7-1-2008

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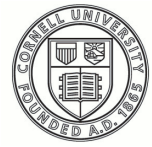
Heather Antecol
Claremont McKenna College

Anneke Jong

Michael Steinberger


Cornell University
ILR School

ILRReview

Volume 61 | Number 4 Article 5

2008

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Heather Antecol
Claremont McKenna College

Anneke Jong

Michael D. Steinberger
Economics at Pomona College

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Abstract
Using data from the 2000 U.S. Census, the authors explore two alternative explanations for the sexual orientation wage gap: occupational sorting, and human capital differences. They find that lesbian women earned more than heterosexual women irrespective of marital status, while gay men earned less than their married heterosexual counterparts but more than their cohabitating heterosexual counterparts. Results of a Oaxaca-Blinder decomposition indicate that the relative wage advantages observed for some groups of lesbians and gay men were mainly owing to greater levels of human capital accumulation (particularly education), while occupational sorting had little or no influence. The relative wage penalties that were observed in other cases, however, cannot be attributed either to differences in occupational sorting or to human capital. An analysis employing a DiNardo, Fortin, and Lemieux decomposition, which allows for variation in the wage gap at different points along the wage distribution, broadly confirms these results.

Keywords
Sexual Orientation Wage Gap

THE SEXUAL ORIENTATION WAGE GAP: THE ROLE OF OCCUPATIONAL SORTING AND HUMAN CAPITAL

HEATHER ANTECOL, ANNEKE JONG, and MICHAEL D. STEINBERGER*

Using data from the 2000 U.S. Census, the authors explore two alternative explanations for the sexual orientation wage gap: occupational sorting, and human capital differences. They find that lesbian women earned more than heterosexual women irrespective of marital status, while gay men earned less than their married heterosexual counterparts but more than their cohabitating heterosexual counterparts. Results of a Oaxaca-Blinder decomposition indicate that the relative wage advantages observed for some groups of lesbians and gay men were mainly owing to greater levels of human capital accumulation (particularly education), while occupational sorting had little or no influence. The relative wage *penalties* that were observed in other cases, however, cannot be attributed either to differences in occupational sorting or to human capital. An analysis employing a DiNardo, Fortin, and Lemieux decomposition, which allows for variation in the wage gap at different points along the wage distribution, broadly confirms these results.

Gay and lesbian Americans have been at the forefront of public policy debate and legislation in the recent past. One specific area of acrimonious debate focuses on the expansion of civil rights protection to include sexual orientation. Perhaps surprisingly, many participants in the debate have marshaled very little empirical evidence to support their arguments (Black et al. 2003). In order to inform policymakers, one needs to know the determinants of the sexual orientation wage gap based on quantitative evidence as opposed to casual observation.

The existing empirical literature in the United States documents the presence of a sexual orientation wage gap. In particular, gay men generally are found to earn less than heterosexual men (Badgett 1995; Klawitter and Flatt 1998; Clain and Leppel 2001; Allegretto and Arthur 2001; Berg and Lien 2002; Black et al. 2003; Blandford 2003; Carpenter 2007), while lesbian women are generally found to earn more than heterosexual women (Klawitter and Flatt 1998; Clain and Leppel 2001; Berg and Lien 2002; Black et al. 2003; Blandford 2003). The existing empirical literature, however, generally has not attempted formal testing of hypotheses for why the sexual orientation wage gap exists.

Given that some same-sex groups enjoy a wage advantage while others suffer a wage penalty relative to their heterosexual counterparts, it seems unlikely that there is a simple explanation of the sexual orientation wage gap. In this paper, we explore two potential explanations. First, we examine occupational

*Heather Antecol is Associate Professor of Economics at Claremont McKenna College, Anneke Jong is unaffiliated, and Michael D. Steinberger is Assistant Professor of Economics at Pomona College. The authors thank Eleanor Brown, Jennifer Ward-Batts, and seminar participants at Claremont McKenna College and the University of California, Riverside for helpful comments on earlier drafts of this paper.

All STATA 9.0 programs used to analyze the public use 2000 U.S. Census from IPUMS are available from authors on request. Contact the first author at Department of Economics, Claremont McKenna College, 500 E. Ninth Street, Claremont CA 91711-6400; hantecol@cmc.edu.

Industrial and Labor Relations Review, Vol. 61, No. 4 (July 2008).
0019-7939/00/6104 $01.00

sorting. This explanation seems relevant if individuals in same-sex groups that enjoy a wage advantage are more likely to sort into male-dominated occupations than their heterosexual counterparts and if individuals in same-sex groups that suffer a wage penalty are more likely to sort into female-dominated occupations than their heterosexual counterparts, since those classes of occupations tend to pay, respectively, above-average and below-average wages. Second, we focus on differences in human capital accumulation. While these differences may be applicable for same-sex groups that enjoy a wage advantage, they are unlikely to explain the earnings differential for same-sex groups that suffer a wage penalty, given that the educational attainment of same-sex individuals (irrespective of gender) is higher than that of their heterosexual counterparts (Black et al. 2000; Black et al. 2007). While these two explanations may be related, the dichotomy between human capital and occupational sorting is valid if sexual orientation bars individuals from occupations for which they have the requisite human capital. Moreover, it is also valid to look at the two explanations separately if same-sex individuals with human capital equal to that of their heterosexual counterparts sort into different occupations based on differential tastes for job characteristics (including perceptions of the work environment).

We use data from the 2000 U.S. Census to estimate log wage equations by sexual orientation and gender. Unlike earlier studies, which generally have included only a dummy variable for sexual orientation, ours uses the standard Oaxaca-Blinder (1973) decomposition approach (see Oaxaca 1973; Blinder 1973) to analyze the determinants of the sexual orientation wage gap. This approach permits us not only to allow for differential returns to observable characteristics by sexual orientation, but also to determine the relative importance of our two alternative explanations: occupational sorting and human capital differences. However, a limitation of a technique that estimates the mean sexual orientation wage gap, like the Oaxaca-Blinder decomposition, is its neglect of the possibility that the gap is not uniform along the entire distribution of wages. Therefore, we further explore the determinants of the sexual orientation wage gap using DiNardo, Fortin, and Lemieux's (1996) technique, which allows one to decompose the sexual orientation wage gap along the entire distribution of wages.

Literature Review

In her seminal paper, Badgett (1995) examined wage differences between behaviorally gay/lesbian workers (that is, workers who engaged in sexual activity with individuals of their same gender) and heterosexual workers using an econometric framework. In particular, she used General Social Survey (GSS) data from 1989–91 to study the effects on annual income of education, marital status, race, potential experience, geographic location, and occupation. She found that behaviorally gay and bisexual men earned between 11% and 27% less than their heterosexual counterparts, depending on the definition of sexual orientation used (sexual orientation is defined a number of different ways depending on the presence of a same-sex partner).[1] While she found a similar wage penalty for behaviorally lesbian and bisexual women relative to heterosexual women, the results in that case were statistically insignificant.

Badgett's work led to further detailed examinations of the sexual orientation wage gap in the United States. Specifically, a number of studies based on the GSS extended her analysis by including additional waves of data and considering alternative definitions of sexual orientation[2] (Berg and Lien 2002; Black et al. 2003; Blandford 2003). All of these studies confirmed Badgett's results for men, that is,

[1]The behavioral definitions of sexual orientation considered in Badgett (1995) were: (1) having had one or more same-sex partners since the age of 18, (2) having had more than one same-sex partner since the age of 18, (3) having had at least as many same-sex partners as opposite sex-partners since the age of 18, and (4) having had either more than one same-sex partner or at least as many same-sex partners as opposite sex-partners since the age of 18.

[2]The alternative behavioral definitions of sexual orientation considered include having had a same-sex partner (or both-sex partners) during the last one or five years.

the finding that behaviorally gay men earn less than their heterosexual counterparts. Unlike Badgett, these studies found that behaviorally lesbian women earned more than their heterosexual counterparts. For example, Black et al. (2003) found that behaviorally gay men earned 14–16% less than their heterosexual counterparts and lesbian women 20–34% more, with the estimates depending to some extent on the definition of sexual orientation used.

Alternative data sources have also been used to examine the sexual orientation wage gap. The main such source has been the 1990 United States Census. Unlike the GSS's definition of sexual orientation, the Census's is based on a new category, unmarried partner, which was added to the list of household relationships in 1990. For example, if one partner is designated as the household head, then the other partner can be identified as the unmarried partner. If that unmarried partner is of the same (opposite) sex, then the cohabitating couple is determined to be a same-sex (opposite-sex) unmarried couple. Moreover, married opposite-sex couples can be determined from the list of household relationships. While the assumption that the same-sex unmarried partners identified in the Census are truly gay or lesbian cannot be tested using data from the Census, researchers have used independent data sources to show that this measure of sexual orientation is consistent with behaviorally based measures of sexual orientation (Carpenter 2004).

To date, three studies have used the 1990 U.S. Census to analyze the sexual orientation wage gap. The findings are generally in line with the results found using the GSS. Specifically, Klawitter and Flatt (1998) found that gay men earned less than their married heterosexual counterparts but about the same as their unmarried heterosexual counterparts, while lesbian women earned more than both their married and unmarried heterosexual counterparts (conditional on a broad set of control variables).[3] Clain and Leppel (2001) also found that gay men tended to earn less, and lesbian women more, than their heterosexual counterparts.[4] Similarly, Allegretto and Arthur (2001), after controlling for observable characteristics, found that gay men earned 15.6% less than heterosexual married men and 2.4% less than cohabitating heterosexual men.[5]

Two other data sources alternative to the GSS have been employed. The findings from these studies relative to the results using the GSS are mixed. Carpenter (2007), using data from the Third National Health and Nutrition Examination Survey (NHANES III), confirmed GSS-based studies' results for men, that is, the finding that behaviorally gay men face a large wage penalty relative to their heterosexual counterparts.[6] However, using data from the California Health Interview Survey (CHIS), Carpenter (2005) found no statistically significant wage penalty for self-identified gay men or wage advantage for self-identified lesbian women relative to their heterosexual counterparts. He did find evidence, however, that bisexual men and women earned less than their heterosexual peers. One reason his results are at odds with those based on data from the GSS, NHANES III, and the 1990 U.S. Census may be that his data were for California only, which is generally perceived as a relatively "socially tolerant" state; another possible explanation is that his study relied on a definition of sexual orientation based on self-identification as opposed to behavior.

The existing U.S. literature generally finds that gay men face a wage penalty relative to heterosexual men while lesbian women enjoy a wage advantage relative to heterosexual

[3]However, Klawitter and Flatt (1998) found that if the sample was restricted to full-time, full-year workers, the estimated wage advantage enjoyed by lesbians relative to their heterosexual counterparts was substantially reduced and was no longer statistically significant.

[4]Clain and Leppel (2001) did not distinguish between married and unmarried heterosexual couples.

[5]Interestingly, Allegretto and Arthur (2001) suggested that much of gay men's wage disadvantage relative to heterosexual men can be explained by the marriage premium.

[6]Carpenter (2007) considered three definitions of behaviorally gay: (1) any lifetime same-sex sexual behavior, (2) at least as many lifetime same-sex partners as opposite-sex partners, and (3) more lifetime same-sex partners than opposite-sex partners.

women (although the magnitude of the penalty/advantage varies across studies).[7] The interpretations of the patterns found vary. Some argue that the wage penalty faced by men is due to discrimination (Badgett 1995), others that non-conformity to traditional gender roles leads to differential pay for gays and lesbians relative to their heterosexual counterparts (Blandford 2003). Still others argue that gay men and lesbian women differ from their heterosexual peers in effort exerted because of different budget constraints (Berg and Lien 2002). Finally, others suggest that the wage penalty (advantage) of gays (lesbians) is due to differential investment in human capital associated with household specialization (Black et al. 2003; Black, Sanders, and Taylor 2007). While these interpretations are intriguing, the existing studies do not formally test them.

This paper expands on the U.S. literature in a number of ways. First, we use the 2000 U.S. Census, as opposed to the 1990 U.S. Census. Second, we not only document the mean sexual orientation wage gap, but also examine variation in the sexual orientation wage gap across the entire wage distribution. Moreover, we explicitly account for differences in observable characteristics by using two decomposition approaches, the Oaxaca-Blinder (1973) decomposition, which is evaluated at the mean of the wage distribution, and the DiNardo, Fortin, and Lemieux (1996) decomposition, which is evaluated across the entire wage distribution. To the best of our knowledge, the U.S. literature to date contains no attempt to explicitly examine the role of observable characteristics.[8] Specifically, the existing studies generally only include a gay/lesbian dummy variable in their wage regressions, an approach that has two potential shortcomings: it does not allow for differential returns to observable characteristics, and it does not allow for a formal evaluation of the relative strength of alternative theoretical explanations for the sexual orientation wage gap.[9] The latter weakness is the reason for our final innovation, which is to explicitly examine the relative importance of two alternative explanations in explaining the sexual orientation wage gap: occupational sorting and differences in human capital accumulation.

Data

The data set used for the analysis is the 2000 U.S. Census 5% Public Use Microdata sample (Ruggles et al. 2004). This data set is ideal because it includes detailed variables on labor market outcomes (for example, employment status, wages, weeks worked, and occupation), sexual orientation groups (married, cohabitating, same-sex), and demographics (for example, age, region, education) and the large sample size allows for reasonably precise results by sexual orientation group.

[7]The sexual orientation wage gap has also been examined in other countries. For Canada, see Carpenter (2006); for the Netherlands, Berkhout (2004); and for the United Kingdom, Arabsheibani et al. (2004, 2005) and Frank (2006).

[8]We know of only one U.S. study, Berg and Lien (2002), that has used the Oaxaca-Blinder decomposition. However, for their main analysis, Berg and Lien used the dummy variable approach for sexual orientation. Furthermore, they simply looked at the total portion of the sexual orientation wage gap attributable to differences in average observable characteristics and the total attributable to differences in returns to these characteristics using the decomposition approach, that is, they did not attempt to determine the relative importance of particular observable characteristics (such as human capital factors). The Oaxaca-Blinder decomposition has also been used to examine the sexual orientation wage gap in one U.K. study (Arabsheibani et al. 2005).

[9]A number of studies have allowed for some differential returns to observable characteristics yet have not attempted to formally determine the relative explanatory power of alternative sexual orientation wage gap theories. Badgett (1995) allowed for an interaction effect between an indicator for lesbian and potential experience. Klawitter and Flatt (1998) allowed for interaction effects between sexual orientation status and policy variables and an urban indicator. Clain and Leppel (2001) allowed for some interaction effects between sexual orientation status and observable characteristics (these interactions vary depending on gender). Finally, Allegretto and Arthur (2001) estimated regressions separately by sexual orientation, yet when they turned to their analysis of the sexual orientation gap, they pooled individuals by sexual orientation and simply included a dummy variable for gay male.

The sample includes white, 25–59-year-old non-immigrants who were either married or cohabitating and were the head of the household or a partner of the head of the household, and who were wage or salary workers (that is, were not self-employed).[10] Following the Census, yearly earnings above $175,000 are averaged by state and each applicable observation is then assigned his or her state average.[11] We restrict our analysis to white workers because we do not want to confound racial differences with sexual orientation differences.[12] In mixed race relationships, the white partner is included in our sample. In addition, we exclude households with imputed values for sex, marital status, or relationship to head of household for either partner.[13] We exclude households with imputed values because of misgivings about the accuracy of the 2000 U.S. Census data's identification of the same-sex cohabiting population due to coding errors.[14] The elimination of potentially miscoded heterosexual couples from the same-sex couple data ensures estimates that are more reliable. Finally, we exclude individuals with imputed values for any of our variables of interest.

Each respondent in the sample is categorized as belonging to one of three mutually exclusive types of couple: married heterosexual, cohabiting heterosexual, or cohabitating same-sex.[15] Henceforth, we refer to these couple types as married, cohabitating, and same-sex, respectively. We further distinguish same-sex couples as gay for men and lesbian for women. We define these variables using the respondent's relationship to the head of the household.[16] For married respondents, we assign a value of one if the respondent indicates that he (she) is married to a female (male) partner, and zero otherwise. For cohabitating respondents, we assign a value of one if the respondent indicates that he (she) is in an unmarried partnership with a female (male) partner, and zero otherwise. Similarly, for gay (lesbian) respondents, we assign a value of one if the respondent indicates that he (she) is in an unmarried partnership with a male (female), and zero otherwise.[17] The sample comprises 814,153 married men, 701,900 married women, 57,825 cohabitating men, 55,872 cohabitating women, 5,785 gay men, and 6,205 lesbian women.

To explore the potential role of occupational sorting in explaining sexual orientation wage differentials, we create an occupational measure that ranks occupations based on the percentage of men who work in each of 21 mutually exclusive Standard Occupation Classification (SOC) major group occupation categories (see Table 2 for a complete

[10]Because of the limited number of gays and lesbians working in farming/fishing/forestry and military occupations, workers in these two occupational categories are excluded from the sample.

[11]We exclude employed individuals with estimated hourly wages (annual wages ÷ [weeks worked in the past calendar year × usual weekly hours]) less than $2/hour or greater than $250/hour. In addition, we have checked to see whether our results are affected by the different state-by-state maximums by imposing a single state maximum for all top-coded observations. Specifically, we assigned each applicable observation a value of $240,000 (Alaska's value, which was the lowest among all states). The results (available on request) were similar to those obtained in the main analysis.

[12]For a discussion of the African-American sexual orientation wage disadvantage, see Badgett et al. (2005).

[13]An alternative strategy would have been to exclude only households for which both partners were flagged. This step would not, however, guarantee a completely clean sample of gay and lesbian households. We err on the side of caution by eliminating all households with any partner flagged.

[14]For a detailed discussion of coding errors in the 2000 U.S. Census, see Black et al. (2002).

[15]The Census data do not allow one to identify same-sex individuals who are not living together. This limitation prevents us from shedding light on whether the probability of being in a couple differs by sexual orientation and whether being in a couple has a causal effect on labor market outcomes.

[16]Under the heading "relationship to household head" are the following categories: spouse, child, in-law, unmarried partner, and other non-relative. We focus solely on the spouse and unmarried partner categories.

[17]As it is unclear whether gay and lesbian couples more closely mirror married couples or cohabitating couples, or represent a combination of the two, we also considered a fourth couple type, heterosexual, which takes a value of one if the individual is either married or cohabitating, and zero otherwise. The results for this group closely mirror those for the married group; therefore, for descriptive ease we exclude this group from our analysis. Results for this group are available on request.

list of occupation categories).[18] Specifically, we create an occupational male density score that represents the percentage of workers between the ages of 18 and 65 employed in a given occupation who are male.[19] The male density score ranges between 11.8% in healthcare support occupations and 97.2% in construction and extraction occupations (see Table 2). We then create seven indicator variables, ranging in value from 10–19% male to 90–100% male, based on the occupational male density score of the occupation. (See Table 1 for a complete list of occupational male density indicator variables.) To further explore the role of occupational sorting, we include a more flexible measure of occupation based on the full set of 21 mutually exclusive occupational categories.[20] We discuss differences in occupational sorting by sexual orientation in detail below.

The Sexual Orientation Wage Gap

Lesbian women earned substantially more than both married and cohabitating women (See Table 1).[21] However, the wage advantage was much larger between lesbian and cohabitating women (31.6%) than between lesbian and married women (19.7%). For gay men the story is very different. While gay men suffered a small wage penalty relative to their married counterparts (4.5%), they actually enjoyed a large wage advantage relative to their cohabitating counterparts (28.2%).[22]

These raw wage gaps are generally consistent with those found using the 1990 U.S. Census (in 1989 dollars). In particular, Allegretto and Arthur (2001) found average hourly earnings of $15.52, $11.43, and $14.53 for married, cohabitating, and gay men, respectively. Thus, gay men faced a wage penalty (advantage) relative to their married (cohabitating) counterparts. This result for men was confirmed in Klawitter and Flatt (1998), based on average annual wages, while Clain and Leppel (2001) found that gay men earned the same as their cohabitating counterparts but less than their married counterparts on average. This difference, however, may be driven largely by the fact that Clain and Leppel (2001) only looked at full-time, full-year workers. Moreover, Klawitter and Flatt (1998) found that lesbian women had substantially higher average annual income ($17,497) than did either their married ($9,308) or cohabitating ($11,857) female counterparts. Similarly, Clain and Leppel (2001) found that lesbian women enjoyed a wage advantage relative to their heterosexual counterparts irrespective of marital status.

What can account for these differences? It is unlikely that there will be a simple explanation for the sexual orientation wage gap, given the patterns we observe. In fact, it seems likely that the reasons will differ depending on whether the same-sex group under consideration enjoys a wage advantage or suffers from a wage penalty relative to the counterpart heterosexual group. Thus, we explore two potential explanations: occupational sorting and differences in human

[18]To ensure large enough cell sizes for the gay and lesbian samples, we focus on only 21 occupational categories.

[19]Another way to calculate occupational male density is to define the percentage of hours worked by men in the occupation. While the percentages do vary slightly under the two definitions, the ordinal ranking of occupations by male density is nearly identical.

[20]Because the characteristics and responsibilities of jobs are more homogeneous within occupations and more heterogeneous within industries, we include controls only for occupation and suppress additional industry controls. Estimates that include industry controls (results available on request) do not alter our findings.

[21]We base our analysis on the entire distribution of hours paid. Hence for all calculations we weight each observation by the product of usual weekly hours worked and the appropriate Census sampling weight.

The log hourly wage gap is calculated as the same-sex log hourly wage minus the heterosexual log hourly wage. Throughout the paper, we convert log hourly wage gaps to percentages using the formula $e^x - 1$, where x is the log hourly wage gap. While this conversion yields similar results for small wage gaps (that is, the gap expressed in log terms is similar in magnitude to the gap expressed in percentage terms), the same is not true for larger wage gaps.

[22]Although the magnitudes of the wage penalties/advantages vary somewhat by cohort (that is, for 25–34-year-olds, 35–44-year-olds, and 45–59-year-olds), the main patterns are the same (results available on request). Therefore, we focus on the overall sample.

Table 1. Log Hourly Wages, Experience, Education, and Occupational Male Density by Gender and Sexual Orientation.

	Men			*Women*		
Variable	*Married (1)*	*Cohabitating (2)*	*Gay (3)*	*Married (1)*	*Cohabitating (2)*	*Lesbian (3)*
Log Hourly Wage	2.976**	2.681**	2.930	2.636**	2.541**	2.816
	(0.602)	(0.564)	(0.609)	(0.572)	(0.554)	(0.570)
Log Hourly Wage Gap	–0.046	0.249		0.180	0.275	
Experience	21.692**	16.705**	18.032	21.415**	16.689**	17.919
	(9.135)	(8.971)	(7.927)	(9.371)	(9.260)	(7.910)
Education						
Less than HS Grad	0.042**	0.076**	0.012	0.026**	0.046**	0.016
	(0.201)	(0.266)	(0.107)	(0.158)	(0.209)	(0.124)
HS Grad	0.259**	0.341**	0.115	0.262**	0.286**	0.114
	(0.438)	(0.474)	(0.320)	(0.440)	(0.452)	(0.318)
Some College	0.239*	0.257	0.250	0.244**	0.272**	0.219
	(0.427)	(0.437)	(0.433)	(0.429)	(0.445)	(0.414)
Associates Degree	0.081	0.074	0.080	0.103**	0.098	0.087
	(0.273)	(0.262)	(0.272)	(0.304)	(0.297)	(0.283)
College Grad	0.237**	0.187**	0.336	0.231**	0.211**	0.300
	(0.425)	(0.390)	(0.472)	(0.422)	(0.408)	(0.458)
Post-College	0.142**	0.065**	0.207	0.135**	0.087**	0.264
	(0.349)	(0.246)	(0.405)	(0.341)	(0.283)	(0.441)
Occupational Male Density						
10–19% Male	0.002**	0.003**	0.009	0.025**	0.033**	0.014
	(0.046)	(0.058)	(0.092)	(0.157)	(0.180)	(0.119)
20–29% Male	0.126**	0.110**	0.260	0.525**	0.403**	0.352
	(0.331)	(0.313)	(0.439)	(0.499)	(0.491)	(0.478)
40–49% Male	0.082**	0.072**	0.150	0.128**	0.151	0.147
	(0.275)	(0.259)	(0.357)	(0.335)	(0.358)	(0.354)
50–59% Male	0.133**	0.136**	0.197	0.111**	0.151**	0.134
	(0.340)	(0.343)	(0.398)	(0.314)	(0.358)	(0.340)
60–69% Male	0.329**	0.286**	0.310	0.177**	0.211**	0.251
	(0.470)	(0.452)	(0.462)	(0.382)	(0.408)	(0.434)
80–89% Male	0.171**	0.175**	0.051	0.027**	0.040**	0.072
	(0.377)	(0.380)	(0.220)	(0.163)	(0.196)	(0.259)
90–100% Male	0.156**	0.218**	0.024	0.005**	0.010**	0.030
	(0.363)	(0.413)	(0.153)	(0.074)	(0.101)	(0.172)
Observations	814,153	57,825	5,785	701,900	55,872	6,205

Notes: Means with standard errors are in parentheses. Observations are weighted by the product of usual weekly hours and the appropriate Census sampling weight. The log hourly wage gap is calculated as the same-sex log hourly wage minus the heterosexual log hourly wage. To facilitate comparisons between sexual orientation groups, in columns 1 and 2 a statistically significant difference in means, relative to column 3, is indicated by a single asterisk ($p < .10$) or double asterisk ($p < .05$). Occupational male density categorizes the percentage of workers 18–65 who are male in 21 Standard Occupational Classification (SOC) major group occupations (see Table 2 for detailed occupations).

capital accumulation. According to Table 1, gay men were much less likely than their married and cohabitating counterparts to be in occupations that were over 80% male. Specifically, gay men were less likely to be in the following occupations: protective, transportation, architecture/engineering, installation/repair, and construction/extraction (See Table 2). In contrast, lesbian women were more likely to be in male-dominated

occupations, and less likely to be in female-dominated occupations, than both their married and cohabitating counterparts (see Table 1). For instance, compared to their married counterparts, they were 4.5 percentage points more likely to be in occupations that were 80–89% male and 17.4 percentage points less likely to be in occupations that were 20–29% male. Interestingly, lesbian women were less likely to be in certain "pink-collar" occupations, including office administration and sales (see Table 2).[23] Given that male-dominated occupations tend to pay higher wages, this may help account for the wage disadvantage experienced by gay men relative to married men and the wage advantage experienced by lesbian women relative to their heterosexual counterparts (irrespective of marital status), but it does not help explain the wage advantage gay men enjoyed relative to cohabitating men.

Turning to differences in human capital accumulation, gay men and lesbian women had approximately three fewer years of potential experience than their married counterparts, but roughly one more year of potential experience than their cohabitating counterparts (see Table 1).[24] While these differences in labor market experience may help explain the relative wage pattern we have found for gay men, they are less helpful in explaining the pattern for lesbian women. Moreover, both gay men and lesbian women had acquired more education than their heterosexual counterparts, irrespective of marital status. Thus, differences in educational attainment may explain wage advantages enjoyed by same-sex groups relative to their heterosexual counterparts, but they are unlikely to help explain the wage penalties. Overall, therefore, it is unclear how large a role differences in human capital accumulation will play, given that we observe conflicting levels of support for the hypothesis depending on the measure of human capital considered.

To more formally assess the relative roles of our two main determinants in explaining the sexual orientation wage gap, the remainder of the paper focuses on two types of wage decomposition, the Oaxaca-Blinder (1973) decomposition and the DiNardo, Fortin, and Lemieux (1996) decomposition.

Determinants of the Sexual Orientation Wage Gap

As a first attempt to formally identify the underlying causes of the sexual orientation wage gap, we perform a Oaxaca-Blinder (1973) decomposition. Specifically, we estimate log hourly wage equations of the following form separately by sexual orientation group:

$$W_{ig} = \alpha_g + \beta_g X_{ig} + \varepsilon_{ig}, \quad (1)$$

where W is log hourly wages, i and g represent individuals and sexual orientation groups (married, cohabitating, and same-sex), respectively, X is a vector of observable characteristics (defined below), and ε is an error term with the usual properties.

Before discussing the decomposition, we present the results from equation (1). We estimate two specifications. Specification (1) includes controls for education, potential experience, part-time status, metropolitan area, region, and seven occupational male density categories, while specification (2) includes specification (1) but replaces the seven occupational male density categories with 21 detailed occupational categories. For ease of presentation, we show the results for education, potential experience, part-time status, metropolitan area, and region based on specification (2) in Table 3, as the results are similar across specifications.[25] In addition, we present the results for our two measures of occupation in Tables 4 and 5, respectively.

Interestingly, for men we generally find no differences in the returns to observable

[23]Summary statistics for all remaining variables are presented in Appendix Table A1.

[24]Potential experience is calculated as age minus education minus 6. Ideally we would like to include a measure of actual experience, as it is unclear how good a proxy potential labor market experience is for some of the groups under investigation (for example, married heterosexual women), but the Census data do not include detailed information on work histories.

[25]Results from specification 1 are available on request.

Table 2. Occupation Category by Gender and Sexual Orientation.

	Men			*Women*		
Occupation Categories (percent male in occupation)	*Married (1)*	*Cohabitating (2)*	*Gay (3)*	*Married (1)*	*Cohabitating (2)*	*Lesbian (3)*
Healthcare Support (11.8%)	0.002**	0.003**	0.009	0.025**	0.033**	0.014
	(0.046)	(0.058)	(0.092)	(0.157)	(0.180)	(0.119)
Healthcare (21.8%)	0.025**	0.018**	0.053	0.100	0.069**	0.098
	(0.156)	(0.133)	(0.225)	(0.300)	(0.254)	(0.298)
Personal Care (23.4%)	0.004**	0.007**	0.022	0.019	0.023**	0.018
	(0.063)	(0.086)	(0.147)	(0.137)	(0.151)	(0.133)
Office Admin. (24.4%)	0.059**	0.064**	0.131	0.273**	0.257**	0.133
	(0.235)	(0.245)	(0.337)	(0.445)	(0.437)	(0.340)
Education (26.2%)	0.038**	0.021**	0.054	0.133**	0.054**	0.102
	(0.191)	(0.142)	(0.226)	(0.340)	(0.226)	(0.302)
Social Service (39.6%)	0.016	0.006**	0.019	0.022**	0.018**	0.049
	(0.124)	(0.075)	(0.135)	(0.146)	(0.133)	(0.215)
Food/Serving (40.7%)	0.007**	0.025*	0.029	0.026**	0.054**	0.020
	(0.083)	(0.156)	(0.169)	(0.159)	(0.225)	(0.139)
Business/Financial (43.3%)	0.048**	0.033**	0.080	0.066**	0.063	0.057
	(0.213)	(0.179)	(0.272)	(0.248)	(0.242)	(0.231)
Legal (43.7%)	0.012**	0.008**	0.022	0.014**	0.017**	0.022
	(0.108)	(0.092)	(0.146)	(0.119)	(0.130)	(0.146)
Sales (49.5%)	0.105**	0.105**	0.133	0.088**	0.117**	0.079
	(0.307)	(0.306)	(0.340)	(0.283)	(0.321)	(0.269)
Arts (52.1%)	0.015**	0.020**	0.048	0.015**	0.023**	0.032
	(0.121)	(0.140)	(0.215)	(0.121)	(0.149)	(0.175)
Science (59.4%)	0.013	0.011**	0.015	0.009**	0.011**	0.023
	(0.114)	(0.106)	(0.120)	(0.093)	(0.106)	(0.151)
Management (60.1%)	0.163**	0.098**	0.203	0.103**	0.104**	0.155
	(0.369)	(0.297)	(0.402)	(0.304)	(0.305)	(0.362)
Maintenance (62.4%)	0.018**	0.025**	0.010	0.009	0.014**	0.008
	(0.133)	(0.155)	(0.101)	(0.093)	(0.118)	(0.089)
Production (68.0%)	0.109**	0.125**	0.030	0.045	0.071**	0.048
	(0.312)	(0.331)	(0.172)	(0.207)	(0.256)	(0.213)
Computer/Math (69.4%)	0.039**	0.038**	0.066	0.020**	0.023**	0.040
	(0.195)	(0.192)	(0.248)	(0.139)	(0.148)	(0.197)
Protective (80.6%)	0.039**	0.034**	0.007	0.006**	0.009**	0.027
	(0.194)	(0.180)	(0.082)	(0.077)	(0.092)	(0.161)
Transportation (83.9%)	0.083**	0.107**	0.023	0.014**	0.023**	0.029
	(0.276)	(0.309)	(0.149)	(0.119)	(0.148)	(0.169)
Architecture/Eng. (86.4%)	0.049**	0.034**	0.021	0.007**	0.009**	0.016
	(0.216)	(0.182)	(0.145)	(0.083)	(0.094)	(0.126)
Install/Repair (95.0%)	0.081**	0.093**	0.015	0.004**	0.005**	0.015
	(0.273)	(0.290)	(0.120)	(0.061)	(0.073)	(0.122)
Construction/Ext. (97.2%)	0.075**	0.125**	0.009	0.002**	0.005**	0.015
	(0.263)	(0.331)	(0.096)	(0.042)	(0.069)	(0.123)
Observations	814,153	57,825	5,785	701,900	55,872	6,205

Notes: Means with standard errors are in parentheses. Observations are weighted by the product of usual weekly hours and the appropriate Census sampling weight. To facilitate comparisons between sexual orientation groups, in columns 1 and 2 a statistically significant difference in means, relative to column 3, is indicated by a single asterisk ($p < .10$) or double asterisk ($p < .05$).

Table 3. Selected OLS Coefficients.
(dependent variable: log hourly wages)

	Men			*Women*		
Independent Variable	*Married (1)*	*Cohabitating (2)*	*Gay (3)*	*Married (1)*	*Cohabitating (2)*	*Lesbian (3)*
Less Than HS grad	–0.185	–0.196	–0.206	–0.163	–0.212	–0.254
	(0.003)	(0.009)	(0.081)	(0.004)	(0.012)	(0.050)
Some College	0.100	0.093	0.097	0.106	0.127	0.119
	(0.002)	(0.006)	(0.025)	(0.002)	(0.006)	(0.023)
Associate Degree	0.139	0.137	0.117	0.195	0.206	0.191
	(0.002)	(0.009)	(0.032)	(0.002)	(0.008)	(0.030)
College Grad	0.404	0.365	0.403	0.428**	0.439**	0.373
	(0.002)	(0.009)	(0.026)	(0.002)	(0.008)	(0.025)
Post-College	0.600	0.552	0.567	0.670**	0.634**	0.570
	(0.003)	(0.015)	(0.031)	(0.003)	(0.012)	(0.028)
Experience	0.108	0.091	0.091	0.083	0.068	0.050
	(0.002)	(0.007)	(0.024)	(0.002)	(0.006)	(0.021)
Experience^2/100	–0.512	–0.495	–0.375	–0.470**	–0.386*	–0.062
	(0.017)	(0.058)	(0.202)	(0.017)	(0.055)	(0.180)
Experience^3/1000	0.113	0.129	0.070	0.116**	0.108**	–0.025
	(0.005)	(0.020)	(0.069)	(0.005)	(0.019)	(0.063)
Experience^4/10000	–0.009	–0.012	–0.005	–0.010**	–0.011**	0.005
	(0.001)	(0.002)	(0.008)	(0.001)	(0.002)	(0.008)
Part-Time	–0.062	–0.105	–0.061	–0.125	–0.074	–0.112
	(0.006)	(0.015)	(0.041)	(0.002)	(0.008)	(0.028)
Metropolitan Area	0.156	0.135	0.142	0.156	0.179**	0.122
	(0.002)	(0.006)	(0.030)	(0.002)	(0.006)	(0.021)
New England	–0.029	–0.029	–0.074	–0.037*	–0.025**	–0.087
	(0.003)	(0.010)	(0.032)	(0.003)	(0.010)	(0.029)
Middle Atlantic	–0.001	–0.023	–0.012	–0.037*	–0.032	0.007
	(0.003)	(0.009)	(0.030)	(0.003)	(0.008)	(0.026)
East North Central	–0.048**	–0.046**	–0.210	–0.109	–0.088	–0.083
	(0.002)	(0.008)	(0.025)	(0.003)	(0.008)	(0.024)
West North Central	–0.141**	–0.124**	–0.259	–0.171	–0.125	–0.139
	(0.003)	(0.011)	(0.035)	(0.003)	(0.010)	(0.031)
South Atlantic	–0.122	–0.135	–0.158	–0.132	–0.113	–0.105
	(0.003)	(0.009)	(0.023)	(0.003)	(0.008)	(0.020)
East South Central	–0.149**	–0.168**	–0.301	–0.198	–0.186	–0.132
	(0.003)	(0.013)	(0.037)	(0.003)	(0.013)	(0.040)
West South Central	–0.138	–0.149	–0.179	–0.189	–0.152	–0.150
	(0.003)	(0.011)	(0.028)	(0.003)	(0.011)	(0.031)
Mountain	–0.123**	–0.122**	–0.190	–0.153	–0.121	–0.145
	(0.003)	(0.011)	(0.033)	(0.003)	(0.010)	(0.033)
Constant	1.910	1.942	1.911	1.838	1.825	1.975
	(0.010)	(0.031)	(0.102)	(0.009)	(0.027)	(0.091)
Observations	814,153	57,825	5,785	701,900	55,872	6,205
R-Squared	0.29	0.25	0.32	0.32	0.31	0.29

Notes: Robust standard errors are in parentheses. Observations are weighted by the product of usual weekly hours and the appropriate Census sampling weight. To facilitate comparisons between sexual orientation groups, in columns 1 and 2 a statistically significant difference in means, relative to column 3, is indicated by a single asterisk ($p < .10$) or double asterisk ($p < .05$). In addition to the variables listed, each regression contains controls for the 21 SOC major group occupation categories listed in Table 2.

Table 4. Occupational Male Density OLS Coefficients.
(dependent variable: log hourly wages)

	Men			*Women*		
Occupational Male Density	*Married (1)*	*Cohabitating (2)*	*Gay (3)*	*Married (1)*	*Cohabitating (2)*	*Lesbian (3)*
10–19% Male	–0.342	–0.232	–0.338	–0.136*	–0.141	–0.224
	(0.014)	(0.039)	(0.061)	(0.004)	(0.014)	(0.051)
20–29% Male	–0.126	–0.100	–0.091	–0.008**	–0.007**	–0.092
	(0.003)	(0.011)	(0.024)	(0.003)	(0.008)	(0.024)
40–49% Male	–0.085**	–0.063	–0.015	0.021**	–0.038*	–0.094
	(0.004)	(0.013)	(0.028)	(0.003)	(0.009)	(0.029)
50–59% Male						
60–69% Male	0.082**	0.084**	0.135	0.151**	0.101	0.060
	(0.002)	(0.009)	(0.024)	(0.003)	(0.009)	(0.026)
80–89% Male	–0.037	0.001	–0.010	0.069*	0.048	0.010
	(0.003)	(0.009)	(0.038)	(0.005)	(0.013)	(0.031)
90–100% Male	0.022	0.048	0.054	0.164**	0.120**	0.003
	(0.003)	(0.009)	(0.049)	(0.010)	(0.026)	(0.049)
Observations	814,153	57,825	5,785	701,900	55,872	6,205

Notes: Robust standard errors are in parentheses. Observations are weighted by the product of usual weekly hours and the appropriate Census sampling weight. To facilitate comparisons between sexual orientation groups, in columns 1 and 2 a statistically significant difference in means, relative to column 3, is indicated by a single asterisk ($p < .10$) or double asterisk ($p < .05$). In addition to the variables listed, each regression contains a constant, a quartic in potential experience, and indicator variables for seven education categories, nine regions, part-time status, and residence in a metropolitan area.

characteristics by sexual orientation (See Table 3). The only discernible difference by sexual orientation in Table 3 relates to region. For example, among gay men, married men, and cohabitating men, respectively, earnings in the East South Central region were 26.0%, 13.8%, and 15.5% lower than in the Pacific region.[26] For women, we observe more differences. Specifically, lesbian women earned lower returns to post-college degrees than did their heterosexual counterparts, irrespective of marital status.[27] For example, lesbian women earned 8.2 (18.6) percentage points less for a college (post-college) degree relative to a high school degree than did their married counterparts (see Table 3). Moreover, the shape of the experience-earnings profile of lesbian women differed greatly from that of married or cohabitating women. Finally, there were generally no differences in returns to region for women by sexual orientation.[28]

Focusing on the returns to occupational male density in Table 4, the returns both to female-dominated occupations (those that were 10–19% and 20–29% male) and to male-dominated occupations (80–89% and 90–100% male) relative to evenly mixed occupations (50–59% male) did not differ by sexual orientation for men. Interestingly, for occupations that were closer to evenly mixed, gay men fared better than their married counterparts. That is, gay men faced less of a wage penalty (6.7 percentage points) in occupations that had a slightly higher female concentration (40–49% male) and earned more of a wage advantage (5.9 percentage

[26]As with the log hourly wage gap, the coefficient estimates for all indicator variables discussed in the text are converted into percentages using $e^x - 1$, where x is the coefficient of interest.

[27]Because we include controls for occupation in equation (1), the estimated returns to education exclude the influence of education on occupational choice.

[28]The main exception is that lesbian women faced a larger wage penalty in the New England region (relative to the Pacific region) than did their married and cohabitating counterparts.

Table 5. Occupation Category OLS Coefficients.
(dependent variable: log hourly wages)

	Men			*Women*		
Occupation Categories (percent male in occupation)	*Married (1)*	*Cohabitating (2)*	*Gay (3)*	*Married (1)*	*Cohabitating (2)*	*Lesbian (3)*
Healthcare Support (11.8%)	–0.377	–0.266	–0.377	–0.136**	–0.155**	–0.268
	(0.014)	(0.039)	(0.065)	(0.005)	(0.014)	(0.055)
Healthcare (21.8%)	0.117	0.037**	0.182	0.234**	0.187**	0.056
	(0.006)	(0.026)	(0.042)	(0.004)	(0.012)	(0.040)
Personal Care (23.4%)	–0.294*	–0.211	–0.184	–0.206	–0.145**	–0.297
	(0.011)	(0.031)	(0.060)	(0.006)	(0.019)	(0.057)
Office Admin. (24.4%)	–0.155	–0.119*	–0.177	–0.006**	–0.004**	–0.160
	(0.003)	(0.012)	(0.029)	(0.003)	(0.009)	(0.035)
Education (26.2%)	–0.259**	–0.149	–0.122	–0.068**	–0.077**	–0.162
	(0.004)	(0.020)	(0.040)	(0.004)	(0.013)	(0.039)
Social Service (39.6%)	–0.557**	–0.244	–0.301	–0.115**	–0.100**	–0.247
	(0.006)	(0.028)	(0.047)	(0.005)	(0.016)	(0.042)
Food/Serving (40.7%)	–0.433**	–0.388	–0.341	–0.299**	–0.305**	–0.460
	(0.008)	(0.016)	(0.046)	(0.005)	(0.013)	(0.059)
Business/Financial (43.3%)	0.040	0.140**	0.060	0.189**	0.177**	0.028
	(0.004)	(0.017)	(0.035)	(0.004)	(0.012)	(0.044)
Legal (43.7%)	0.255**	0.270**	0.414	0.254	0.215	0.205
	(0.009)	(0.037)	(0.061)	(0.007)	(0.022)	(0.057)
Sales (49.5%)						
Arts (52.1%)	–0.100**	–0.003	0.018	0.053*	0.084**	–0.032
	(0.006)	(0.022)	(0.046)	(0.007)	(0.019)	(0.051)
Science (59.4%)	–0.072	–0.105	–0.170	0.105**	0.015	–0.056
	(0.006)	(0.027)	(0.069)	(0.008)	(0.026)	(0.050)
Management (60.1%)	0.153	0.175	0.170	0.243**	0.202**	0.098
	(0.003)	(0.013)	(0.031)	(0.004)	(0.011)	(0.037)
Maintenance (62.4%)	–0.332	–0.270	–0.363	–0.251	–0.260	–0.361
	(0.005)	(0.016)	(0.068)	(0.007)	(0.022)	(0.068)
Production (68.0%)	–0.057	–0.040	–0.077	–0.014**	–0.026**	–0.171
	(0.003)	(0.011)	(0.051)	(0.004)	(0.011)	(0.042)
Computer/Math (69.4%)	0.143	0.263*	0.197	0.375**	0.359**	0.160
	(0.004)	(0.015)	(0.035)	(0.005)	(0.015)	(0.046)
Protective (80.6%)	–0.069**	0.057	0.113	0.123	0.160**	0.057
	(0.004)	(0.014)	(0.075)	(0.009)	(0.023)	(0.046)
Transportation (83.9%)	–0.174	–0.145	–0.230	–0.047*	–0.085	–0.139
	(0.003)	(0.011)	(0.053)	(0.006)	(0.018)	(0.048)
Architecture/Eng. (86.4%)	0.085	0.184	0.138	0.275**	0.254**	0.064
	(0.003)	(0.013)	(0.054)	(0.008)	(0.020)	(0.051)
Install./Repair (95.0%)	–0.052**	–0.011	0.057	0.196**	0.195**	–0.025
	(0.003)	(0.011)	(0.055)	(0.011)	(0.029)	(0.073)
Construction/Ext. (97.2%)	–0.022	–0.016	–0.090	0.111**	0.012	–0.075
	(0.003)	(0.011)	(0.086)	(0.021)	(0.043)	(0.064)
Observations	814,153	57,825	5,785	701,900	55,872	6,205

Notes: See notes to Table 4.

points) in occupations that had a slightly higher male concentration (60–69% male) relative to evenly mixed occupations than did their married counterparts. Moreover, these patterns generally persist when we break these coarser male density bins into

our detailed occupation categories (see Table 5).[29] This suggests that gay men fared better in occupations that were closer to evenly mixed but did not face additional penalties, relative to their heterosexual counterparts, for working in occupations that were less evenly mixed.

Unlike for men, for women we find differences by sexual orientation in the returns to occupation across the entire male density distribution. Further, the differences between lesbian and married women were more pronounced than those between lesbian and cohabitating women. Relative to wages in evenly mixed occupations, lesbian women faced a larger wage penalty in female-dominated occupations than did their heterosexual counterparts, and a smaller wage advantage in male-dominated occupations. Moreover, in occupations that had closer to an even gender mix, lesbian women fared worse than their heterosexual counterparts. For example, relative to earnings in occupations that were 50–59% male, lesbian women's earnings in occupations that were 40–49% male and 60–69% male were, respectively, 11.1 and 10.1 percentage points below the earnings of their married counterparts. These overall patterns persist when more detailed occupational categories are used (see Table 5). This is suggestive that lesbian women fared better in evenly mixed occupations relative to their heterosexual counterparts.

Taken together, these results seem to indicate that differences in returns to characteristics by sexual orientation played a bigger role for women than for men. Moreover, analytical approaches that constrain the returns to be the same by sexual orientation, as most previous studies have done, cannot estimate the extent to which each of the individual observable characteristics contributes to the sexual orientation wage gap. The remainder of this paper presents our decomposition results.

Quantification of the sexual orientation earnings gap requires computing what same-sex workers would earn if they faced the same returns for their observable characteristics as heterosexual workers. Following Oaxaca-Blinder (1973), the decomposition can be given by

$$(2) \qquad \overline{W^{SS}} - \overline{W^{H}} = (\overline{X^{SS}} - \overline{X^{H}})\hat{\beta}^{H} + \overline{X^{SS}}(\hat{\beta}^{SS} - \hat{\beta}^{H}) + (\hat{\alpha}^{SS} - \hat{\alpha}^{H}),$$

where *SS* and *H* represent same-sex (either gay or lesbian) and heterosexual (either married or cohabitating) respondents, respectively. Bars denote means and hats denote predicted values from equation (1). This equation uses heterosexual weights as opposed to same-sex weights; however, similar results are found using same-sex weights, and are available upon request.[30]

The decomposition results for specifications (1) and (2) are reported in Panels A and B of Table 6 for men and women, respectively. The first row of each panel reports the total log hourly wage gap. The second row reports the portion of the total log hourly wage gap attributable to differences in average observable characteristics and corresponds with the first term in equation (2). Rows 3 through 9 further decompose the portion due to differences in average observable characteristics into subcategories to illustrate the relative importance of particular observable characteristics. The final row of each panel reports the portion of the total log hourly wage gap attributable to differences in the returns to observable characteristics (henceforth referred to as unobservable

[29]The main exceptions at the bottom of the distribution are personal care (23.4% male) and education (26.2% male), where gay men faced a substantially smaller wage penalty (relative to sales, 49.5% male) than did their married counterparts. The main exception at the top of the distribution is protective occupations (80.6% male), where gay men enjoyed a substantially larger wage advantage (relative to sales) than their married counterparts. Finally, the main exception in the middle of the distribution is that we no longer find that gay men fared better than their married counterparts in occupations that were 60–69% male relative to an evenly mixed occupation.

[30]We also calculated the decomposition using two other weighting schemes, developed, respectively, by Cotton (1988) and by Neumark (1988)/Oaxaca and Ransom (1994). The results, available on request, are similar to those found using the Oaxaca-Blinder (1973) decomposition.

Table 6. Oaxaca-Blinder Decomposition Results.

Panel A: Men

	Gay vs. Married		*Gay vs. Cohabitating*	
	Specification 1	*Specification 2*	*Specification 1*	*Specification 2*
Total Log Hourly Wage Gap	**–0.046**	**–0.046**	**0.249**	**0.249**
Attributable to Differences in Characteristics	0.073	0.078	0.208	0.225
Education	0.102	0.085	0.187	0.146
Experience	–0.038	–0.039	0.030	0.030
Part Time	–0.003	–0.001	–0.001	–0.001
Metropolitan Area	0.024	0.021	0.018	0.015
Region	0.012	0.011	0.004	0.002
Male Density	–0.025		–0.029	
Occupation		0.002		0.033
Attributable to Differences in Returns to Characteristics	–0.119	–0.125	0.041	0.023

Panel B: Women

	Lesbian vs. Married		*Lesbian vs. Cohabitating*	
	Specification 1	*Specification 2*	*Specification 1*	*Specification 2*
Total Log Hourly Wage Gap	**0.180**	**0.180**	**0.275**	**0.275**
Attributable to Differences in Characteristics	0.188	0.182	0.235	0.233
Education	0.123	0.112	0.174	0.149
Experience	–0.011	–0.012	0.024	0.024
Part Time	0.013	0.012	0.004	0.002
Metropolitan Area	0.019	0.017	0.015	0.013
Region	0.021	0.020	0.007	0.006
Male Density	0.022		0.011	
Occupation		0.034		0.039
Attributable to Differences in Returns to Characteristics	–0.008	–0.002	0.039	0.041

Notes: The total log hourly wage gap, which is calculated as the same-sex log hourly wage minus the heterosexual log hourly wage, is decomposed into a portion attributable to differences in average observable characteristics and differences in returns to these characteristics. We further decompose the portion due to differences in average observable characteristics into subcategories to illustrate the relative importance of particular observable characteristics. Within each specification, the heterosexual OLS coefficients from Tables 3 through 5 are used to weight the mean differences in observable characteristics between same-sex and heterosexuals groups. In Panel A (for men) the sample sizes are 814,153 for married, 57,825 for cohabitating, and 5,785 for gay, and in Panel B (for women) the sample sizes are 701,900 for married, 55,872 for cohabitating, and 6,205 for lesbian.

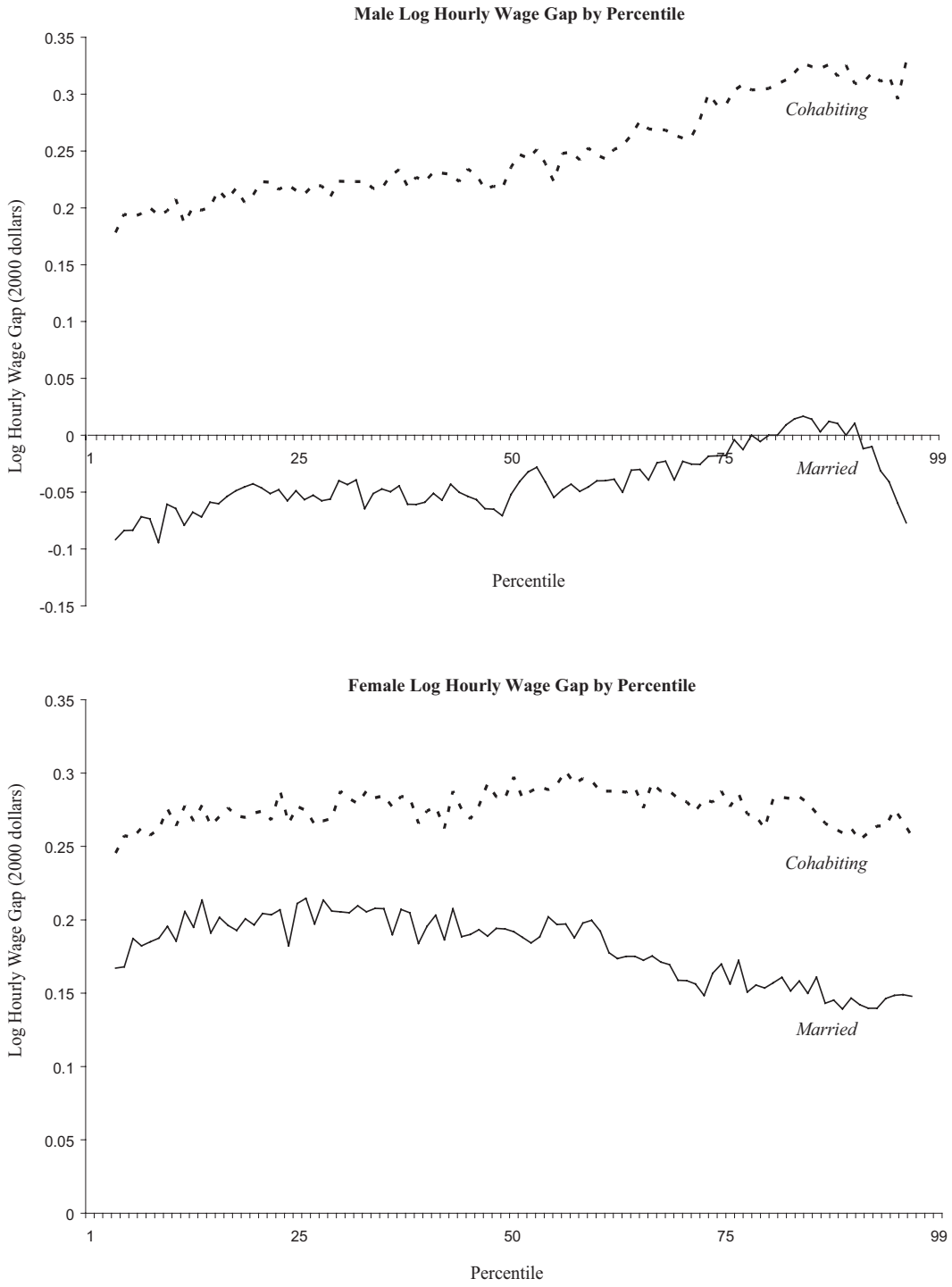
characteristics) and corresponds to the last two terms in equation (2).

While differences in potential experience and occupational density help explain the log wage penalty for gay men relative to married men,[31] accounting for all observable characteristics explains none of the log hourly wage gap. This is because if gay men had had the same education levels as married men, they would have faced an even larger log wage penalty.

The story is very different for same-sex groups that enjoyed a wage advantage relative to their heterosexual counterparts. Specifically, depending on the same-sex group and specification considered, observable characteristics account for either all or almost all of the log wage advantage that same-sex groups enjoyed relative to their heterosexual counterparts. Although potential experi-

[31]Interestingly, when detailed occupational categories are used, occupational sorting no longer plays a role.

Figure 1. Sexual Orientation Gap by Gender.



ence and occupation play a small role, the main driver is education. Depending on the specification, education explains 59–75% of gays' wage advantage relative to their cohabitating counterparts, and 62–69% (54–63%) of lesbians' wage advantage relative to their married (cohabitating) counterparts.[32]

The Oaxaca-Blinder decomposition results suggest that differences in human capital accumulation are the main reason behind the observed sexual orientation wage advantage, while occupational sorting plays only a minimal role. On the other hand, the observed sexual orientation wage penalty can be attributed to unobservable characteristics and not to either occupational sorting or human capital.

Unfortunately, analysis of the mean sexual orientation wage gap neglects the possibility that the gap is non-uniform along the wage distribution. Figure 1 shows the sexual orientation wage gap at each wage percentile, and allows us to compare earnings not only at the median and quartiles, but also for all wage percentiles between the 4th and the 96th.[33] As before, negative (positive) values denote a wage penalty (advantage) for gays/lesbians relative to heterosexuals at the same wage percentile within each respective wage distribution. While lesbians' wage advantage relative to cohabitating women was fairly uniform along the entire distribution of earnings, their wage advantage relative to married women declined by roughly a fifth in the top quartile of earnings. The pattern for gay men is quite different. The wage advantage enjoyed by gay men relative to cohabitating men was roughly 40% larger in the top quarter of the earnings distribution than in the bottom three quarters. In addition, the wage penalty suffered by gay men relative to married men fell to near zero for the top quarter of the earnings distribution, indicating near parity in the log wages of top-earning gay and married men.[34]

The wage penalty or advantage experienced by each sexual orientation group is not a uniform phenomenon over the entire wage distribution. Casual empiricism suggests that observable characteristics are likely to play a larger role in explaining the sexual orientation wage gap at the top of the distribution while unobservable characteristics are likely to play a larger role at the bottom of the distribution, because one would expect tolerant employers, tolerant employees, and employees who are well informed about their legal rights and protections to be most common in high-paying jobs and least common in low-paying jobs. The remainder of the paper examines an alternative decomposition approach that allows us to formally examine the role of observable characteristics (that is, occupational sorting and differences in human capital accumulation) and unobservable characteristics along the entire distribution of the sexual orientation wage gap.

Decomposition of the Sexual Orientation Wage Gap over the Distribution of Wages

To analyze the explanatory power of our two potential sources of the sexual orientation wage gap over the entire distribution of wages, we adopt the decomposition approach developed by DiNardo, Fortin, and Lemieux (1996) (hereafter, DFL). Specifically, the DFL technique is to construct a counterfactual distribution of wages to estimate how differences in the distribution of observable characteristics contribute toward differences in the distribution of wages between two groups.

We are interested in creating a counterfactual distribution of wages for the same-sex (SS) group if that group had the same

[32]As the Oaxaca-Blinder analysis contains occupational controls, the explained component related to differences in education excludes the influence of education on occupational choice. The estimated role of education will be biased downward in our analysis if the dichotomy between human capital and occupational sorting is invalid.

[33]Trimming the wage percentiles at the tails within each sexual orientation group decreases the influence of outliers.

[34]The possibility of a glass ceiling is another strong motivation for analyzing wage gaps over the entire distribution of wages. However, in the context of the sexual orientation wage gap (as opposed to, for example, the gender wage gap), there seems to be little support for this hypothesis, as the wage penalty against gay men relative to married men actually shrinks at the top of the distribution.

distribution of observable characteristics as the heterosexual (H) group. We start with the actual distribution of wages for the SS group,

$$(3)\qquad \int_{X\in\Omega_X} dF(W,X|g=SS) = \int_{X\in\Omega_X} f(W|X,g=SS)\,dF(X|g=SS),$$

where $f(W|X,g=SS)$ denotes the distribution of wages conditional on observable characteristics for the SS group, $dF(X|g=SS)$ denotes the distribution of observable characteristics conditional on membership in the SS group, and Ω_X represents the universe of observable characteristics.

As we are interested in the relative roles of our two alternative explanations of the sexual orientation wage gap, it is necessary to estimate the DFL procedure in stages. Our preferred ordering accounts first for occupational sorting, then for human capital differences (education and potential experience), then for part-time status, metropolitan area, and region. Thus, in the first stage we isolate occupation (*occ*) from the other observable characteristics, $X_{\neq 1}$. We rewrite the actual distribution of wages for the SS group as

$$(4)\qquad f(W,X|g=SS) = \int\int f(W|occ,X_{\neq 1},g=SS)\,dF(occ|X_{\neq 1},g=SS)\,dF(X_{\neq 1}|g=SS),$$

where $f(W|occ,X_{\neq 1},g=SS)$ denotes the distribution of wages conditional on occupation and all other observable characteristics for the SS group, $dF(occ|X_{\neq 1},g=SS)$ denotes the distribution of occupation conditional on the other observable characteristics for the SS group, and $dF(X_{\neq 1}|g=SS)$ denotes the distribution of all other observable characteristics conditional on membership in the SS group.

What would the distribution of SS wages be if the SS group sorted into occupations the same way as the H group, but the distribution of all other observable characteristics remained unchanged? If we assume that the conditional distribution of wages does not depend on the conditional distribution of observable characteristics, using equation (4) we can construct this counterfactual distribution of wages as

$$(5)\qquad \int\int f(W|occ,X_{\neq 1},g=SS)\,dF(occ|X_{\neq 1},g=H)\,dF(X_{\neq 1}|g=SS) = \int\int f(W|occ,X_{\neq 1},g=SS)\,\Psi_{occ|X\neq 1}(X)\,dF(occ|X_{\neq 1},g=SS)\,dF(X_{\neq 1}|g=SS),$$

where $\Psi_{occ|X\neq 1}(X) = \dfrac{dF(occ|X_{\neq 1},g=H)}{dF(occ|X_{\neq 1},g=SS)}$, the reweighting function for occupation, defines a unique weighting factor for each individual based on that person's unique set of observable characteristics.[35] Specifically, the reweighting function decreases (increases) the weight of SS individuals who are in occupations that are relatively less (more) common in the H group than the SS group, but does not change the distribution of the remaining $X_{\neq 1}$ characteristics.[36] By weighting each SS observation's wage by the product of its reweighting factor and its sample weight, we construct the counterfactual distribution of wages if SS group individuals sorted into occupations the same way as their observationally equivalent H group counterparts. The counterfactual sexual orientation wage gap is the difference between the counterfactual wage distribution of the SS group (equation 5) and the actual wage distribution of the H group.

In the second stage of the DFL, we now isolate occupation (*occ*) and education (*ed*) from the other observable characteristics, $X_{\neq 2}$. The counterfactual distribution of wages if the SS group had the same occupational sorting and education of the H group, but the distribution of all other observable characteristics remained unchanged, can now be expressed as

[35]Following the methods of DFL, we estimate the reweighting function using logistic regression.

[36]For example, in the group of 35-year-old, Pacific region, metropolitan area, full-time, college graduate men, 26.3% of gay men work in management occupations and 5.3% in sales, versus 23.5% and 14.6% (respectively) of married, heterosexual men. Thus for this subgroup of workers, management occupations are over-represented in the same-sex male sample relative to the married male sample by a reweighting factor of roughly 0.89 ($\approx 0.235/0.263$), and sales occupations are under-represented by a reweighting factor of roughly 2.75 ($\approx 0.146/0.053$).

$$(6)\quad \int\int\int f(W|occ,ed,X_{\neq 2},g=SS)\, dF(occ|ed,X_{\neq 2},g=H)\, dF(ed|X_{\neq 2},g=H)\, dF(X_{\neq 2}|g=SS)$$
$$= \int\int\int f(W|occ,ed,X_{\neq 2},g=SS)\, \Psi_{occ|ed,X\neq 2}(X)\, \Psi_{ed|X\neq 2}(X) * dF(occ|ed,X_{\neq 2},g=SS)\, dF(ed|X_{\neq 2},g=SS)\, dF(X_{\neq 2}|g=SS),$$

where $\Psi_{occ|ed,X\neq 2}(X) = \dfrac{dF(occ|ed,X_{\neq 2},g=H)}{dF(occ|ed,X_{\neq 2},g=SS)}$, and $\Psi_{ed|X\neq 2}(X) = \dfrac{dF(ed|X_{\neq 2},g=H)}{dF(ed|X_{\neq 2},g=SS)}$ are the reweighting functions for occupation and education, respectively. Notice that the reweighting function obtained here for occupation is the same as the one obtained above. By weighting each SS observation's wage by the product of both reweighting factors and its sample weight, we construct the counterfactual distribution of wages if the SS group had the same conditional distribution of occupation and education as the H group. The counterfactual sexual orientation wage gap is the difference between the counterfactual wage distribution of the SS group (equation 6) and the actual wage distribution of the H group. We continue this process to control for differences in all observable characteristics in the order specified above. If a counterfactual sexual orientation wage gap persists after we have controlled for the total effect of all characteristics, then this portion of the total log hourly wage gap cannot be attributed to differences in observable characteristics. As in the Oaxaca-Blinder decomposition, we refer to this as unobservable characteristics.

The sequential DFL is somewhat sensitive to the order in which individual characteristics are selected for decomposition. While the total effect of controlling for all characteristics will be the same, a single characteristic's estimated influence on the counterfactual distribution of wages tends to be larger the later it is accounted for in the sequential DFL. This is because the relative distribution of characteristics at each stage is conditioned on all characteristics not selected in previous stages; hence later stages hold fewer characteristics constant. Our main findings concerning the relative roles of occupational sorting and human capital accumulation are generally robust to the ordering of the sequential DFL.[37] Our preferred ordering (described above) gives a conservative estimate of the relative influence of occupational sorting and human capital accumulation on the counterfactual distribution of wages.

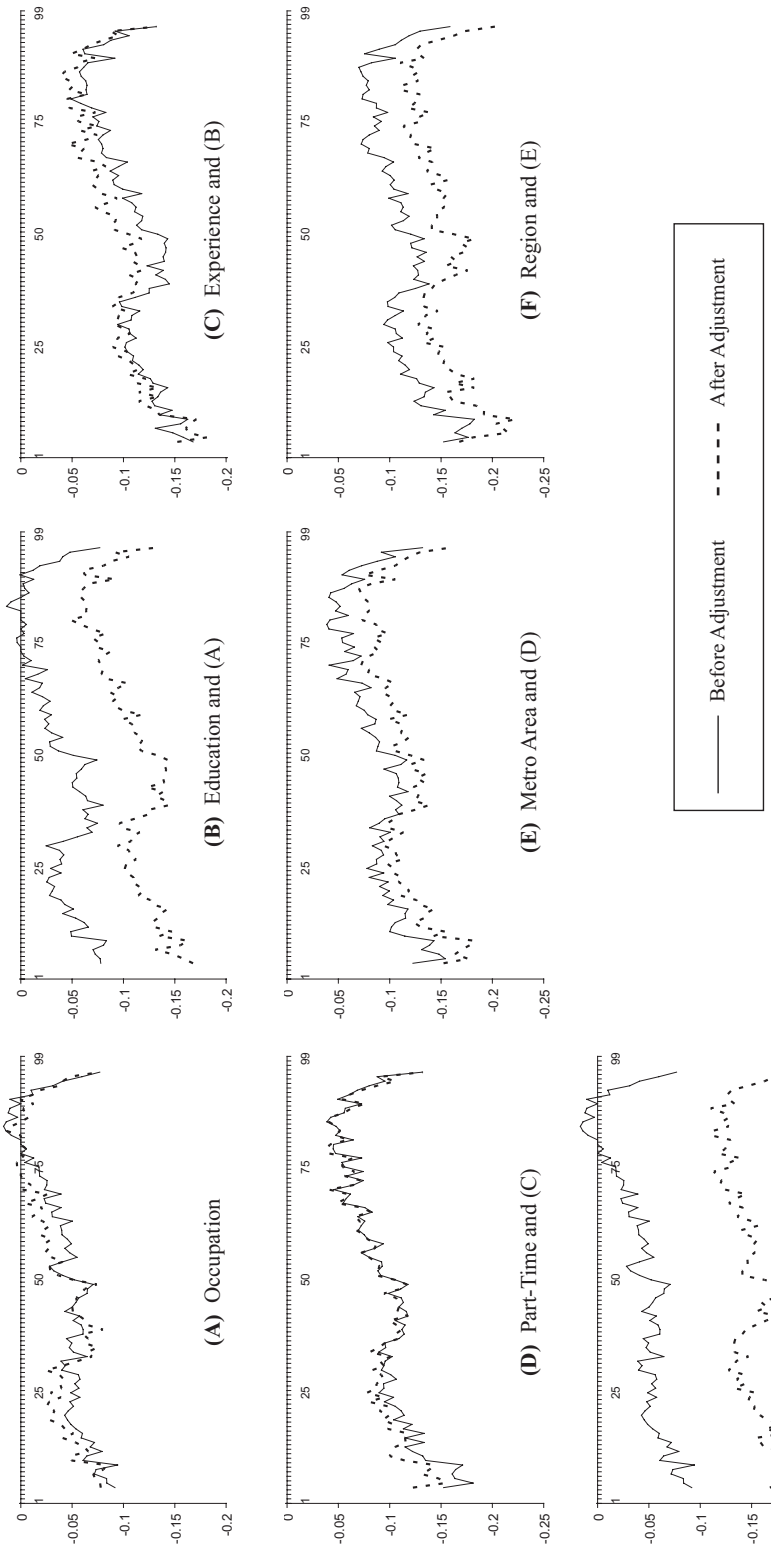
For expositional ease, we plot each stage's counterfactual sexual orientation wage gap over the distribution of wages for men (women) from our sequential DFL decomposition in Panels A through G of Figures 2 and 3 (Figures 4 and 5). Panel A of each figure shows the actual raw log hourly wage gap as a solid line (replicated from Figure 1). Negative (positive) values denote a wage penalty (advantage) for gays/lesbians relative to heterosexuals at the same wage percentile within each respective wage distribution. Panel A also shows the counterfactual log hourly wage gap (dashed line) that would result if, conditional on all other factors, the occupational sorting of the same-sex group were changed such that it was equivalent to that of the counterpart heterosexual group.[38] If occupational sorting is the primary determinant of the sexual orientation wage gap, then the counterfactual log hourly wage gap will be zero and the dashed line will lie along the X-axis.

According to Panel A of Figures 2–5, the dashed line hardly ever overlaps with the X-axis along the entire wage distribution, irrespective of gender. Further, while the relative role of occupational sorting does vary somewhat across the distribution of wages for both men and women (for example, occupational sorting explains somewhat more of the wage advantage lesbian women enjoy relative

[37]For men there is some variation in the relative roles of occupational sorting versus human capital accumulation if education is adjusted for before occupation. Specifically, for gay men relative to their cohabitating counterparts, the relative roles of the two explanations are at times reversed. This ordering, however, implies that the reweighting factor for occupation is also allowed to change the distribution of education.

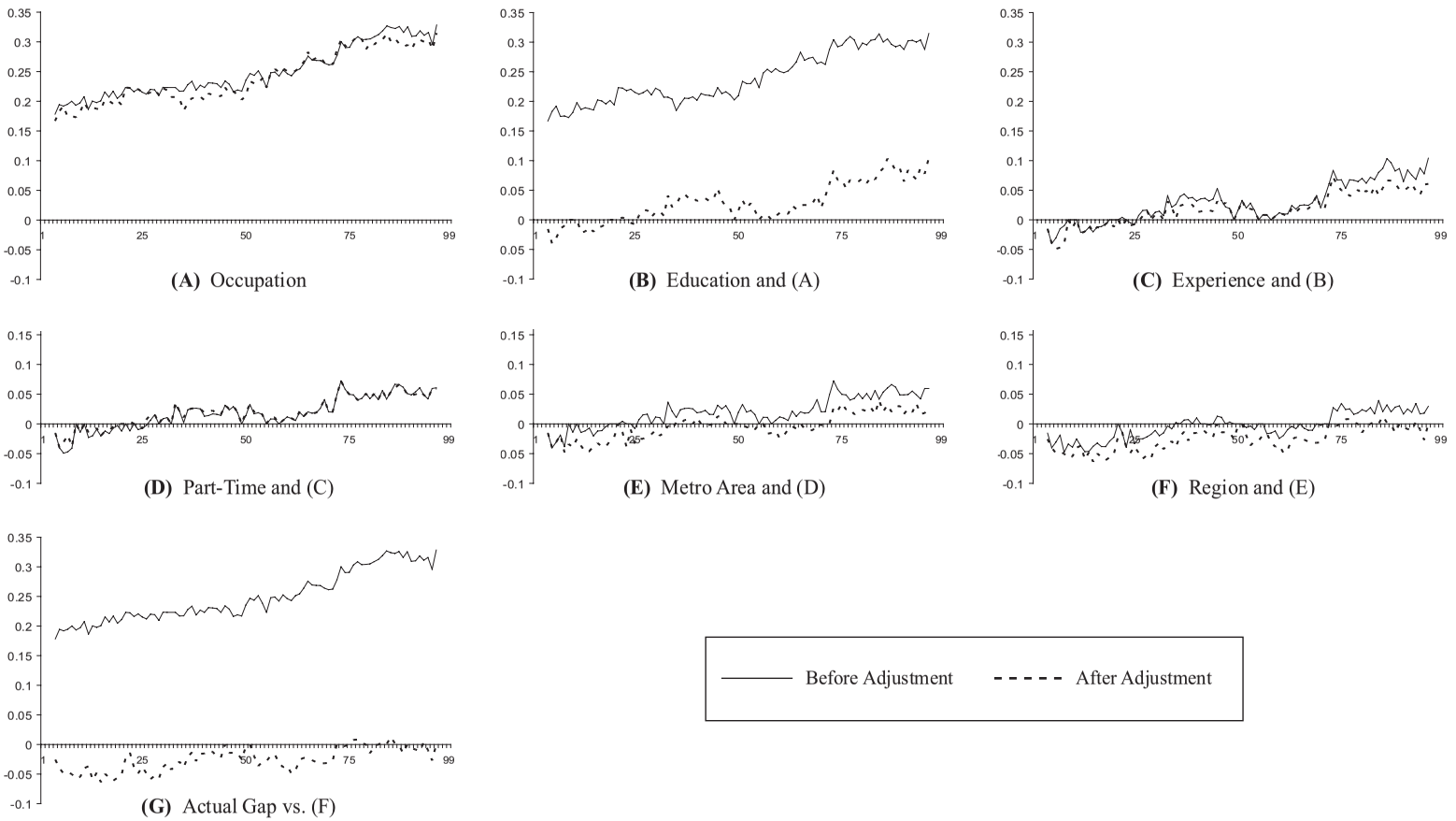
[38]The DFL decompositions are based on our detailed measure of occupation (that is, 21 SOC occupation categories listed in Table 2), as similar results are found with the occupational male density measure (that is, seven occupational male density categories listed in Table 1). Results are available on request.

Figure 2. DiNardo, Fortin, Lemieux Decomposition Results: Gay vs. Married Men.



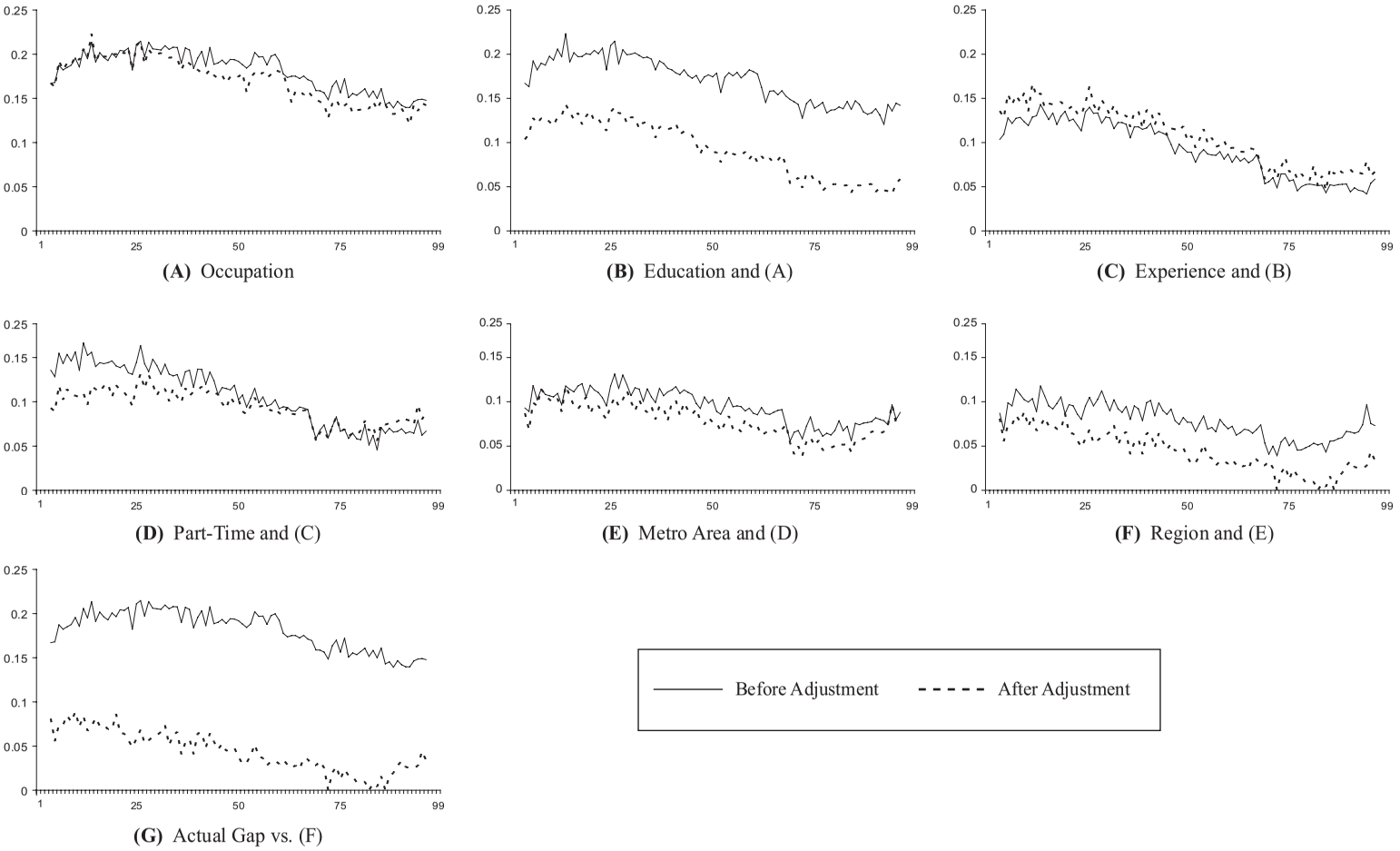
Notes: The log hourly wage gap (y axis) at each wage percentile (x axis) is defined as the counterfactual gay male log hourly wage at that percentile (that is, the conditional distribution of indicated characteristics of gay men are changed so they are equivalent to their married male counterparts) minus the actual married male log hourly wage at the same percentile. The sample sizes are 814,153 for married men and 5,785 for gay men.

Figure 3. DiNardo, Fortin, Lemieux Decomposition Results: Gay vs. Cohabiting Men.



Notes: The log hourly wage gap (y axis) at each wage percentile (x axis) is defined as the counterfactual gay male log hourly wage at that percentile (that is, the conditional distribution of indicated characteristics of gay men are changed so they are equivalent to their cohabiting male counterparts) minus the actual cohabiting male log hourly wage at the same percentile. The sample sizes are 57,825 for cohabiting men and 5,785 for gay men.

Figure 4. DiNardo, Fortin, Lemieux Decomposition Results: Lesbian vs. Married Women.



Notes: The log hourly wage gap (y axis) at each wage percentile (x axis) is defined as the counterfactual lesbian female log hourly wage at that percentile (that is, the conditional distribution of indicated characteristics of lesbian women are changed so they are equivalent to their married female counterparts) minus the actual married female log hourly wage at the same percentile. The sample sizes are 701,900 for married women and 6,205 for lesbian women.

to married women at the top of the distribution than at the bottom of the distribution), the differences across the distribution are generally not statistically significant. Thus, for both men and women we find a limited role for occupational sorting in explaining the sexual orientation wage gap.

Panels B and C of each figure explore the role human capital factors (education and potential experience) play in explaining the sexual orientation wage gap. We again show the pre-adjustment and post-adjustment counterfactual log hourly wage gaps as, respectively, a solid line and a dashed line. The dashed line in Panel A becomes the solid line in Panel B. Similarly, the dashed line in Panel B becomes the solid line in Panel C. For regions along the wage distribution where the dashed line is closer than the solid line to the X-axis, the human capital factor plays a role in explaining the sexual orientation wage gap at that percentile.

We find that after we account for occupational sorting, differences in educational attainment play a large role in explaining the wage advantage enjoyed by same-sex groups relative to their heterosexual counterparts across the entire wage distribution.[39] Specifically, once we have controlled for occupational sorting and differences in educational attainment, we can explain virtually the entire wage advantage enjoyed by gay men relative to cohabitating men (see Panel B of Figure 3), and we can explain anywhere from half to three-quarters of the wage advantage enjoyed by lesbian women relative to their heterosexual counterparts (depending on the marital status of the comparison group; see Panel B of Figures 4 and 5). Occupational sorting and human capital differences in educational attainment, however, cannot explain the wage penalty suffered by gay men relative to married men (see Panel B of Figure 2). Accounting for differences in occupation and education between the gay and married male groups would actually lead us to expect a much larger wage penalty than we find empirically.

Turning to our second human capital measure, we find that differences in potential experience play a limited role in explaining the sexual orientation wage gap. However, potential experience does appear to influence the wage differential for high-earning workers (see Panel C of Figures 2–5). This may be a result of a higher premium for experience in higher-earning, human capital–intensive jobs than in lower-earning, less human capital–intensive jobs.

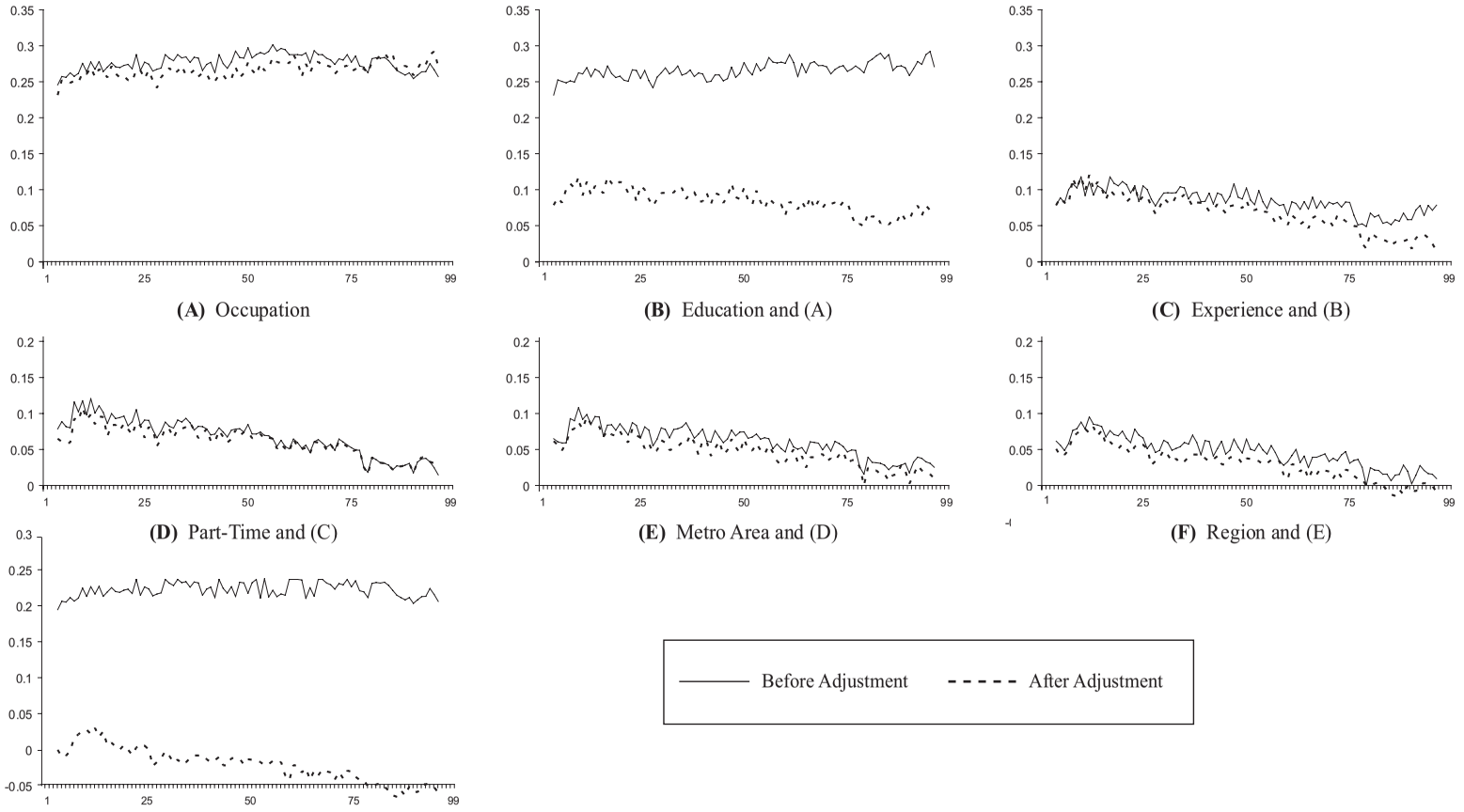
For completeness, Panels D, E, and F of Figures 2–5 adjust sequentially for differences in part-time status, metropolitan area, and region between same-sex and heterosexual workers. While differences in working part-time do not play a significant role in explaining the sexual orientation wage gap for either gender, adjusting for city/non-city residence and for regional differences reduces the estimated counterfactual wages for gays and lesbians alike, increasing the counterfactual sexual orientation wage penalty for the former and decreasing the wage advantage for the latter.

The final panel of each figure (Panel G) shows the role unobservable characteristics play in explaining the log hourly wage gap. Panel G shows the actual raw log hourly wage gap at each percentile as a solid line (replicated from Panel A) followed by the counterfactual log hourly wage gap after controlling for occupational sorting, human capital differences, and differences in part-time status, metropolitan area, and region as a dashed line. The distance between the solid and dashed lines shows the role of observable characteristics in explaining the sexual orientation wage gap at that wage percentile, whereas the role of unobservable characteristics is indicated by the distance between the dashed line and the X-axis.

Unobservable characteristics were most important for same-sex groups that suffered a wage penalty relative to their heterosexual counterparts. In particular, as shown by the position of the dashed line below the X-axis and the solid line (see Panel G of Figure 2), unobservable characteristics accounted for

[39] In the ordering of the sequential DFL presented here, we condition on education when we control for occupation, and hence, unlike our Oaxaca-Blinder decomposition results, the results for human capital accumulation include any influence of education on occupational choice.

Figure 5. DiNardo, Fortin, Lemieux Decomposition Results: Lesbian vs. Cohabiting Women.



Notes: The log hourly wage gap (y axis) at each wage percentile (x axis) is defined as the counterfactual lesbian female log hourly wage at that percentile (that is, the conditional distribution of indicated characteristics of lesbian women are changed so they are equivalent to their cohabiting female counterparts) minus the actual cohabiting female log hourly wage at the same percentile. The sample sizes are 55,872 for cohabiting women and 6,205 for lesbian women.

more than the entire wage penalty suffered by gay men relative to their married counterparts. Moreover, unobservable characteristics contributed more to the wage penalty gay men suffered relative to their married counterparts below the median than above the median. While observable characteristics can explain nearly the entire wage advantage of gay men relative to cohabitating men above the median and of lesbian women relative to married and cohabitating women in the top quarter of the distribution of wages, unobservable characteristics do play a small role for lower-wage workers (see Panel G of Figures 3–5). Interestingly, these unobservable characteristics appear to have favored lower-wage lesbian women and disfavored lower-wage gay men relative to their heterosexual counterparts.

Taken together, these results imply that despite differences in the size of the sexual orientation wage gap and small differences in the relative roles of our two explanations across the distribution of wages, the main findings of the mean decomposition analysis continue to hold. Specifically, human capital factors largely explain the observed sexual orientation wage advantage while unobservable factors largely explain the observed sexual orientation wage penalty.

Conclusion

Recent public and legislative debate has focused on earnings differentials between gay and lesbian Americans and their heterosexual counterparts. Sound policy must take into account the underlying causes of these wage differentials.

Our analysis of data from the 2000 U.S. Census has shown that gay men faced a wage penalty relative to their married counterparts, but enjoyed a wage advantage relative to their cohabitating counterparts, and lesbian women enjoyed a wage advantage relative to their heterosexual counterparts irrespective of marital status. Given these patterns, we thought it unlikely that there would prove to be a simple explanation for the sexual orientation wage gap. We hypothesized that the explanation was in fact likely to vary depending on whether the same-sex group under consideration enjoys a wage advantage or suffers from a wage penalty relative to the counterpart heterosexual group. Therefore, we explored two potential explanations—occupational sorting and differences in human capital accumulation—using an analysis of the mean wage gap.

Using the Oaxaca-Blinder (1973) decomposition, we found that differences in human capital accumulation, particularly education, were the main reason behind the observed wage advantage enjoyed by lesbian women relative to their heterosexual counterparts (irrespective of marital status) and gay men relative to their cohabitating counterparts, while occupational sorting played only a modest role. However, we found that the entire wage penalty suffered by gay men relative to their married counterparts was largely unexplained. While discrimination may be behind this unexplained wage penalty, without more quantitative evidence we are reluctant to label it as such. Thus there is a need for further research to determine how large a role discrimination plays in explaining the observed wage penalties. Also unanswered, as yet, and another question for further investigation, is why gays and lesbians attain higher educational levels than their heterosexual counterparts.

Because an approach that focuses only on the mean sexual orientation wage gap overlooks the possibility that the gap could be non-uniform across the wage distribution, we expanded our inquiry by examining the determinants of the sexual orientation wage gap along the entire wage distribution using a DiNardo, Fortin, Lemieux (DFL) decomposition. We found that while gay men experienced, on average, a wage penalty relative to married men, top-earning gay men earned wages nearly identical to those of their married counterparts. In addition, the wage advantage of top-earning lesbian women relative to their married counterparts was smaller than the average advantage. These and a few other relatively small variations aside, however, the main conclusions from our Oaxaca-Blinder (1973) analysis of the mean wage gap were borne out by the DFL decomposition.

Appendix Table A1
Selected Descriptive Statistics by Gender and Sexual Orientation

	Men			*Women*		
Independent Variable	*Married (1)*	*Cohabitating (2)*	*Gay (3)*	*Married (1)*	*Cohabitating (2)*	*Lesbian (3)*
Age	41.880**	36.113**	39.151	41.596**	36.473**	39.210
	(8.919)	(8.661)	(7.917)	(8.947)	(8.769)	(7.931)
Part-Time	0.013**	0.028**	0.037	0.145**	0.079**	0.052
	(0.114)	(0.164)	(0.188)	(0.352)	(0.269)	(0.221)
Metropolitan Area	0.825**	0.845**	0.959	0.814**	0.851**	0.922
	(0.380)	(0.362)	(0.199)	(0.389)	(0.356)	(0.268)
New England	0.057	0.073**	0.059	0.059**	0.074**	0.086
	(0.232)	(0.260)	(0.236)	(0.235)	(0.262)	(0.280)
Middle Atlantic	0.132	0.141	0.135	0.131*	0.145**	0.123
	(0.339)	(0.348)	(0.342)	(0.338)	(0.352)	(0.328)
East North Central	0.193**	0.184**	0.140	0.190**	0.186**	0.136
	(0.395)	(0.388)	(0.347)	(0.392)	(0.389)	(0.343)
West North Central	0.090**	0.080**	0.049	0.100**	0.080**	0.068
	(0.287)	(0.272)	(0.217)	(0.300)	(0.272)	(0.252)
South Atlantic	0.177**	0.178**	0.209	0.182	0.176**	0.188
	(0.382)	(0.382)	(0.407)	(0.386)	(0.380)	(0.391)
East South Central	0.066**	0.041**	0.031	0.066**	0.039**	0.028
	(0.248)	(0.199)	(0.174)	(0.248)	(0.194)	(0.166)
West South Central	0.102**	0.074**	0.093	0.100**	0.069**	0.077
	(0.303)	(0.261)	(0.290)	(0.300)	(0.253)	(0.267)
Mountain	0.068	0.075**	0.066	0.064*	0.075	0.071
	(0.251)	(0.263)	(0.249)	(0.245)	(0.264)	(0.256)
Pacific	0.115**	0.154**	0.217	0.109**	0.156**	0.223
	(0.319)	(0.361)	(0.413)	(0.311)	(0.363)	(0.416)
Observations	814,153	57,825	5,785	701,900	55,872	6,205

Notes: Means with standard errors are in parentheses. Observations are weighted by the product of usual weekly hours and the appropriate Census sampling weight. To facilitate comparisons between sexual orientation groups, in columns 1 and 2 a statistically significant difference in means, relative to column 3, is indicated by a single asterisk ($p < .10$) or double asterisk ($p < .05$).

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