

# **Sexual Orientation Wage Differentials**

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## **Abstract:**

Most early works find that homosexual and bisexual men suffer from a wage disadvantage and that lesbian and bisexual women earn a substantial wage premium compared to their heterosexual counterparts. Almost all earlier works use 1980-1990 General Social Survey data and Census 1990 data. This economic analysis uses more recent 2010 GSS data and finds statistically insignificant results that both homosexual and bisexual men and women earn a wage differential. This is most likely attributed to the new terminology included in the 2010 GSS. For the first time, the GSS records the sexual orientation of the respondent whereas past surveys have asked about the sexuality of partners. These results are attributed to few people who openly identify themselves as homosexual or bisexual. One may conclude that economists' previous definition of sexuality is flawed, or that sexuality is too personal of a question for honest survey results.

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## 1.0 INTRODUCTION

Gender equality and gender discrimination have been extensively researched and analyzed for decades. Studies use various ways of estimation and techniques to analyze models to describe gender equality and gender wage differentials. Jarrell and Stanley (2004) found that there is “a strong trend for the estimates of wage discrimination to decline.” In addition, male researchers seem to report higher discrimination estimates and by using annual or weekly salaries, the estimates are grossly overestimated. Jarrell and Stanley (2004) make it clear that analyzing hourly wages is the most important factor in keeping estimates as accurate as possible.

Research also shows a significant wage premium for married men, compared to unmarried men. This search dates back to the early 1990s using data from the 1980s. Nearly all studies find a wage premium for married men and a correlation to more hours worked per man. Ahituv and Lerman (2007) analyze 23 years of marital and labor market data from the National Longitudinal Survey of Youth panel data and concluded that married men see an 18%-19% increase in earnings with a high correlation to increased hours worked and an increased work effort.

Sexual orientation wage gaps have been a popular topic in the late 1990s through today. Early works found that both homosexual and bisexual men and women earn less than their heterosexual counterparts. Later works redefine sexual orientation and almost all conclude that homosexual and bisexual men have a wage disadvantage while lesbian and bisexual women enjoy a wage premium. Researchers using the General Social Survey (GSS) and United States Census data both find similar conclusions.

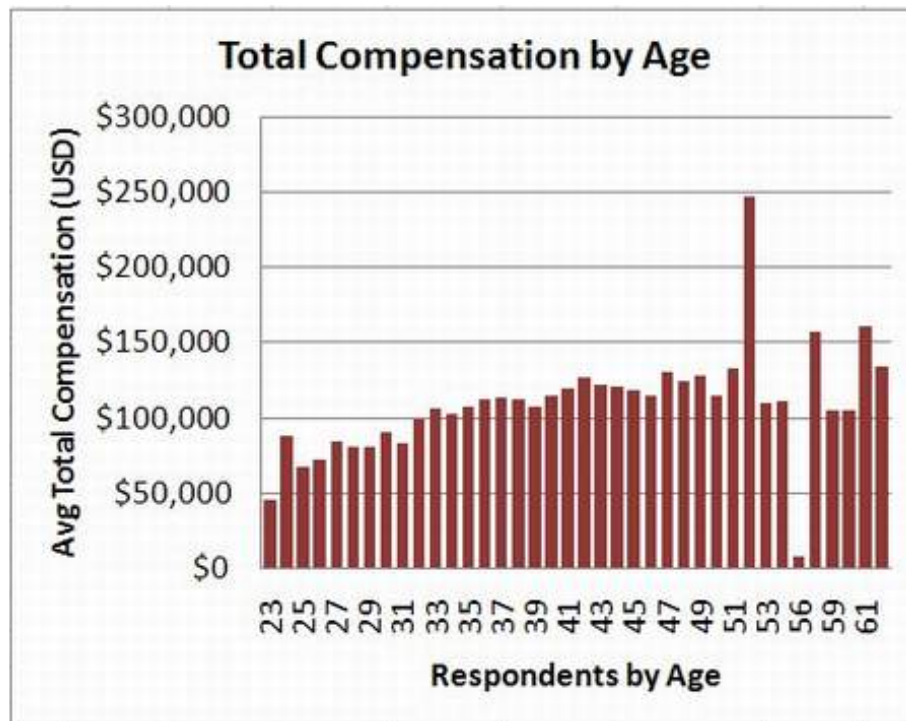
By using 2010 General Social Survey data, one can regress the real income against age, education, marital status, race, and the gay or lesbian dummy variable. We define homosexual and bisexual relations as someone who has defined himself or herself as homosexual, lesbian, or bisexual. After performing an Ordinary Least Squares regression, we found the homosexual and bisexual men experience a wage disadvantage of \$175 while lesbian and bisexual women enjoy a

wage premium of \$7597 compared to their respected heterosexual counterparts, but unfortunately these figures are statistically insignificant.

## 2.0 TRENDS

There are many trends in wage differentials. The most basic differential realized was earning by age. There is a strong correlation showing that wage increases with age and peaks, then slightly drops. Table 1 shows how earnings increase with age and then declines past 53 years old using data from the 2007 Pragmatic survey labor sector.

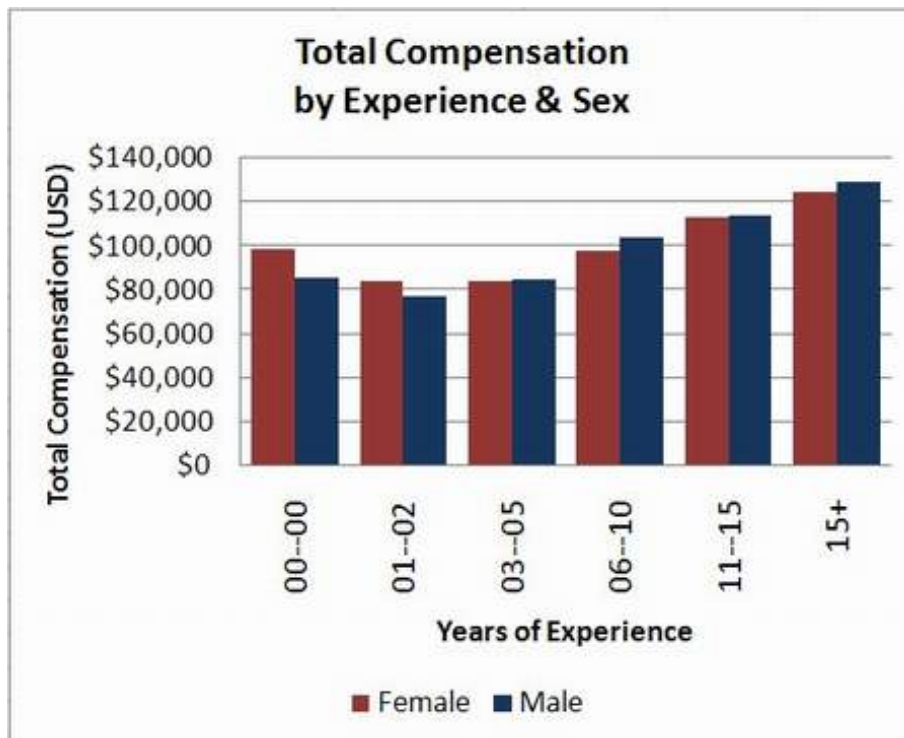
**Table 1: Earnings by age**



Source: Pragmatic Labor Survey (2007)

This same data also shows that there is a strong correlation of earnings with respect to experience and gender. Experienced men earn more than experienced women, although inexperienced women earn more than inexperienced men.

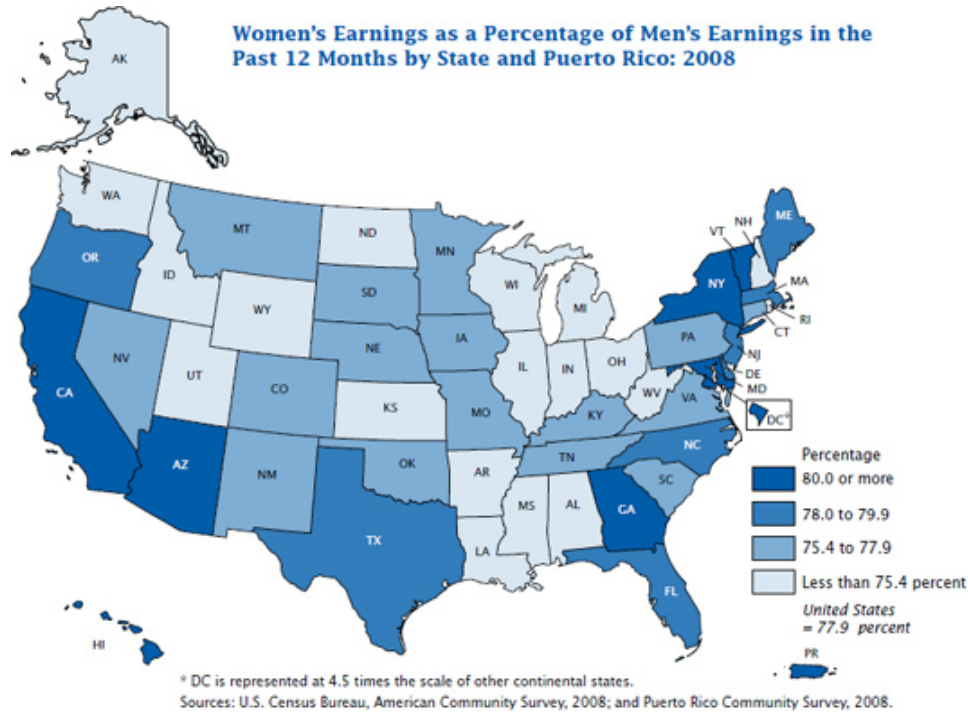
**Table 2: Earnings by experience and sex**



Source: Pragmatic Labor Survey (2007)

One of the most debated wage differentials is the gender discrimination. This graph shows women's earnings as a percentage of men's earnings from 2007-2008 using the US Census Bureau and American Community survey. It is apparent that women earn significantly less than men in states with high levels of rural population.

**Table 3: Women's earnings as a percent of men's earnings**



Source: U.S. Census Bureau, American Community Survey, 2008; Puerto Rico Community Survey, 2008

### 3.0 LITERATURE REVIEW

The analysis of sexual orientation wage differentials is still in development. Lee Badgett was the first to analyze such a differential by using 1989-91 General Social Survey (GSS) data (Badgett 1995). Badgett found that gay and bisexual men face an 11-27% wage disadvantage when compared to their heterosexual counterparts. Badgett's finding showed a 12-30% wage disadvantage to lesbian and bisexual women, but those figures were deemed statistically insignificant. The author attributed these wage differentials to employer discrimination.

Since Badgett's analysis, many other studies have been released based on more recent GSS data and by redefining sexual orientation. These studies all confirm Badgett's conclusion that gay and bisexual men earn less than heterosexual men, although by redefining sexual orientation definitions, they find that lesbian and bisexual women earn substantially more than heterosexual women.

Black et al. (2003) concluded that homosexual and bisexual men earn 14-16% less and lesbian and bisexual women earn 20-34% more than their respected heterosexual counterparts. This lesbian and bisexual wage premium is attributed to the extent of how lesbian and bisexual is defined inside of the model. Blandford (2003), using 1989-96 data, found that homosexuals and bisexuals do not exhibit a wage differential because of bias or because they are an over-achieving minority, but rather because they do not conform to common gender roles. Blandford concluded that homosexual and bisexual men earn 30-32% less and lesbian and bisexual women earn 17-23% more. He attributes this differential entirely to non-conformity of gender roles.

Studies using alternative data have found similar results. A common alternative data source is the United States Census. The Census in 1990 has a new category, unmarried partner. A same-sex couple can be defined when the applicant chooses a same-sex unmarried partner. Although same-sex couples cannot be directly defined as explicitly gay or lesbian in the Census, many researchers used independently derived data to show that it is measurable and consistent with behavior sexual orientation (Carpenter, 2004).

Three studies have used the 1990 U.S. Census data. The results are similar to those using the General Social Survey. Klawitter and Flatt (1998) and Clain and Leppel (2001) found that homosexual men earn less than married men and approximately the same as their unmarried heterosexual counterparts, while lesbian women earned more than married and unmarried heterosexual women, although Klawitter and Flatt (1998) concluded this based on a broad set of control variables.

### 3.0 DATA AND EMPIRICAL METHODOLOGY

#### 3.1 Data

The 2010 General Social Survey data used in these regressions came directly from the National Opinion Research Center at the University of Chicago, Illinois. The 2010 data set was chosen because it was the most recent version available. Previous papers had used the number of same-sex partners as an indication of homosexual and bisexuality, to some degree. For years 2008 and 2010, the GSS introduced a new variable, SEXORNT, which specifically asks for the respondents' sexuality. This is a completely new variable that has heterosexual, bisexual, and homosexual/lesbian options. For this study, both variables "gay, lesbian, or homosexual" and "bisexual" were aggregated into the homosexual/bisexual variable. The small number of respondents who self-identified as homosexual/bisexual, lesbian, or gay is under 3% which attributes to the poor statistical significance which is later discussed.

**Table 4**  
**Sexual Orientation Variable Statistics**

YEAR	0 IAP	1 Gay / Lesbian	Bisexual	Heterosexual	DON'T KNOW	NA	TOTAL
2010	9.9	1.5 / 1.3	1.7 / 1.5	96.8 / 85.6	0 / .4	0 / 1.3	100%

Source: 2010 GSS Codebook

The dependent variable is CONRINC, the real inflation-adjusted income of the respondent in constant US dollars. DEGREE, which asks for the highest degree offered, was also regressed against income. All post-high school education was transposed into "1: Some College" and all high school education was labeled "0: High School". The age of the respondent was also regressed to analyze how age reflects income. All married and separated individuals were categorized as married because employer bias may not be present since the employer may

not be aware of the separation. All non-married or widowed individuals were categorized as non-married. Only those who identified themselves as full-time labor force participants were regressed. All part time, student, and unemployed individuals were removed. This insures that we are not comparing part time salaries to full time salaries. Lastly, men and women were separated into two regressions to show, if any, wage differentials exist for sexual orientation based on the sex of the worker. The 2010 GSS contains 563 men and 498 women who identified themselves as full-time workers. This is sufficient for econometric analysis.

### **3.2 Methodology:**

This study estimates regressions using ordinary least squares (OLS). Two models were developed, one comprised of only full time working men and the another containing only full time working women. By separately the data into two models, one can attempt to control the wage differential effect depending on the sex of the respondent. In addition, only full time workers were chosen to eliminate part time salaries from undermining the results. The regression models exhibits the following form:

$$\text{Coninc} = \beta_0 + \beta_1 \text{ race} + \beta_2 \text{ age} + \beta_3 \text{ sexornt} + \beta_4 \text{ marital} + \beta_5 \text{ degree} + \varepsilon$$

The variable CONINC is the real inflation-adjusted income of the respondent in US dollars. The independent variable RACE is the race of the household of the respondent. The variable AGE is the age of the respondent as a numerical value, ranging from 18-89. The variable SEXORNT is the sexual orientation of the respondent, either heterosexual or homosexual/bisexual. The variable MARITAL shows if the respondent is married or not married. Lastly, the DEGREE variable specifies whether or not the individual has had some college education.

## **4.0 EMPIRICAL RESULTS**

### **4.1 Male Sample**



As discussed earlier, the use of OLS can minimize the sum of the squared residuals of the data. According to the regression, 17.42% of the variation in income can be explained by the independent variables. Non-white workers earn \$11,353.09 less than white workers. The data shows that those who have identified themselves as homosexual or bisexual earn \$175 less, but this statistic is highly insignificant. Those who are married earn \$2,403.82 more than those who were not married, but this statistic is also highly insignificant. For every increased year in age, the worker will earn an additional \$302. Lastly, those who have some college education earn \$28,290.88 more than those who only graduated from high school.

#### 4.2 Female Sample

According to the regression, 18.18% of the variation in income can be explained by the independent variables. Non-white workers earn \$3,839.31 less than white workers, although this figure is statistically insignificant. The data shows that those who have identified themselves as lesbian or bisexual earn \$7597.37 less, but this statistic is highly insignificant. Those who are married earn \$2523.78 more than those who were not married, but this statistic is also highly insignificant. For every increased year in age, the worker will earn an additional \$545.27. Lastly, those who have some college education earn \$30,537.54 more than those who only graduated from high school.

**Table 5**

**Male statistics**

n = 563

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RACE	-11353.09	3647.189	-3.11	0.002
AGE	302.3	110.717	2.73	0.007
SEXORNT	-175.41	11987.23	-0.01	0.988
MARITAL	2403.82	3042.02	0.79	0.430
DEGREE	28290.88	3031.131	9.33	0.00
Constant	24069.34	5530.656	4.35	0.000

R2	0.1742			
F-Statistic	23.49			

**Table 6**

**Female statistics**

n = 498

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RACE	-3839.31	4235.67	-0.91	0.365
AGE	545.27	125.78	4.34	0.000
SEXORNT	-7597.37	13607.69	-0.56	0.577
MARITAL	2523.78	3460.40	0.73	0.466
DEGREE	30537.54	3490.22	8.75	0.000
Constant	20568.43	6263.21	3.28	0.001
R2	0.1818			
F-Statistic	21.86			

**Table 7**

**Variable Descriptions and Data Source**

Acronym	Description	Data Source
CONINC	Real, inflation-adjusted income in US\$	2010 GSS
RACE	Ethnicity of respondent 0: White 1: Non-white	2010 GSS
AGE	Age of respondent, from 18-89	2010 GSS
SEXORNT	Sexuality of respondent 0: Heterosexual	2010 GSS

	1: Homosexual or bisexual	
MARITAL	Marital status 0: Not married 1: Married	2010 GSS
Degree	Education of respondent 0: High school 1: Some college	2010 GSS

## 5.0 CONCLUSION

Virtually all other papers find a significant statistic that shows homosexual and bisexual males have a wage penalty. This paper does not. This may be understandable because the new GSS variable, SEXORNT, asks specifically about the respondents' sexuality. It is possible that respondents feel more comfortable telling the number of same-sex partners rather than defining themselves as homosexual or bisexual. In addition, less than 3% of respondents identified themselves as homosexual or heterosexual. This number represents a small number of observations, especially when selecting only full time workers. Overall, the statistical insignificance may be attributed to one or two factors. The first factor being that previous researchers' have incorrectly categorized heterosexuals as homosexuals, bisexuals, or lesbians, which may increase the sample size of the target range and therefore may produce statistically significant results. The second factor may be that when asked frankly about sexuality, people are simply sheltering their answers.

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