obtained from the principle component analysis rates a strong distaste for homosexuality

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<sup>8</sup> Covariates are age, race, education, number of children, married, and metropolitan status

with a low value, and more favorable attitudes with a high value. This implies the model predicts a positive marginal effect should be observed. This marginal effect would imply gay workers in state-year observations where homosexuality is met with more favorable attitudes are more likely to sort into interactive occupations compared to those in observations showing greater distaste.

### *OLS Estimation*

The OLS estimation is very similar to the Probit method used above. However, in the OLS method, the importance of working with the public at an individual's job is the variable of interest. Rather than setting a binary choice (customer service or non-service) this method suggests that discriminating customer behavior could influence an individual to sort into a occupation with less interaction with the public.

Now, the following is the OLS estimating equation:

$$WorkingWithPublic_{its} = \beta(Gay \cdot Att)_{its} + \gamma Gay_{its} + \delta Att_{ts} + \delta X_{its} + \theta Year_t + \eta State_s + \epsilon_{its}$$

Here the outcome variable, *WorkingWithPublic*, is the importance of working directly with the public individual *i*'s job on a scale of 0 – 100. Once again, the theoretical model predicts a positive estimated coefficient on the interaction term.

### *State-year level estimation*

For the final main estimation strategy, I construct what I will call the sorting ratio. This compares the ratio of gay workers to heterosexual workers in the customer service sector to the ratio of gay workers to heterosexual workers in the non-service sector. Let  $L_{CGst}$  be the number of gay workers in the customer service sector in state *s* at time *t*,  $L_{CHst}$  is the number of heterosexual workers in the customer service sector and  $L_{NGst}$  and  $L_{NHst}$  represent the non-service sector. Then define  $\xi_{Cst}$  as the ratio of number of gay employees in customer service to the number of heterosexuals in the customer service sector,  $\xi_{Cst} = \frac{L_{CGst}}{L_{CHst}}$ . Similarly  $\xi_{Nst} = \frac{L_{NGst}}{L_{NHst}}$  is the ratio for the non-service sector. Lastly define  $\rho_{st}$  as the sorting ratio in state *s* at time *t*,  $\rho_{st} = \frac{\xi_{Cst}}{\xi_{Nst}}$ . By defining this sorting ratio like this,  $\rho_{st}$  is not affected by changes in the total amount of gay workers in state *s* at time *t*, the total amount of heterosexual workers, the size of customer service sector, or the size of the non-service sector, as long as the proportions are fixed. Instead,  $\rho_{st}$  is only affected by relative changes in these levels.

I will then use OLS to estimate the impact attitudes towards homosexuality, measured by the index constructed from the GSS sample, has on the sorting ratio. The theoretical model predicts that an increase in the level of distaste for homosexuality will decrease the probability a gay worker sorts into the customer service sector while not changing the sorting decisions of heterosexual workers. Therefore, the model predicts an inverse relationship between the level of distaste and the sorting ration.

In order to construct  $\rho_{st}$  the customer service and non-service sectors need to be defined, once again. As with the Probit estimation, I will define a customer service job as one in the top quintile of all jobs in importance of working with the public, additional cutoffs will be discussed in the results section.

With these definitions in mind, the full estimation equation for the state-year level analysis is as follows:

$$\rho_{st} = \beta Att_{st} + \gamma State_s + \delta Year_t + \epsilon_{ts}$$

Here,  $Att_{st}$  is defined as the attitude toward homosexual in state  $s$  at time  $t$ . The theoretical model predicts a positive relationship between  $\rho_{st}$  and  $Att_{st}$ , or  $\beta > 0$ .

Figure 1 presents a scatter plot of the attitude index and the sorting ratio defined above in one of the years in the study (2010). As predicted, the variables do display the predicted positive relationship.

## Results

Table 3 displays the results from the individual-level Probit regressions. The first specification represents the Probit analysis performed with only the attitude index, the indicator variable signifying if an individual is gay, and the interaction of the two. The additional specifications included individual covariates as well as year and state fixed effects.

The initial specification for men yields a marginal effect of 0.0080 on the interaction between the attitudes index and the dummy variable indicating the individual is gay. The positive marginal effect agrees with the theoretical model prediction suggesting gay men are less likely to work in customer service jobs in states with more unfavorable attitudes towards homosexuality compared to their heterosexual counterparts or gay men living less discriminatory states. The marginal effect of 0.0080 implies that a one-point increase in the attitudes index would increase the probability of a gay man working in the customer service industry by 0.8%. This estimate drops to 0.0066 when a vector of individual covariates including race, age, and education are included. This estimate is robust to the inclusion of state and year fixed effects. An estimated marginal effect of 0.0066 suggests a one-point increase in the attitudes index would increase the probability a gay man works in the customer service sector by approximately 0.66%, or, in a more extreme case, if the attitude level of Missouri in 2010 (-2.804) was replaced by the attitude level of Maine in 2010 (3.583), the probability of a gay man sorting into the customer service sector would increase by more than 4% (.0422).

Across every specification the estimated effect of the impact of attitudes on the sorting decision of lesbian women is not statistically different from zero. This implies that while gay men display occupational sorting consistent with the theory of customer discrimination, lesbian women either do not face the same level of discrimination, it plays little to no role in their sorting decision, or the impact is not being properly detected by this analysis. Herek (2000) finds surveyed heterosexual men display attitudes towards gay men that “are consistently more hostile” than their attitudes towards lesbians, but no differences in attitudes from heterosexual women. This

suggests it may not be the level of discrimination, but intensity of the discrimination that drives different results between gay men and lesbians. Another possibility is that the discrimination index is ineffective in summarizing discriminatory attitudes towards lesbians. In three of the four survey questions that inform the index, the question specifically asks about gay men. If opinions about gay men greatly differ from opinions of lesbian women, the constructed index is not useful in describing discrimination towards lesbian women.

The OLS estimates with “Importance of Working with the Public” as the outcome variable display a positive coefficient for gay men across all specifications. In this case, however, none of these coefficients are statistically different from zero. The lack of statistically significant results from the OLS estimate combined with the Probit results suggest that while discriminatory attitudes affect the sorting decision of gay men, this effect is not seen through the whole distribution of jobs. In other words, gay men may sort from a customer service job to a non-service job, but within non-service jobs, they are not shifting to jobs with even less customer interaction.

Once again, the estimated coefficients for women are not statistically different from zero. In this case, they are even negative, though very close to zero. As in the Probit estimation, this implies that the sorting decision of lesbians is not influenced by discriminatory attitudes.

Table 5 presents OLS results for the state-year estimation method. The first displayed estimates illustrate the results for men without state or year fixed effects. Here the estimated coefficient is 0.1060 suggesting a one unit increase in the index value increases the median state’s sorting ratio by 7.9%<sup>9</sup>. This point estimate decreases with the addition of state and year fixed effects but remains positive, though with the presence of both state and year fixed effects, the estimate is not statistically significant. This result reinforces the hypothesis that geographic variation in attitudes towards homosexuality influences the job sorting of gay men.

As was true in the individual-level specifications, no effect is detected for lesbians.

### *Heterogenous Effects*

Tables 6, 7, and 8 break the sample into groups to analyze if the estimated effect varies between these groups. Table 6 splits the sample by age into two groups, those thirty years old and under, and those over thirty. Though it seems like it would be possible, that the effect identified in the main results for gay men would be driven by younger workers, as it seems more likely they would adjust their careers to perceived discrimination, the split sample reveals no heterogenous effects. Since the sample included in this study is only cohabitating individuals, the younger subsample is much smaller than the older subsample. As a result, the estimated marginal effects for the younger subsample loses precision, and, while the point estimate is very similar to the older subsample, is not statistically significant.

When splitting the women’s sample by age, neither the older or younger subsample reveal marginal effect statistically different from zero.

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<sup>9</sup> Median state-year observation for sorting ration is 1.3453.

Table 7 splits the sample by race into four groups, white, black, Asian, and Hispanic. For men, a positive marginal effect was estimated for each racial group, but only the estimated marginal effect for white men was statistically significant. The point estimate of the marginal effect of discrimination for black gay men is more than twice as high as the estimate for entire sample or the white subsample. Though this estimate narrowly fails to be statistically significant, the large point estimate could be telling of more acute discrimination felt by black gay men versus their white counterparts. Parts of the country that exhibit unfavorable attitudes towards homosexuality tend to be the same as those that exhibit unfavorable attitudes towards blacks,<sup>10</sup> so it is possible that the discrimination towards homosexuals identified for the whole sample of gay men is compounded with discrimination against blacks, making gay black men the most susceptible to customer-based discrimination. This finding is consistent with findings from Douglas and Steinberger (2015) who found “a magnifying effect of double minority status penalizing black gay workers” while examining the racial component of the sexual orientation wage gap, though they also found a similar effect for Hispanic gay men.

When women are split in to subsamples by race, the first statistically significant estimated marginal effect for lesbians is detected. Here, while the white, Asian, and Hispanic subsample perpetuate the trend of no identified effect, the black subsample does reveal a positive and statistically significant marginal effect of unfavorable attitudes on job sorting. This implies, that while lesbians of other races may not experience this customer-based discrimination, as discussed earlier, black lesbians are sorting away from customer service jobs. Unlike the finding with gay men, this result contradicts Douglas and Steinberger’s (2015) finding which identifies a positive wage interaction between sexual orientation and racial minority status for women.

Finally, Table 8 displays the heterogenous effects across levels of education. For men, no effect is observed for the subsample without a high school degree, positive, but not statistically significant, marginal effects are observed for the high school graduate and some college subsamples, and a strong positive marginal effect is observed for the college graduate subsample. This marginal effect is more than twice as large as the estimated effect of the entire sample. This suggests that this occupation sorting response to discrimination is driven mostly by individuals with a college education. This could be due to an expanded set of occupational choices by college graduates. The theoretical model suggests individuals choose between service and non-service jobs. If individuals with less education, and therefore less valued in the labor market, are less likely to yield multiple job offers, less job sorting would be observed regardless of the prevalence of discrimination. Though this theory is certainly plausible, further investigation into the mechanism behind this observed heterogenous effect is required.

#### *Placebo Test – Other Job Tasks*

As a placebo test, I use additional O\*Net job tasks to see if the variation in attitudes towards homosexuals correlate to any other occupational sorting for gay men. If an impact is observed, it would imply that the result detected in the main analysis is picking up some other differences between gay men in different parts of the country, unrelated to discriminatory attitudes. Table 9

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<sup>10</sup> GSS state-level data on attitudes towards blacks was not available. I reconstructed the index used in this study for attitudes towards homosexuals, as well as a similar index using GSS survey questions on blacks at the regional level. The correlation of these two indices was 0.7284.

displays those results for three tasks, Analyzing Data or Information, Telephone Use, and Computer Knowledge. Just as was observed with customer service tasks, all of these three variables have a strong positive marginal effect on the indicator variable that an individual is gay. The marginal effect on the interaction term, however, is close to zero and statistically insignificant for all three tasks. This suggests, as one would expect, individuals are not sorting into jobs with these tasks as a result of discrimination on the basis of sexual orientation.

### *Robustness to Other Cutoffs*

Figures 2 and 3 show the change in estimated effect when the definition of customer service sector is changed in the Probit and state-level analysis respectively. In the Probit analysis, the point estimate on the marginal effect of discriminatory attitudes is positive whether the service sector is defined as an occupation above the 70<sup>th</sup> percentile through the 90<sup>th</sup> percentile. The estimate stays steady and statistically significant when the cutoff is defined anywhere between the 79<sup>th</sup> and 82<sup>nd</sup> percentiles. Otherwise, though positive, the estimate fails to be significant at a 95% confidence level.

Figure 3 shows the same graph for the state-level analysis, with similar results. Here the estimated coefficient is robust for any cutoff between the 79<sup>th</sup> and 86<sup>th</sup> percentiles. Once again, however, for the rest of the distribution, though the point estimates are consistently positive, they are not statistically significant.

### **Conclusions**

Using data on individuals from the 2005-2010 American Community Survey in conjunction with General Social Survey responses to questions about attitudes towards homosexuality, I show that gay men appear to sort away from customer service jobs in areas where there is greater distaste for homosexuality. This impact is evident when using Probit analysis to see the effect of unfavorable attitudes on the probability a gay man works in the customer service sector and when using state-year level observations to test the relationship between attitudes and the overall job sorting of gay men compared to their heterosexual counterparts. Since gay men living in parts of the country with negative attitudes toward their lifestyle are exposed to discrimination and labor market penalties, they are more likely to sort into jobs where interaction with customers is less important.

Though no heterogenous sorting is observed when the sample is split by age, some evidence of heterogenous sorting is observed when the sample is split by race, and strong effects when it is split by education. Specifically, while little evidence is seen that Asian or Hispanic gay men display the sorting I observe for whites, black gay men appear to be exposed to more discrimination and are more affected by unfavorable attitudes. In addition, the results in the main specification appear to be mostly driven by college educated gay men whose response to discrimination appears to be greater.

Although this effect is present when looking at the sorting decision of gay men, it is not observed when looking at lesbian women. This finding is consistent with much of the literature about sexual orientation discrimination in the labor marker where much of the negative outcomes of

discrimination are identifiable when investigation outcomes from men, but not for women. There is, however, an observed effect on black lesbian women, who may be exposed to more discrimination than their white counterparts.

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