



2006

## The Effects of Sexual Orientation on Earnings

Tsz-Ying Yeung  
Gettysburg College  
Class of 2006

Follow this and additional works at: <https://cupola.gettysburg.edu/ger>



Part of the [Behavioral Economics Commons](#), [Labor Economics Commons](#), and the [Public Economics Commons](#)

**Share feedback about the accessibility of this item.**

---

Yeung, Tsz-Ying (2006) "The Effects of Sexual Orientation on Earnings," *Gettysburg Economic Review*: Vol. 1 , Article 5.  
Available at: <https://cupola.gettysburg.edu/ger/vol1/iss1/5>

This open access article is brought to you by The Cupola: Scholarship at Gettysburg College. It has been accepted for inclusion by an authorized administrator of The Cupola. For more information, please contact [cupola@gettysburg.edu](mailto:cupola@gettysburg.edu).

---

# The Effects of Sexual Orientation on Earnings

## **Abstract**

Gay and lesbian topics have received much media attention in recent years. Debates have revolved around issues such as gay marriage, adoption rights, and the legal relationship of children born to a homosexual couple with their nonbiological second parent. Corporations have started to provide partner benefits to gay and lesbian employees. Many companies today have added the words “sexual orientation” to their equal rights hiring policies. Nevertheless, discrimination against homosexual people in the workplace is still widely perceived to exist.

In this paper, I address the question, does earnings discrimination against homosexual and bisexual workers exist in the U.S. labor market? Homophobia can greatly affect homosexual workers’ productivity. “It is homophobia in the workplace that tells me I am not safe, that I must keep on the mask.” Sexual preference stigma can cause homosexual workers stress and anxiety, which is likely to have a negative effect on their working ability. [*excerpt*]

## **Keywords**

LGBTQ, homosexual, discrimination, labor market, homophobia, sexual orientation, worker productivity

# THE EFFECTS OF SEXUAL ORIENTATION ON EARNINGS

*TSZ YING YEUNG*

## I. INTRODUCTION

Gay and lesbian topics have received much media attention in recent years. Debates have revolved around issues such as gay marriage, adoption rights, and the legal relationship of children born to a homosexual couple with their non-biological second parent. Corporations have started to provide partner benefits to gay and lesbian employees. Many companies today have added the words “sexual orientation” to their equal rights hiring policies. Nevertheless, discrimination against homosexual people in the workplace is still widely perceived to exist.

In this paper, I address the question, does earnings discrimination against homosexual and bisexual workers exist in the U.S. labor market? Homophobia can greatly affect homosexual workers’ productivity. “It is homophobia in the workplace that tells me I am not safe, that I must keep on the mask.” (McNaught 8) Sexual preference stigma can cause homosexual workers stress and anxiety, which is likely to have a negative effect on their working ability.

Public discourse about such issues may be important for de-stigmatizing homosexual workers. Moreover, quantitative information about the working conditions of lesbian, gay, or bisexual (LGB) people in the office would be interesting for members of that group and for their advocates. This topic is of great concern to those economists who would want to promote policy to protect homosexuals. For example, if there is empirical evidence indicating the existence of discrimination in the workplace, then policy makers may decide to implement more effective non-discriminatory laws in the labor market. Finally, society in general may be interested in this topic as well.

In the next section, I review the previous academic literature on the effects of sexual orientation on earnings. In the third section, I outline the empirical model of the present study. In section four, I discuss the data collected to test my hypothesis whether homosexual and bisexual workers are discriminated against in the workforce, and in section five I apply what I have discovered from my econometric analysis to draw conclusion on the effects of sexual orientation on earnings.

## II. LITERATURE REVIEW

Literature examining the impact of earnings discrimination on homosexual workers has increased since the first econometric study by Badgett (1995). Badgett used General Social Survey (GSS) data for the years of 1989-91 to examine wage discrimination against gay, lesbian, and bisexual groups. Badgett assumed that people who answered that they had more same-sex partners than opposite-sex partners in the past belonged to the LGB group. Badgett found that gay and bisexual male workers earned between 11 percent and 27 percent less than similarly qualified heterosexual males, while lesbian and bisexual women were not significantly different from heterosexual women. Similar studies using more recent GSS data have shown slightly different results than Badgett's paper. Blandford (2000) and Black et al. (2003) analysis of the GSS data of 1989-96 found an earnings penalty for gay men compared to heterosexual males and an earnings premium for lesbian women compared to heterosexual women. Blandford's result was a 30 – 32 percent earnings penalty for behaviorally gay men, and a 17 - 23 percent increase in earnings for behaviorally lesbian women. Correspondingly, Black et al. found that gay men earned 14 -16 percent less, while lesbian women earned 20 - 34 percent more. Berg and Lien (2002) using GSS data of 1991-1996 found results similar to those of Blandford and Black et al.

Some studies have also used data from the 1990 U.S. Census (PUMS 5 percent) to examine the effects of sexual orientation on labor market earnings. Klawitter and Flatt (1998) and Allegretto and Arthur (2001) consider the effects of sexual preferences on three types of couples: married (heterosexual), unmarried heterosexual, and homosexual. Both articles found that men in homosexual couples earned the most among all types of couples. Married heterosexual men earn more than coupled female homosexuals, and further, females in homosexual couples earn more than unmarried heterosexual females. These income gaps suggest the existence of a marriage premium, since it is unmarried female and male heterosexuals who earn the least of all. Their results are consistent with previous studies based on GSS data: gay men are found to earn less income than heterosexual males while lesbian women are found to earn more than their comparable heterosexuals. Additionally, their results suggest that married heterosexual men earn more than both homosexual men and unmarried heterosexual men. On the other hand, homosexual females are found to earn more than both unmarried heterosexual women and married heterosexual women.

The studies above indicate that, gay men can expect to earn less than heterosexual men, and lesbian women can expect to earn more than heterosexual women. To explain these disparities, Berg and Lien argue that heterosexual women and gay men have different budget constraints which keep them from choosing higher levels of work. They suggest that men and woman may have different preferences for the trade-off between labor and leisure. For example, cultural norms posit that married heterosexual women should stay at home after they have children and men should work more to support the family. Similarly, Black et al. argued that married women tend to specialize in home production and as a result they tend to invest less in their human capital accumulation. On the other hand, married men specialize in wage-labor and therefore tend to invest relatively more in their human capital.

In a study utilizing data from the Netherlands, a country that has legalized same-sex marriage, Plug and Berkhout (2004) uses a large survey of Dutch university graduates to examine the effects of sexual orientation on entry-level job earnings. They found a 3 percent income penalty on gay men's earnings compared with those of heterosexual males, and a 3 percent income premium on lesbian women's earnings compared with those of heterosexual females. Additionally, they did not observe the existence of an earnings gender gap among homosexual workers. Based on their findings, they concluded that the Dutch labor market does not discriminate against homosexual workers at the job-entry level. In one of the most recent US studies on this topic, Carpenter (2005) uses confidential data on self-reported sexual orientation in California in 2001 and GSS data from 1988 to 2000 to examine the effects of sexual orientation on earnings. Carpenter finds little evidence that homosexual workers earn less than heterosexual workers. However, he finds a 10 percent income penalty on bisexual workers' earnings compared with the earnings of similarly qualified heterosexual workers in California.

My project will examine the impact of sexual orientation on wages by using GSS data from 1972 to 2004. My methodological approach consists of testing whether there are any differences between the earnings of heterosexual, homosexual and bisexual people who have similar backgrounds. To distinguish whether a person belongs in the homosexual group, I will use the following definition: a homosexual is a person who has had exclusively same sex partners in the past 12 months while a heterosexual is a person who has only had opposite sex relationships. Similarly, a bisexual is a person who has sexual relationships

with both sexes. I use the newest GSS data available to examine the earnings differential between heterosexual and homosexual workers. Some research papers (Allegretto & Arthur, 2001; Klawitter and Flatt, 1998) used the 1990 Census data. Census data identified only partnered lesbian and gay groups and hence it is not a probability sample of all lesbian women and gay men. It is also possible that the numbers of gay and lesbian individuals to have come “out” has increased since 1990 because of increased social acceptance. Therefore, the updated GSS data that I use will improve on the various weaknesses of past data.

### III. MODELING

I first use the traditional statistical earnings equations to assess the income differential between homosexuals and heterosexuals. Specifically, I estimate wage equations in which I regress log income on a dummy variable indicating sexual orientation and on various other socioeconomic characteristics which might affect income. Then I use the Heckman Selection model to examine the relationship between self-selected workers in the labor force and their earnings difference. I restrict my sample to those between eighteen and sixty-four. I estimate separate equations for male and female wage earners. These wage equations are formally given by the following econometric model:

$$Y_i = \alpha + \beta_i X_i + \varepsilon_i$$

where  $Y_i$  is a vector of log respondent's real income and  $X_i$  is a vector of demographic variables including sexual orientations, occupations, education levels, race, experience and experience squared. Gay/Lesbian is a dummy variable equal to one if the respondent has engaged only in same-sex relationships in the last twelve months. Bisexual is also a 0-1 dummy variable, assuming a value of one if the respondent has reported having a relationship with both female and male partners in the last twelve months. Similarly, Heterosexual is a dummy variable equal to one if the respondent has reported only opposite sex partners. Occupation is a vector of indicator variables for 13 broad job categories. Race is a dummy variable assuming a value of one if the respondent is white and zero if otherwise. Experience is calculated as follows:

$$\text{Experience} = \text{Age} - \text{Years of Education} - 5$$

Labor market experience is included in the model to capture the effects of individual characteristics, such as productivity, seniority, and on the job training,

that are likely to affect earnings. A squared term in experience is included to capture the non-linearity in the experience-earnings profiles.

Working Status is a vector of dummy variables indicating employment status, and region is a vector of indicator variables for 9 different (Census) regions in the US. Marital status is also a dummy variable indicating whether the respondent was widowed, divorced, separated, never married or married. Married is the base variable, since homosexual marriage is not legal in the US, and it would be difficult to explain the income difference if married homosexuals were included in the data. Lastly,  $\varepsilon$  is an error term that is assumed to be uncorrelated across individuals but permitted to be correlated within individuals over time. Therefore, the model is estimated using robust regression methods. The regression model for the Heckman Selection model is formulated similarly to the wage equation above. However, it is observed only when those workers who work full-time earn a positive income.

The selection Mechanism and regression model are given by the following (Green, 1992):

Selection Mechanism

$$Z_i^* = \mathbf{g}' \mathbf{W}_i + \mathbf{n}_i ,$$

$$Z_i = 1 \quad \text{if } Z_i^* \leq 0 ,$$

$$Z_i = 0 \quad \text{if } Z_i^* > 0 ,$$

$$\text{Prob}(Z_i = 1) = \Phi(\mathbf{g}' \mathbf{W}_i),$$

$$\text{Prob}(Z_i = 0) = 1 - \Phi(\mathbf{g}' \mathbf{W}_i).$$

Regression Model

$$Y_i = \alpha + \beta_i X_i + \varepsilon_i, \text{ observed only if } Z_i = 1,$$

$$(\mathbf{n}_i, \varepsilon_i) \sim \text{bivariate normal}[0,0,1,\sigma_\varepsilon, \rho]$$

where  $Z_i^*$  represents a dummy variable assuming a value of one if a worker works full-time and earns positive income (sample1).  $\mathbf{W}_i$  is a vector of socioeconomic characteristics and sexual orientation variables, as well as other variables such as region and marital status which might affect earnings.

## IV. DATA

This study draws on pooled, cross-sectional data from the 1972 – 2004 administrations of the General Social Survey (GSS), conducted by the National Opinion Research Center (NORC). The GSS is an extensive survey of U.S. households and includes information on various labor market characteristics such as income, working hours, and occupations. The GSS also collected information on the number and gender of respondents' sexual partners in the last twelve months and in the past five years. My analysis relies on data from these surveys, as well as on a few assumptions about sexual behavior and identity.

An ideal data set for testing my hypothesis would be a set that accurately documents the earnings and possible hiring discrimination of LGB people in comparison with similarly qualified heterosexuals. Moreover, a data set that classifies homosexuals on the basis of self identification rather than according to their sexual partners is desirable. This data is difficult to acquire as differences in earnings and hiring may be correlated with other factors. For example, LGB people may be underrepresented in statistical research because stigma may keep them from reporting sexuality based discrimination. Alternatively, advocates of homosexual groups could falsely report themselves to have had same-sex partners in the past. These untruthful survey responses could cause estimation problems. Finally, honesty of the survey response for being in the homosexual group may be correlated with income, which in turn may cause further problems in the data set.<sup>1</sup>

It is possible that if homosexual marriage is legalized, data collection on these groups' earnings will become more accurate or widely perceived. At present, the GSS is one of the richest data sets that contain information on working history, sexual preferences, and labor market outcomes. Therefore, I utilize these data to examine the impact of sexual orientation on earnings. I created dummy variables for sexual orientation based on the respondents' sexual partner histories in the last twelve months as opposed to their sexual partner histories in past five years. The advantage of using the last twelve month sex partners' sample rather than the past five year sex partners' sample is that the former includes a larger number of homosexual respondents. However, a potential disadvantage with this approach is that people's sexual

---

<sup>1</sup> For instance, if only low-income homosexual groups reveal truthful information, while high-income homosexual groups hide to tell their true sexual orientation, this could create an income gap between homosexual and heterosexual groups.



preferences may vary more during a longer period of time and so individuals who are classified as homosexual in a given survey year might have also had opposite-sex relationships over the past five years. In fact, as shown in Figure 1, fewer people report sexual relationships with both sexes in the past twelve months than in the past five years. Thus, my sample contains only a limited number of bisexual workers.

The GSS data provide respondents with the choice of not disclosing their sexual preferences. I assume that all respondents who do not reveal their sexual preferences are sexually inactive and they serve as the excluded group in the regression analysis.<sup>2</sup>

All of the job occupation variables are created by combining similar job categories from the survey indicated. For instance, the survey has several choices of being a professional, and so I combined them into a single variable called professional. Similarly, I grouped various other jobs into broader categories. For example, the variable Sales is derived by combining various kinds of sales workers (shoes, radio, apparel, etc.). Figure 2 in the appendix shows mean annual income classified by female sexual orientation. As the histogram indicates, lesbian females earn on average the most, \$21,102.46 and heterosexual females earn on average more than bisexual and sexually inactive females. For the male sample, Figure 3 indicates that heterosexual male workers earn on average \$28,367.32, which is slightly more than the average income of gay male workers who earn \$24,693.58. Bisexual male workers earn the least among the four groups. Figure 4 shows mean annual income versus occupation. As the histogram indicates, executives earn on average the most, \$34,465.18, followed by professionals, \$28,717.20. Figure 5 plots sexual orientation versus education levels and indicates that about half of all homosexual and bisexual workers have attained a high school degree. Compared with heterosexual and bisexual workers, a higher percentage of homosexual workers attain tertiary educational degrees (bachelor and graduate). Descriptive statistics of each variable in the wage equations and the Heckman selection model are provided in Table 1 in the appendix. Table 1 shows the 13 occupations and 7 working statuses mentioned previously. Moreover, it shows that the dataset contains 6 types of educational degrees, 5 types of marital statuses and 9 different US regions. Variables for experience and race are also included. Instead of using the absolute earnings

---

<sup>2</sup> The number of sexually inactive people is likely to be over-estimated because it is not based on their actual sexual experiences.

in the regression analysis, I take the logarithm in order to address the possible non-linear relationship between income and other regressors. Gay, lesbian and bisexual are defined as described in Table 1. There are 205 gay and 44 bisexual men among the 6,729 male respondents, while 149 lesbian and 47 bisexual women are identified among the 7,931 females in the full sample.<sup>3</sup>

## V. RESULTS

I estimate two similar regressions for the female and male samples to capture the effect of sexual orientation under different circumstances. The interpretation of the impact of the dummy variables on log income is given by (Halvorsen and Palmquist, 1980):

$$(2) \quad \text{Percentage} = 100 * (exp(c - V(c)/2) - 1)$$

where  $c$  is the estimated coefficient on a dummy variable and  $V(c)$  is the estimated variance of  $c$  which is equal to the square of the estimated standard error ( $\mathbf{D}$ ).

Table 2 presents the wage equation regression results for both females and males. In this model, I regress log income on several dummy variables that indicate sexual preference, job, education level, experience, experience-squared and race. For the male sample, gay men earn 21.93 percent less than similarly qualified sexually inactive workers. Compared to sexually inactive workers, bisexual males earn a 33.45 percent penalty, whereas heterosexual males earn a 5.85 percent penalty. Correspondingly, executives earn an income premium of 30.13 percent (significant at 1 percent). Cleaners, farmers, fishermen, service employees and administrative supports earn less than professionals, which is consistent with the descriptive analysis (see Figure 4). With regards to race, black men earn 19.20 percent less than whites, which is consistent with the findings of the labor market literature. The coefficients on experience and experience-squared are as expected. Experience has a positive effect on income, whereas experience-squared has a negative impact on income because of diminishing marginal returns of experience to income.

For the female sample, the results suggest that lesbian workers earn a 37.22 percent earnings premium (1 percent level of statistical significance), whereas bisexual females are imposed a 16.95 percent earnings penalty, although

---

<sup>3</sup> *Note:* Since not all gays, lesbians, and bisexuals participate in the labor force, in the regression analysis I include only those GLB individuals who have worked for a wage.

this number is statistically insignificant. Education levels are strongly and positively correlated with earnings - the higher the degree earned, the higher the earnings. Compared with workers who have earned a high school degree, workers who have not completed high school earn 31.72 percent less, whereas workers who have earned a degree above high school earn from 38 percent to 129 percent more. Regarding occupations, the coefficient on the executive variable is positive, which indicates that a professional (the excluded occupation) who switches to become an executive will experience a marginal increase in earnings. The interpretation of the coefficients on the other occupation variables is similar. For the race variables, black females earn 5.5 percent more than white females. This result contradicts the common empirical observation that whites earn relatively more than blacks. The two experience variables are again consistent with economic theory.

Results for the female sample obtained under the traditional wage equation are inconsistent with the sexual orientation discrimination theory since they indicate that lesbian women earn relatively more than heterosexual females. The existence of income penalties for gay male workers may indicate that sexual orientation discrimination exists in the labor force. Hence it is not too easy to explain why society will favor lesbian women but it will discriminate against gay male workers. One possible explanation is that there is a selection bias in the simple wage equation regression. In other words, certain types of workers are more likely to select themselves into the labor force. I use the Heckman selection model to correct for this possible bias in the simple wage equation. This correction for differential selection explained by sexual orientation is likely to provide better estimates of the income disparity between homosexual, bisexual and heterosexual workers.

Table 3 shows the result for this Heckman selection model, which is similar to the wage equation where log income is the dependent variable. I ran the regression separately for both the male and female samples. The selection portion of the Heckman selection model includes not only the independent variables that were in the original wage equation, but also the region and marital variables. For the male sample, the wage equation shows that gay males earn a 14.90 percent penalty compared with sexually inactive workers. In the selection part of the model, gay male workers are more likely to work full-time than sexually inactive men. Results for bisexual male workers are insignificant under the Heckman selection model but the coefficient in the wage equation suggests

that bisexual male workers earn an income penalty. While heterosexual male workers are found to earn a 7.12 percent income penalty compared with sexually inactive male worker in the wage equation, they are more likely than sexually inactive males to work full-time. This indicates that heterosexual male workers are more likely to select themselves in paid full-time work than are bisexual and sexually inactive males. The education variables are all significant at the 1 percent confidence level. Along with increases in educational level, earnings grow less rapidly in the paid full-time selectivity model than in the simple wage equation model. For example, in the regression model, a worker who completed graduate school earns an 83.49 percent premium relative to a high school graduate, whereas in the selection model, a graduate school graduate earns only a 28.20 percent income premium. These results suggest as expected that well-educated people are more likely to select themselves into paid full-time work than are less-educated people. Black male workers are expected to earn less compared with white workers, and blacks are less likely select themselves into employment. Both experience variables are statistically significant and they have the expected signs in both the simple wage equation and selection models. In addition, a male worker who works at a paid full-time job in New England, Middle and South Atlantic, East-North or North-South Central earns from 11.15 percent to 15.85 percent higher income than a male worker located in West-North central.

With regard to marital status, a male worker who is married is more likely to work for full-time than widowed, divorced, separated or never married males. After controlling for selection in the labor force, the income penalty for gay males does not seem to disappear and this in turn may suggest that there is some discrimination against gay male workers in the workforce. However, there is no strong evidence for the effect of sexual orientation on the earnings of bisexual males. Lastly, the results also suggest that heterosexual male workers are the most likely to select themselves into the work force.

For the female sample, under the Heckman selection model, the wage equation shows a 0.75 percent (statistically insignificant) income premium for lesbian workers compared with a 37.22 percent premium (1 percent level of significance) in the OLS wage regression. These income premiums are relative to the group of sexually inactive workers. Under the selection mechanism, the results strongly confirm that lesbian workers are more likely to select themselves into full-time paid employment than are sexually inactive, heterosexual or bisexual workers. The income premiums for lesbian workers found in the

simple wage models disappear after controlling for selection. This result is more consistent with the work discrimination theory in general, in which gay male workers are earning a penalty and lesbian workers at least do not earn an income premium compared with other heterosexual workers as some previous studies have shown. The results found from the simple wage models, which show that lesbian workers are earning a premium, are possibly driven by the fact that lesbians are the most likely group of workers to select themselves into full-time paid employment. Coefficients on bisexual female workers are statistically insignificant in all models, which is likely caused by the small number of bisexual women in the sample. Heterosexual female workers earn 0.22 percent less than sexually inactive female workers, although this result is insignificant. Controlling for self-selection, heterosexual workers earn a 12.90 percent income premium, which indicates that heterosexual females are more likely to work at a paid full-time job than are sexually inactive females. However, compared with lesbian workers, heterosexual female workers have weaker incentives to work. As in the male sample, adding controls for self-selection reduces the magnitude of the coefficients on all variables that indicate educational level. With regards to race, black women earn a 9.47 percent income penalty compared with white woman (significant at the 1 percent confidence level) after controlling for differential selection, although they are more likely than white women to work full-time. For the experience variables, results are similar to those found for the male sample and are also consistent with previous empirical research. In contrast to male workers, married women workers are least likely among all women to work full-time. These results are consistent with the traditional family model, where women tend to specialize in home production, and men work for salary to support financially the household.

Table 4 shows a Heckman selection model that is almost the same as the one in table 2, the only difference being that it does not include the sexual orientation variables. The main purpose of this model is to distinguish between the earnings of people of different sexual orientation, if the model failed to control for sexual orientation variables in the selection equation. For the male sample, results for gay male workers are consistent with those from the previous models, which show that gay men earn an 11.89 percent income penalty. Similarly, bisexual male workers earn 23.97 percent less than sexually inactive workers, whereas heterosexual male workers earn 3.86 percent less. For the female sample, lesbian women earn an income premium of 25.48 percent com-

pared with sexually inactive females (significant at the 1 percent confidence level), while being bisexual has no significant effect on earnings. Heterosexual female workers earn a 7.12 percent income premium.

These results indicate that lesbian workers earn a premium in both the simple wage equation model that does not control for selection, and in the selection model that does not include the sexual orientation variables in the selection mechanism. However, when adding controls for sexual orientation variables in the Heckman selection model, lesbian sexual orientation variables no longer has a significant effect on earnings. Moreover, the results suggest strong evidence that lesbian workers are more likely to select themselves into paid full-time employment than both heterosexual and bisexual females.

## VI. CONCLUSION

This study has revisited the effects of sexual orientation on income using GSS data from 1972 to 2004. It provides some evidence on the income disparity between homosexual, bisexual and heterosexual groups. Homosexual males earn from 12 percent to 22 percent less than heterosexual males with similar backgrounds. In contrast to some previous studies, homosexual females are not found to earn an income premium relative to heterosexual and sexually inactive women. However, results from the Heckman selection model suggest that lesbian workers are more likely to select themselves into paid full-time jobs. Based on this result, I conclude that lesbian workers are not favored by the labor market. Results for both bisexual males and females do not show any evidence that being bisexual has an effect on earnings. Lastly, findings show that consistent with the traditional family models, married men are more likely to work for wages than married women who tend to specialize in home production.

In the future, one can extend this research by using some confidential data on sexual orientation with a larger sample size to capture additional effects of sexual preferences on earnings. Furthermore, it may be useful to examine a similar question in countries such as Netherlands, Belgium, Spain, England and Canada<sup>4</sup>, where homosexual equality rights are more abundant than in the US. Research on the labor market experience of homosexual people in these countries may help US policy makers to de-stigmatize homosexuals in the US labor market.

---

<sup>4</sup> These are countries which have legalized same-sex marriage or union.

Finally, the results of this study suggest that there is some evidence that discrimination against gay male workers may after all exist in the labor market. It is likely that discrimination based on sexual orientation has a negative impact on the labor market experiences and earnings of non-heterosexual people. Hence it is important that policy makers implement more effective antidiscrimination laws in the US labor market.

Table 2: Wage Equation Model

<b>Male</b>	Estimated Earnings	Robust	Percentage	<b>Female</b>	Estimated Earnings	Robust	Percentage
variable	Effect	Std. Err.	%	variable	Effect	Std. Err.	%
const	8.823	0.029		const	8.406	0.030	
<b>Sexual Orientation:</b>				<b>Sexual Orientation:</b>			
gay	-0.246***	0.063	-21.93	gay	0.319***	0.077	37.22
bisexual	-0.395**	0.155	-33.45	bisexual	0.169	0.156	16.95
hetero	-0.057***	0.016	-5.58	hetero	0.045**	0.019	4.59
<b>Education levels:</b>				<b>Education levels:</b>			
Less than High School	-0.404***	0.024	-33.25	Less than High School	-0.381***	0.030	-31.72
Junior College	0.193***	0.027	21.24	Junior College	0.325***	0.032	38.33
Bachelors	0.409***	0.021	50.51	Bachelors	0.542***	0.025	71.83
Graduate	0.702***	0.027	101.79	Graduate	0.831***	0.035	129.51
<b>Occupation:</b>				<b>Occupation:</b>			
Mechanics	0.103***	0.029	10.80	Mechanics	0.332***	0.126	38.23
executive	0.264***	0.025	30.14	executive	0.384***	0.030	46.75
Technician	0.100**	0.042	10.38	Technician	0.289***	0.042	33.44
Sales	0.007	0.035	0.60	Sales	-0.220***	0.038	-19.84
Administrative support	-0.067**	0.034	-6.53	Administrative support	0.086***	0.025	9.00
Service Occupation	-0.300***	0.034	-26.00	Service Occupation	-0.413***	0.031	-33.85
Farmer/Fisher occ	-0.324***	0.063	-27.78	Farmer/Fisher occ	-0.207	0.155	-19.67
Precision occ	0.083**	0.035	8.54	Precision occ	0.208***	0.052	23.00
Operators	-0.041	0.034	-4.04	Operators	0.091**	0.040	9.42
Construction	0.071**	0.031	7.27	Construction	-0.105	0.202	-11.78
Transportation occ	-0.008	0.036	-0.90	Transportation occ	-0.250**	0.099	-22.51
Cleaners	-0.286***	0.042	-24.96	Cleaners	-0.184**	0.087	-17.15
<b>Race:</b>				<b>Race:</b>			
black	-0.213***	0.024	-19.20	black	0.054**	0.022	5.55
<b>Experience:</b>				<b>Experience:</b>			
exp	0.088***	0.002	9.21	exp	0.057***	0.003	5.91
exp_sq	-0.001***	0.000	-0.14	exp_sq	-0.001***	0.000	-0.09
N	13117			N	12656		
R-squared	0.290			R-squared	0.206		

\* Statistically significant at 10% level; \*\* at the 5% level; \*\*\*at the 1% level.



Table 3: Heckman Selection Model

<b>Male (Lninc)</b>				<b>Female (Lninc)</b>			
variable	Estimated Earnings Effect	Robust Std. Err.	Percentage	variable	Estimated Earnings Effect	Robust Std. Err.	Percentage
const	9.611	0.031		const	9.827	0.039	
<b>Sexual Orientation:</b>				<b>Sexual Orientation:</b>			
gay	-0.159***	0.061	-14.90	gay	0.012	0.093	0.75
bisexual	-0.245	0.181	-22.97	bisexual	0.052	0.153	4.12
hetero	-0.074***	0.017	-7.12	hetero	-0.002	0.020	-0.22
<b>Education levels:</b>				<b>Education levels:</b>			
Less than High School	-0.177***	0.025	-16.21	Less than High School	-0.023	0.035	-2.34
Junior College	0.089***	0.027	9.31	Junior College	0.057*	0.034	5.85
Bachelors	0.313***	0.022	36.71	Bachelors	0.237***	0.025	26.69
Graduate	0.607***	0.028	83.49	Graduate	0.317***	0.035	37.20
<b>Occupation:</b>				<b>Occupation:</b>			
Mechanics	0.025	0.029	2.51	Mechanics	0.028	0.103	2.30
executive	0.165***	0.026	17.87	executive	-0.052	0.032	-5.15
Technician	0.095**	0.046	9.87	Technician	-0.035	0.046	-3.52
Sales	0.061*	0.036	6.25	Sales	-0.083**	0.044	-8.04
Administrative support	-0.119***	0.036	-11.26	Administrative support	-0.126***	0.026	-11.86
Service Occupation	-0.175***	0.035	-16.08	Service Occupation	-0.325***	0.035	-27.76
Farmer/Fisher occ	-0.199***	0.068	-18.21	Farmer/Fisher occ	0.000	0.198	-1.96
Precision occ	-0.036	0.039	-3.57	Precision occ	-0.224***	0.059	-20.22
Operators	-0.138***	0.035	-12.93	Operators	-0.306***	0.043	-26.41
Construction	0.066**	0.033	6.74	Construction	0.046	0.202	2.57
Transportation occ	-0.006	0.036	-0.62	Transportation occ	-0.366***	0.112	-31.10
Cleaners	-0.135***	0.048	-12.75	Cleaners	-0.297***	0.095	-26.07
<b>Race:</b>				<b>Race:</b>			
black	-0.137***	0.025	-12.80	black	-0.099***	0.024	-9.47
<b>Experience:</b>				<b>Experience:</b>			
exp	0.046***	0.003	4.73	exp	0.031***	0.003	3.10
exp_sq	-0.001***	0.000	-0.06	exp_sq	0.000***	0.000	-0.04
N	13481			N	18196		

<b>Male (Sample1)</b>				<b>Female (Sample1)</b>			
variable	Estimated Earnings Effect	Robust Std. Err.	Percentage	variable	Estimated Earnings Effect	Robust Std. Err.	Percentage
const	0.646	0.063		const	-0.536	-0.044	
<b>Sexual Orientation:</b>				<b>Sexual Orientation:</b>			
gay	0.105	0.106	10.49	gay	0.424***	0.120	51.74
bisexual	-0.039	0.237	-6.45	bisexual	0.081	0.187	6.60
hetero	0.110***	0.028	11.58	hetero	0.122***	0.021	12.90

Education levels:				Education levels:			
Less than High				Less than High			
School	-0.348***	0.035	-29.44	School	-0.456***	-0.030	-36.66
Junior College	0.145***	0.053	15.39	Junior College	0.260***	0.041	29.54
Bachelors	0.178***	0.037	19.37	Bachelors	0.303***	0.028	35.35
Graduate	0.250***	0.055	28.20	Graduate	0.619***	0.045	85.52
Occupation:				Occupation:			
Mechanics	-0.016	0.051	-1.76	Mechanics	0.331**	0.144	37.75
executive	0.260***	0.051	29.47	executive	0.443***	0.039	55.56
Technician	-0.037	0.078	-3.97	Technician	0.225***	0.062	25.05
Sales	0.027	0.056	2.62	Sales	-0.010	0.041	-1.05
Administrative support	-0.011	0.062	-1.26	Administrative support	0.124***	0.027	13.17
Service Occupation	-0.108**	0.051	-10.37	Service Occupation	-0.040	0.033	-3.98
Farmer/Fisher occ	-0.027	0.093	-3.13	Farmer/Fisher occ	-0.234	0.164	-21.96
Precision occ	0.050	0.067	4.87	Precision occ	0.282***	0.064	32.25
Operators	0.104**	0.059	10.71	Operators	0.287***	0.048	33.04
Construction	-0.126**	0.052	-11.94	Construction	0.190	0.188	18.82
Transportation occ	-0.129**	0.058	-12.29	Transportation occ	0.173	0.117	18.04
Cleaners	-0.302***	0.061	-26.21	Cleaners	0.124	0.097	12.69
Race:				Race:			
black	-0.077**	0.038	-7.50	black	0.083***	0.027	8.65
Experience:				Experience:			
exp	0.028***	0.004	2.81	exp	0.018***	0.003	1.85
exp_sq	-0.001***	0.000	-0.06	exp_sq	0.000***	0.000	-0.04
Regions:				Regions:			
New England	0.149***	0.058	15.86	New England	0.084	0.043	8.69
Middle Altantic	0.148***	0.047	15.79	Middle Altantic	0.020	0.032	1.99
E.Nor. Central	0.107**	0.045	11.16	E.Nor. Central	0.003	0.031	0.27
South Altanic	0.136***	0.046	14.47	South Altanic	0.056*	0.031	5.66
E.Sou. Central	0.032	0.055	3.11	E.Sou. Central	-0.024	0.036	-2.41
N.Sou. Central	0.107**	0.052	11.15	N.Sou. Central	0.039	0.034	3.93
Mountain	-0.083	0.058	-8.12	Mountain	0.030	0.039	2.92
Pacific	0.066	0.048	6.72	Pacific	0.092***	0.033	9.56
Marital Status:				Marital Status:			
Widowed	-0.382***	0.097	-32.06	Widowed	0.185***	0.035	20.27
Divorced	-0.262***	0.035	-23.13	Divorced	0.457***	0.025	57.95
Separated	-0.310***	0.062	-26.80	Separated	0.160***	0.035	17.26
Never Married	-0.531***	-0.028	-41.22	Never Married	0.301***	0.023	35.05
N	13481			N	18196		

\* Statistically significant at 10% level; \*\* at the 5% level; \*\*\*at the 1% level.

Table 4: Heckman Selection Model  
(Sexual orientation variables are excluded)

<b>Male (Lninc)</b>				<b>Female (Lninc)</b>			
variable	Estimated Earnings Effect	Robust Std. Err.	Percentage	variable	Estimated Earnings Effect	Robust Std. Err.	Percentage
const	9.609	0.031		const	9.819	0.039	
<b>Sexual Orientation:</b>				<b>Sexual Orientation:</b>			
gay	-0.125**	0.057	-11.89	gay	0.230***	0.083	25.48
bisexual	-0.265**	0.133	-23.97	bisexual	0.101	0.095	10.11
hetero	-0.039***	0.014	-3.86	hetero	0.069***	0.015	7.12
<b>Education levels:</b>				<b>Education levels:</b>			
Less than High School	-0.172***	0.025	-15.82	Less than High School	-0.017	0.035	-1.78
Junior College	0.085***	0.027	8.85	Junior College	0.046	0.034	4.66
Bachelors	0.309***	0.022	36.15	Bachelors	0.225***	0.025	25.21
Graduate	0.599***	0.027	81.96	Graduate	0.300***	0.035	34.96
<b>Occupation:</b>				<b>Occupation:</b>			
Mechanics	0.012	0.029	1.20	Mechanics	-0.008	0.103	-1.34
executive	0.150***	0.025	16.17	executive	-0.083***	0.032	-8.02
Technician	0.080*	0.045	8.24	Technician	-0.069	0.046	-6.80
Sales	0.045	0.036	4.58	Sales	-0.117***	0.044	-11.08
Administrative support	-0.133***	0.036	-12.52	Administrative support	-0.148***	0.025	-13.75
Service Occupation	-0.192***	0.035	-17.51	Service Occupation	-0.354***	0.035	-29.83
Farmer/Fisher occ	-0.213***	0.068	-19.40	Farmer/Fisher occ	-0.044	0.198	-6.18
Precision occ	-0.049	0.039	-4.82	Precision occ	-0.235***	0.059	-21.04
Operators	-0.153***	0.035	-14.27	Operators	-0.336***	0.043	-28.57
Construction	0.051	0.033	5.16	Construction	0.021	0.201	0.07
Transportation occ	-0.023	0.036	-2.29	Transportation occ	-0.404***	0.112	-33.67
Cleaners	-0.150***	0.048	-14.01	Cleaners	-0.336***	0.095	-28.83
<b>Race:</b>				<b>Race:</b>			
black	-0.136***	0.025	-12.73	black	-0.100***	0.024	-9.50
<b>Experience:</b>				<b>Experience:</b>			
exp	0.046***	0.003	4.69	exp	0.030***	0.003	3.03
exp_sq	-0.001***	0.000	-0.06	exp_sq	0.000***	0.000	-0.03
N	13481			N	18196		

<b>Male (Sample1)</b>				<b>Female (Sample1)</b>			
variable	Estimated Earnings Effect	Robust Std. Err.	Percentage	variable	Estimated Earnings Effect	Robust Std. Err.	Percentage
const	0.649	0.063		const	-0.525	0.044	
<b>Education levels:</b>				<b>Education levels:</b>			
Less than High School	-0.362***	-0.035	-30.41	Less than High School	-0.466***	0.030	-37.29
Junior College	0.159***	0.053	17.12	Junior College	0.280***	0.041	32.19
Bachelors	0.191***	0.037	20.96	Bachelors	0.323***	0.028	38.07
Graduate	0.279***	0.054	32.03	Graduate	0.650***	0.045	91.40
<b>Occupation:</b>				<b>Occupation:</b>			
Mechanics	0.025	0.050	2.38	Mechanics	0.397***	0.145	47.19
executive	0.306***	0.050	35.68	executive	0.497***	0.038	64.21
Technician	0.011	0.077	0.76	Technician	0.289***	0.062	33.29
Sales	0.077	0.054	7.81	Sales	0.048	0.040	4.87
Administrative support	0.033	0.061	3.19	Administrative support	0.162***	0.027	17.56
Service Occupation	-0.054	0.049	-5.40	Service Occupation	0.010	0.032	0.98
Farmer/Fisher occ	0.012	0.091	0.82	Farmer/Fisher occ	-0.159	0.163	-15.81
Precision occ	0.091	0.065	9.28	Precision occ	0.300***	0.064	34.69
Operators	0.153***	0.058	16.28	Operators	0.337***	0.047	39.88
Construction	-0.079	0.051	-7.73	Construction	0.233	0.186	24.03
Transportation occ	-0.075	0.056	-7.33	Transportation occ	0.235**	0.116	25.59
Cleaners	-0.256***	0.060	-22.71	Cleaners	0.195**	0.096	21.01
<b>Race:</b>				<b>Race:</b>			
black	-0.079**	0.038	-7.69	black	0.083***	0.027	8.57
<b>Experience:</b>				<b>Experience:</b>			
exp	0.029***	0.004	2.91	exp	0.020***	0.003	1.99
exp_sq	-0.001***	0.000	-0.06	exp_sq	0.000***	0.000	-0.05
<b>Regions:</b>				<b>Regions:</b>			
New England	0.148***	0.058	15.79	New England	0.084*	0.043	8.62
Middle Altantic	0.147***	0.047	15.73	Middle Altantic	0.019	0.032	1.82
E.Nor. Central	0.104**	0.045	10.89	E.Nor. Central	0.002	0.031	0.19
South Altantic	0.136***	0.046	14.42	South Altantic	0.057*	0.031	5.81
E.Sou. Central	0.035	0.055	3.37	E.Sou. Central	-0.019	0.036	-1.99
N.Sou. Central	0.108**	0.052	11.21	N.Sou. Central	0.041	0.034	4.17
Mountain	-0.079	0.057	-7.76	Mountain	0.034	0.039	3.41
Pacific	0.067	0.048	6.79	Pacific	0.094***	0.033	9.84
<b>Marital Status:</b>				<b>Marital Status:</b>			
Widowed	-0.385***	0.097	-32.30	Widowed	0.175***	0.035	19.01
Divorced	-0.257***	0.035	-22.70	Divorced	0.453***	0.025	57.30
Separated	-0.310***	0.062	-26.83	Separated	0.159***	0.035	17.16
Never Married	-0.527***	-0.028	-40.99	Never Married	0.303***	0.023	35.39
N	13481			N	18196		

\* Statistically significant at 10% level; \*\* at the 5% level; \*\*\*at the 1% level.

# Appendix

Figure 1: Homosexual Group Sample in Time Period - Last 12 months and 5 Years

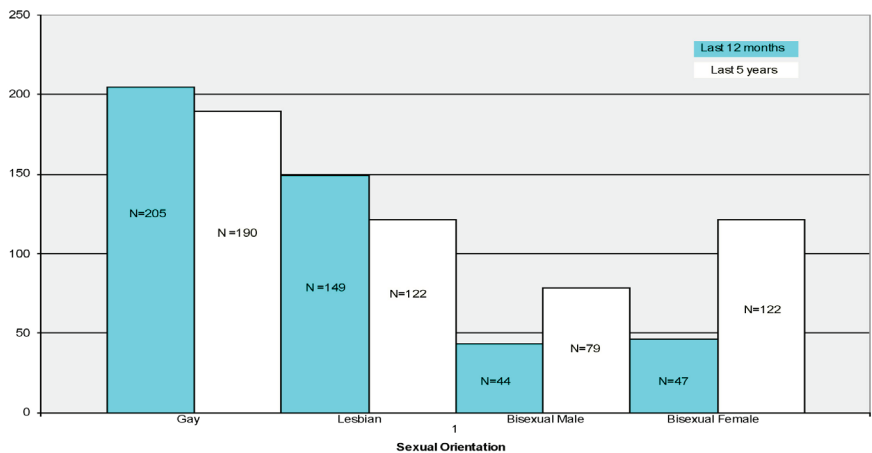


Figure 2: Mean Income vs. Sexual Preference (female)

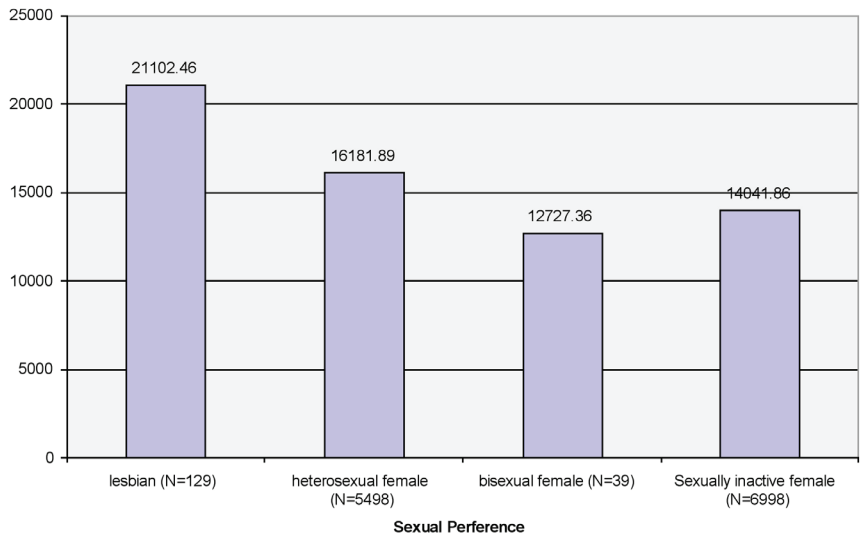


Figure 3: Mean Income vs. Sexual Perfence (male)

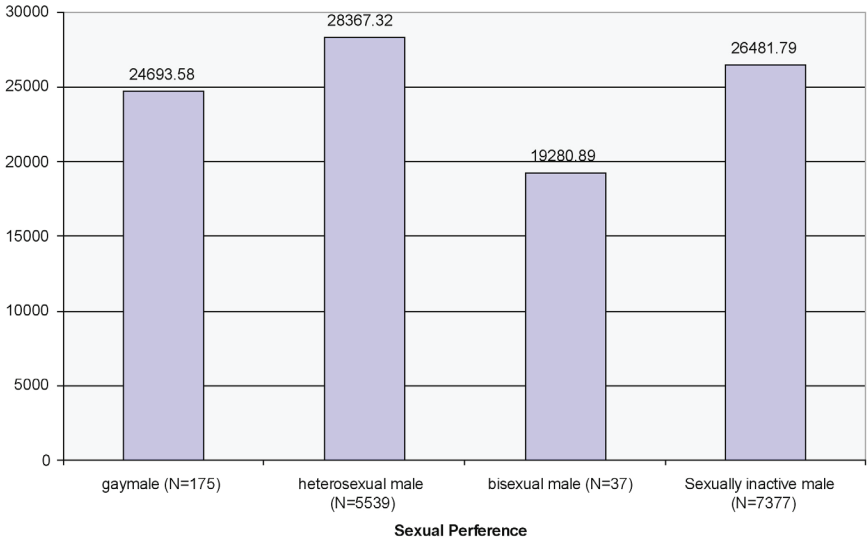


Figure 4. Occupations V.S Mean income

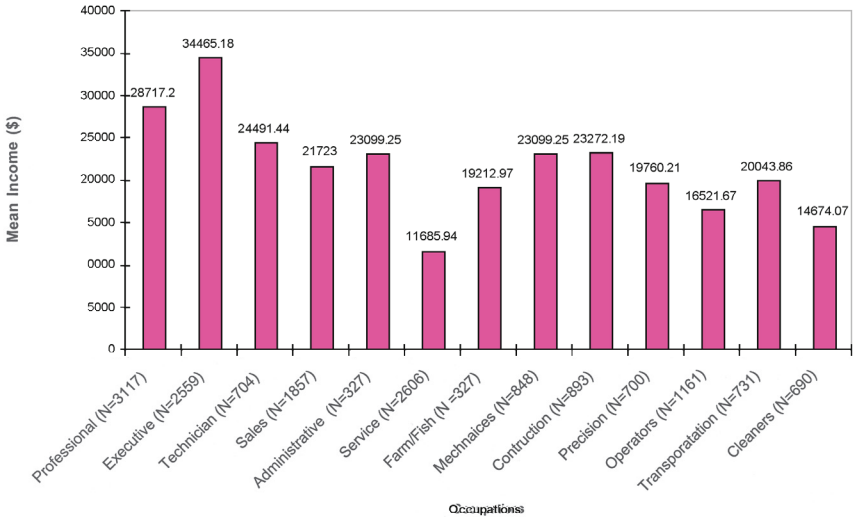
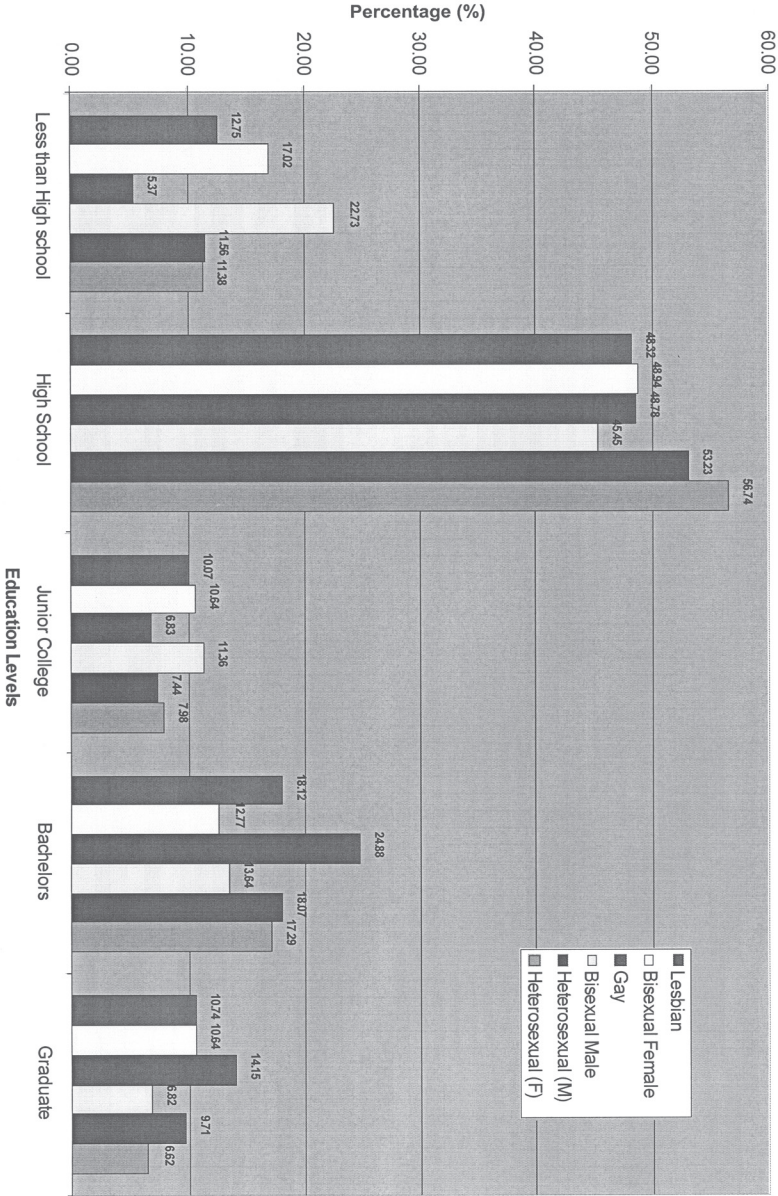


Figure 5: Sexual Orientation vs. Education levels



# Descriptive Statistics

Variable	Description	Mean	Std. Dev.
<b>Dependent Variables</b>			
Realrinc		21245.70	20772.65
Lninc		9.52	1.07
<b>Core Regressors</b>			
<b>Sexual Orientations</b>			
<b>Female</b>			
Gay	Only have female sex partner(s) in the last 12 months	0.0072	
Hetero	Only have male sex partner (s) in the last 12 months	0.37	
Bisexual	Have both male and female partner(s) in the last 12 months	0.0023	
Inactive	Have no sex partner in the last 12 months	0.62	
<b>Male</b>			
Gay	Only have male sex partner (s) in the last 12 months	0.012	
Hetero	Only have female sex partner(s) in the last 12 months	0.39	
Bisexual	Have both male and female partner(s) in the last 12 months	0.0026	
Inactive	Have no sex partner in the last 12 months	0.60	
<b>Education Levels</b>			
LessHighSchool	Degree earned = less than high school	0.19	
HighSchool	Degree earned = high school	0.55	
JuniorCollege	Degree earned = Junior College	0.054	
Bachelors	Degree earned = Bachelors	0.15	
Graduate	Degree earned = Graduate	0.066	
<b>Occupations</b>			
executive	Job occupation = Executive	0.087	
Professional	Job occupation = Professional	0.11	
Technician	Job occupation = Technician	0.024	
Sales	Job occupation -Sales person	0.068	
Administrative Support	Job occupation = Administrative support	0.12	
ServiceOcc	Job occupation = Workers in the service sector	0.11	
FarmFishOcc	Job occupation = Farmer or Fisher	0.013	
Mechanics	Job occupation = Mechanics	0.030	
Construction	Job occupation: Construction workers	0.032	
PrecisionOcc	Job occupation: Precision	0.029	
Operators	Job occupation: Operators	0.046	
TransportationOcc	Job occupation: Transportation officers	0.025	
Cleaners	Job occupation: Cleaners	0.026	
<b>Race</b>			
White	Race = White	0.82	
Black	Race = Black	0.14	
<b>Experience</b>			
exp	Labor market experience	21.17	13.05
exp_sq	Experience squared	618.44	640.45



Variable	Description	Mean	Std. Dev.
<b>Additional Regressors</b>			
<b>Regions</b>			
New England	Region = New England (ME, VT, NH, MA, CT)	0.049	
Middle Atlantic	Region = Middle Atlantic (NY, PA, NJ)	0.15	
E.Nor. Central	Region = East North Central (MI, IL, IN, OH)	0.19	
W.N. Central	Region = West North Central (ND, SD, NE, KS, MN, IA, MO)	0.075	
South Atlantic	Region = South Atlantic (WV, VA, DC, MD, DE, NC, SC, GA, FL)	0.18	
E.Sou. Central	Region = East South Central (KY, TN, MS, AL)	0.065	
W.Sou. Central	Region = West South Central (TX, OK, AR, LA)	0.092	
Mountain	Region = Mountain (MT, ID, WY, UT, CO, NV, AZ, NM)	0.057	
Pacific	Region = Pacific (OR, WA, CA)	0.133	
<b>Marital Status</b>			
Married	Marital Status = Married	0.58	
Widowed	Marital Status = Widowed	0.034	
Divorced	Marital Status = Divorced	0.12	
Separated	Marital Status = Separated	0.038	
Never married	Marital Status = Never married	0.22	
<b>Working Status</b>			
Fulltime	Working status = Full time	0.60	
Parttime	Working status = Part time	0.11	
Unemployed	Working status = Unemployed but looking for job	0.036	
JobButNotWorking	Working status = Have a job, but currently is not at work (e.g. on leave)	0.025	
Retired	Working status = Retired	0.030	
Student	Working status = Student	0.037	
KeepingHouse	Working status = keeping house	0.16	

Note: Sample sizes for the sexual orientations: female = 20685; male = 16829; Education levels, Occupations, Race, Regions and working status = 37514; Experience = 37473; Marital status = 37514.

## REFERENCES

- Allegretto, S. A., & Arthur, M. M. (2001). An empirical analysis of Homosexual/Heterosexual male earnings differentials: Unmarried and unequal? *Industrial and Labor Relations Review*, 54(3), 631-46.
- Badgett, M. V. L. (1995). The wage effects of sexual orientation discrimination. *Industrial & Labor Relations Review*, 48(4), 726.
- Berg, N., & Lien, D. (2002). Measuring the effect of sexual orientation on income: Evidence of discrimination? *Contemporary Economic Policy*, 20(4), 394-414.
- Black, D. A. et al. (2003) (2003). The earnings effects of sexual orientation. *Industrial and Labor Relations Review*, 56(3), 449-69.
- Blandford, J. M. (2003). The nexus of sexual orientation and gender in the determination of earnings. *Industrial and Labor Relations Review*, 56(4), 622-42.
- Carpenter, C. S. (2005). Self-reported sexual orientation and earnings: Evidence from california. *Industrial and Labor Relations Review*, 58(2), 258-73.
- Greene, William H. (1992). *Econometric Analysis*. New York: New York University, 708 -712.
- Halvorsen, R., & Palmquist, R. (1980). The interpretation of dummy variables. *The American Economic Review*, 70(3), 474-475.
- Klawitter, M. M., & Flatt, V. (1998). The effects of state and local antidiscrimination policies on earnings for gays and lesbians. *Journal of Policy Analysis and Management*, 17(4), 658-86.
- Klawitter, M. M. (1998). Why aren't more economists doing research on sexual orientation? *Feminist Economics*, 4(2), 55-59.
- McNaught, B. (1993). *Gay issues in the workplace*. 1st ed. New York: St. Martin's Press.
- Plug, E., & Berkhout, P. (2004). Effects of sexual preferences on earnings in the netherlands. *Journal of Population Economics*, 17(1), 117-31.

