Sexual Minority Disparities in Earnings in the UK

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Abstract

Early research into sexual minority disparities in earnings has relied on cohabitation data as a proxy for sexual orientation, due to lack of available data on sexual minority status. Increasingly, national surveys are including sexual orientation in their data. I use a large individual level dataset to investigate disparities in earnings among sexual minorities using self-reported sexual orientation. I compare this finding to a sub-group of partnered individuals to investigate the effect of the use of cohabitation data in previous studies. I replicate previous findings of a lesbian wage premium and gay wage penalty for males, and find that using cohabitation data may overstate the disparity faced by sexual minorities. I find that such disparities are driven by differences in returns to characteristics, rather than individuals' endowments. I find that occupational choice is a key determinant of the gay male earnings penalty.

Introduction

Labour market discrimination has had much attention in economic literature since Becker's 1957 book The Economics of Discrimination, with much of the focus directed at gender, and more recently ethnicity. There is a growing body of literature, however, investigating sexual minority disparities in the labour market. Due to a lack of data, early studies used cohabitation data or self-reported sexual behaviours to derive sexual orientation, confining much of the early literature to same-sex couples derived using cohabitation data. Increasingly, large representative datasets including self-reported sexual orientation are becoming available, removing the need to rely on cohabitation data to derive sexual orientation, and thus allowing for analysis of both partnered and non-partnered sexual minorities.

Of the literature that has been conducted, gay men have been found to earn significantly less than heterosexual men, while the evidence for lesbian women is ambiguous. Gay men have been found to earn 4-5% less than heterosexual men in the Netherlands, France, Greece and the UK, and 12-16% less in Canada, Sweden and the US, while lesbians have been found to earn 28% less than their heterosexual counterparts in Australia and 8% less in Greece. However, in the Netherlands, UK, Germany, Canada and the US, they have been found to earn 3-20% more (Drydakis, 2019).

I use a large individual level dataset which specifically asks individuals to report their sexual orientation, to determine the wage disparity faced by sexual minorities. I exploit the inclusion of individual level earnings and employment data alongside personal characteristics such as self-reported sexual orientation to determine the size of the earnings disparity between sexual minorities and heterosexuals, and compare these findings with findings from a sub-set of

partnered individuals to directly estimate the effect of using only cohabitation data, as in previous studies.

I find a positive, statistically significant earnings differential for lesbians compared to heterosexual females, and a negative differential for gay men compared to otherwise similar heterosexual men, although this is significant only when using Oaxaca-Blinder decomposition. I find that the lesbian wage premium is confined to urban areas and increases for full-time only workers, while the gay male wage penalty is largely confined to cohabitating males and does not differ for full-time workers. These findings support previous findings of a lesbian wage premium and gay wage penalty for males.

I find that such disparities are amplified when confining the data to only partnered individuals, suggesting that previous studies have overstated the sexual minority earnings disparity through the use of cohabitation data as a proxy for sexual minority status. This, coupled with the finding that the gender wage gap is eliminated for sexual minorities, supports the hypothesis that household specialisation and traditional gender roles are key determinants of the sexual minority earnings disparity, increasing the earnings of lesbians and decreasing those of gay men compared to heterosexuals, with society rewarding masculinity over femininity.

Theory on the determinants of the sexual minority wage gap

Becker's Taste Based Discrimination says that employers may develop a taste for discrimination whereby there is a disamenity to employing minority workers, due to employer, majority worker or customer discrimination, and consequently minority workers have to compensate for this by being more productive than their non-minority counterparts, or accepting a lower wage for equivalent productivity. This creates incentives for segregation between minority and non-minority workers, as costs of employing minority workers are higher (Becker 1957). This theory is likely to hold true only for those whose perceived sexual orientation is observable, as individuals are likely only to disclose true sexual minority status if they feel able to do so, for example within a supportive, non-discriminatory environment, where discrimination is unlikely.

Aigner and Cain developed a statistical theory of discrimination, where employers have limited information about the productivity of minority workers, and so use observable characteristics to infer their productivity. When there is a noisy signal of minority workers' productivity, and an employer has prior information of lower productivity, it is expected that minority workers' productivity is less than that of the majority (Aigner and Cain 1977). In this case, minority workers are paid less based on their lower expected productivity. This too would only be possible if one's sexual minority status is perceived to be observable.

Furthermore, it may be perceived by employers that there is greater variance in productivity of minority workers. Therefore, even if expected productivity of minority workers is equal to the majority, employers may be less willing to employ minorities due to the perceived variance in productivity. To this end, a positive relationship has been found between employer risk-aversion and discriminatory behaviours, where an increase in employers' risk

aversion by one standard deviation above average resulted in a decrease in beneficial hiring decisions for homosexuals by 31.7% (Baert 2015).

As sexual minorities make up a small proportion of society, it is plausible that their true productivity is unknown, and so employers use observable characteristics and past experiences to form their expectation of their productivity. This is likely to result in a lower expected productivity for sexual minority workers, and consequently a lower wage. Most economists focus on statistical discrimination as a determinant of minority worker discrimination, as it is supported by empirical evidence. In addition, statistical discrimination is economically efficient, as workers are paid given their expected productivity, which on average is equal to actual productivity.

There is an abundance of research that has found gender differences in the labour market, from women being less likely to be in full time employment, to women being paid less than men. For example, full time working women have been found to be paid 19% less than men in the UK (Azmat 2015). The interaction between gender and sexual minority discrimination in the workplace is therefore paramount to studies of sexual minority discrimination in the labour market. It is possible that lesbian women are paid more than heterosexual women because they are typically less stereotypically female and more masculine.

Homosexuals are perceived to be less dominant, autonomous and assertive; characteristics which are favoured in the labour market (Baert 2015). This perception is likely to hold only for homosexual males, which may explain the greatly differing labour market experiences of homosexual males and females.

If the labour market values masculinity over femininity, it follows that lesbian women will be paid more than heterosexual women who typically present as more feminine, and so less attractive to employers. This perceived masculinity of lesbian women and femininity of gay men would indicate that lesbian women are discriminated against in typically feminine occupations such as social care, nursing and child care, while gay men are discriminated against in typically masculine occupations such as banking, manual labour and management jobs. It has been found that gay men received the fewest invitations to interview for male-dominated jobs, while lesbian women received the fewest invitation to interview for female-dominated jobs, compared to their heterosexual counterparts (Drydakis 2014). This supports the theory that the deviation of sexual minorities from stereotypical gender norms is a source of discrimination in the labour market.

In addition to the perceived masculinity of lesbian workers that is favourable in the labour market, lesbian women are more likely to have a labour market attachment that is closer to that of heterosexual men's than heterosexual women's. This is likely because lesbian women are less likely to bear children, with 18.1% of lesbian women having children compared to 49.4% of heterosexual women (Elmslie and Tebaldi 2007). Furthermore, lesbian couples that do have children are more likely to allocate household and childcare responsibilities equally as compared to heterosexual couples (Elmslie and Tebaldi 2007). Being lesbian could therefore act as a signal to employers that a woman is less likely to have childcare responsibilities, and is more committed to her employment, thus supporting statistical discrimination theory.

In addition to the classical models of minority worker discrimination, Drydakis proposed a model of minority stress as a determining factor of labour market discrimination. Minority

status can bring societal exclusion, hostility and discrimination, which can serve as stressors increasing minorities' susceptibility to both mental and physical health disparities. As well as external discrimination and stressors, sexual minorities may internalise these attitudes, resulting in low self esteem and internalised prejudice. This makes sexual minorities less likely to foster healthy behaviours, and so increase their likelihood of suffering from poor mental and physical health (Drydakis, 2021). Stigma-related stress has been found to give rise to depression and anxiety, and sexual minorities are more likely to report arthritis, chronic fatigue syndrome, musculoskeletal problems and disabilities compared to heterosexual individuals, as well as cardiovascular disease, pain and high blood pressure (Drydakis, 2021).

This theory of minority stress does not explain, however, the apparent wage premium faced by lesbians. If minority stress theory is a determinant of lower earnings for sexual minorities, it would follow that both gay males and females experience similar labour market penalties. One possibility, however, is that societal discrimination faced by gay males for their perceived femininity is greater than that faced by gay females for their perceived masculinity. This could be because society favours masculinity over femininity, and as such lesbians' greater masculinity over gay males.

Much of the economic literature focuses on the wage discrimination faced by women and ethnic minorities, and this poses an important question of whether these inequalities interact with sexual minority status. There is very little research into this interaction of "multiple minorities" (Bulgar-Medina, 2018). However, one study found that race was a lesser factor in employment experiences than sexual orientation, although the two aspects of discrimination cannot be deciphered (Giwa and Greensmith 2012). Although there is little research into the

interaction of ethnicity and sexual orientation in the workplace, and the theory motivating such interactions, reports have found increased harassment or bullying in the workplace for ethnic minority LGBT employees, with 10 percent of black, Asian or minority ethnic LGBT employees reporting having been physically attacked by customer of colleagues in the last year, compared to 3 percent of white LGBT employees. Moreover, 12 percent of black, Asian and minority ethnic LGBT employees report to have lost a job in the last year due to being LGBT, compared to 4 percent of white LGBT employees (Chaka L. Bachmann 2018). This highlights the importance of economic research into the interaction between multiple minorities to inform policy to reduce such disparities.

It is important that economic research follow the discrimination of sexual minority workers over time. It may be that as society is becoming more welcoming of all identities and sexualities, and the gay pride movement is gaining momentum, that the discrimination of sexual minority workers may be short lived. An ever increasing proportion of society are identifying as LGBTQ+, and this increasing presence of sexual minorities is likely to increase their acceptance within all aspects of society, including the labour market. This increasing presence of sexual minorities in the workplace may also act to correct the signal of lower productivity of sexual minority workers, therefore reducing the statistical discrimination faced.

Literature review

Badgett (1995) pioneered research into sexual orientation disparities in the labour market using econometric methods, previously conserved for use in gender and racial disparity studies of the labour market. Badgett used sexual behaviours reported in the General Social Survey (GSS), which gave differing definitions of sexual orientation. This first study of its kind found that both gay males and females earnt significantly less than their heterosexual counterparts, with lesbians being more likely to work in low paid sectors, while gay men more likely to be paid less but work in higher paid sectors. A wage penalty of 11-27% was found for gay males, which was statistically significant, while a penalty of 12-30% was found for gay females, although this was not consistently significant.

Since Badgett's initial work, several studies have sought to investigate sexual minority discrimination in the labour market. Much of the early literature used indicators of sexual orientation, such as household composition, to infer one's sexual minority status due to the lack of availability of sexual orientation data.

Arabsheibani, Marin et al. (2005) used Oaxaca-Blinder decomposition to estimate sexual minority earnings differentials using the UK Labour Force Survey. Household composition was used as a proxy for sexual orientation, where those living with an unrelated same-sex adult were classified as gay. This found that if gay men were rewarded equally as heterosexual men for their endowments, gay men would earn approximately 5 log points more. Gay women, however, would earn less in this instance. This suggests that gay men are penalised, while gay women are rewarded for their sexual minority status.

This is supported by Clain and Leppel (2001), who used household composition within the Public Use Microdata Sample (PUMS) of the 1990 Census of Population and Housing to infer sexual minority status, finding that men with male partner earn 16% less than men with female partners, while gay women earn comparatively more than women with male partners. They suggest that this finding is likely due to the labour market rewarding stereotypically heterosexual male characteristics, which lesbian women have been found to possess, for example being more dominant, assertive and autonomous (Reiss, Safer et al. 1976).

Many early studies of sexual minority disparities compared the earnings of cohabitating gay individuals with a sample of both cohabitating and non-cohabitating heterosexual individuals. Clain and Leppel, however, compared cohabitating gays with cohabitating heterosexuals. This allowed for a more valid result, as the two populations share the characteristic of cohabitating with a partner.

Recent advances in the quality of sexual orientation data, in part due to increasing acceptance of sexual minorities, has allowed for analyses of self-reported sexual minorities. This allows for both partnered and non-partnered sexual minorities to be analysed, thus allowing for estimation of the bias generated through the use of household cohabitation data as a proxy for sexual orientation.

Carpenter and Eppink (2017) use the US National Health Interview Survey to investigate sexual minority disparities in earnings, which explicitly asks individuals to report their sexual orientation. They find that lesbian women earn significantly more than their heterosexual counterparts, approximately 9%, and gay men also earn significantly more, at around 10%. This study is unique in finding a gay male wage premium, which is primarily found among

non-partnered gay males. They suggest that this new finding of a gay male premium may be due to increasing acceptance of the LGBTQ+ community, however it is unclear why this would cause a premium, rather than a wage equal to that of heterosexual males'.

Aksoy, Carpenter et al. (2018) used self-identified sexual orientation in the UK Integrated Household Surveys to compare earnings of partnered and non-partnered sexual minorities with their heterosexual counterparts. Importantly, they found that partnered lesbian women face a wage premium as compared to partnered heterosexual women, but this differential was not found for non-partnered lesbians compared to non-partnered heterosexual women. Furthermore, a wage penalty was found for partnered gay men compared to partnered heterosexual men, but this too was not found for non-partnered gay and heterosexual men (Aksoy, Carpenter et al. 2018). This suggests that using cohabitation data as a proxy for sexual minority status overstates the wage effects of sexual orientation on earnings.

Further investigation into sexual minority disparities in labour market outcomes is needed, particularly using increasingly available self-reported sexual orientation data. Evidence suggests that gay women face a wage premium as compared to heterosexual women, while gay men face a wage penalty as compared to heterosexual men. Differing identification strategies for sexual minority status may yield different results, and it is possible that the use of cohabitation status to infer sexual minority status may overstate the wage differential faced by sexual minorities.

I seek to address this by comparing both the earnings of partnered and non-partnered sexual minorities with the heterosexual population, thus determining if the use of cohabitation data effects the magnitude of wage disparities found.

Data

I use data from the UK Household Longitudinal Study, a study of approximately 40,000 households which follows households over time, and collects information including education, employment, and wellbeing. Individuals are explicitly asked to report their sexual orientation, which allows for direct analyses of sexual minorities without the need to infer sexual minority status from cohabitation data, as in previous studies. In a self-completion module, respondents were asked "*Which of the following options best describes how you think of yourself?*", to which they were given the options:

1. Refusal
2. Don't know
3. Heterosexual or straight
4. Gay or lesbian
5. Bisexual
6. Other
7. Prefer not to say

Furthermore, individuals were asked to report their household composition, which allows for identification of those with and without a cohabitating partner. This analysis can therefore distinguish between cohabitating and non-cohabitating sexual minorities, and thus investigate the effect of having a cohabitating partner on the earnings of sexual minorities compared to their heterosexual counterparts. This can shed important light on the use of cohabitation data in previous studies of sexual minority disparities in earnings.

In addition, individuals are asked about their current economic activity, including "Total personal monthly income from labour income" and "number of hours usually worked per

week". Data pertaining to labour market experience was not available within this dataset, so a proxy for experience was used, namely "whether in paid employment in previous wave".

I define dummy variables for gay, female, partner, part-time, degree, black, experience, urban, ill, and child to determine the effect of each variable on earnings, shown below in table 1.

The sample contains 55,303 observations of 19,111 individuals, with 457 (2.39%) individuals reporting themselves to be gay or bisexual, and 18,078 (94.6%) individuals reporting themselves to be heterosexual.

Table 1

Name	Definition
Gay	=1 if homosexual or bisexual, =0 otherwise
Female	=1 if female, =0 if male
Partner	=1 is has partner, =0 otherwise
Part time	=1 if works part time, =0 otherwise
Degree	=1 if obtained a degree, =0 otherwise
Black	=1 if black, =0 otherwise
Experience	=1 if in paid employment in previous wave, =0 otherwise
Urban	=1 if lives in urban area, =0 otherwise
Ill	=1 is reports ill health, =0 otherwise
Child	=1 is has a dependent child, =0 otherwise

Method

To investigate the relationship between sexual orientation and earnings, I use the standard approach used in the literature whereby log earnings are regressed on a set of indicators for human capital, such as education and experience, and sociodemographic indicators including age, sexual identity, household composition, and whether the individual lives in an urban or rural area. I estimate both log wages and log hourly wages, where monthly earnings are divided by monthly hours worked.

$$\ln(\text{wages}) = \alpha + \beta_1(\text{Gay}) + \beta_2 X_i + \varepsilon_i$$

$$\ln(\text{hourly wages}) = \alpha + \beta_1(\text{Gay}) + \beta_2 X_i + \varepsilon_i$$

Where X_i is a set of control variables including sociodemographic and human capital characteristics

To estimate the earnings gap between sexual minorities and the heterosexual population, I conduct Oaxaca-Blinder decomposition to determine whether a difference exists between heterosexual and homosexual sub-groups of the sample. First proposed by Kitagawa in 1955, and subsequently introduced into economics by Oaxaca, Oaxaca-Blinder decomposition allows for the differential between two sub-groups to be calculated and decomposed into that explained by the individual's characteristics, the endowment, and the coefficient, any other unexplained reasons such as discrimination (Barrera-Osorio, Garcia-Moreno et al. 2011). The average wage gap is calculated using the following:

$$\ln(W_G) = X_{iG}\beta_G + \varepsilon_{iG}$$

$$\ln(W_S) = X_{iS}\beta_S + \varepsilon_{iS}$$

$$\begin{aligned}\ln(W_G) - \ln(W_S) &= X_G\beta_G - X_S\beta_S \\ &= X_S(\beta_G - \beta_S) + \beta_G(X_G - X_S)\end{aligned}$$

Where G is gay and S is heterosexual individuals

As there are likely differences between the effect of sexual identity on earnings for males and females, as suggested in the literature, I separate the analyses by sex. This is due to the likely differing effects of sexual minority discrimination on each sex. For example, by the workplace favouring masculinity, gay males are likely penalised for their perceived femininity, whereas gay females are rewarded for their perceived masculinity. It is therefore not appropriate to analyse males and females together, as this differing explanation for discrimination would be missed. Furthermore, if gay males are discriminated in the labour market while females are rewarded, grouping of males and females would distort the results.

To estimate the effect of the use of cohabitation data to infer sexual minority status in previous studies, I conduct separate analyses on partnered and non-partnered subsets of the sexual minority sample. When compared to the entire heterosexual sample, I am able to determine the effect of using only partnered sexual minorities on earnings disparities, and thus the bias faced by such studies.

Results

I firstly investigate differences in average characteristics between heterosexual and gay males and females using two-sample means t-tests, shown below in figures 1 and 2 .

Gay females are almost half as likely to have children and work part-time as compared to heterosexual females, and more likely to suffer from ill-health, significant at the 5% level. Gay males are also around half as likely to have children and are more likely to have obtained a degree than heterosexual males, significant at the 5% level. However, gay males are significantly less likely to have a partner, and significantly more likely to live in an urban area and work part-time. Gay and heterosexual females have similar probabilities of having a partner and living in an urban area, while gay and heterosexual males have a similar probability of reporting ill-health.

Gay males earn significantly less on average than heterosexual males, while gay females earn significantly more on average than heterosexual females. This significant result forms the basis of the analysis, to investigate the true sexual minority wage gap and the determinants for this. Of note, heterosexual males earn significantly more than heterosexual females, whereas there is no significant difference between the earnings of gay males and females. This is important as it suggests that the gender pay gap is almost eliminated within the sexual minority population, as gay females earnings increase and gay males decrease, as compared to the heterosexual population.

Figure 1
Descriptive statistics: male

	Heterosexual male	Homosexual/bisexual male	Probability
Has degree	0.422	0.502	0.014**
Has ill health	0.234	0.253	0.503
Has partner	0.586	0.416	0.000**
Has children	0.455	0.219	0.000**
Lives in urban area	0.768	0.876	0.000**
Works part-time	0.160	0.279	0.000**
Average hours worked per week	36.836	34.328	0.000**
Average log hourly wage	2.613	2.508	0.016**

Figure 2
Descriptive statistics: female

	Heterosexual female	Homosexual/bisexual female	Probability
Has degree	0.482	0.443	0.242
Has ill health	0.253	0.317	0.029**
Has partner	0.514	0.504	0.779
Has children	0.487	0.263	0.000**
Lives in urban area	0.753	0.777	0.411
Works part-time	0.543	0.326	0.000**
Average hours worked per week	28.534	32.145	0.000**
Average log hourly wage	2.421	2.503	0.038**

Figure 3
Average log hourly wage

	Male	Female	Probability
Heterosexual	2.610	2.423	0.000**
Homosexual/bisexual	2.508	2.503	0.924

Theory suggests that gay males and females differ in their occupational choice compared to heterosexual males and females. I examine this using descriptive statistics of occupational category by sexual orientation, shown below in figure 4. Gay males are significantly less likely to work in the highest skilled profession, as well as the trade and machine operating professions, and are significantly more likely to work in the service occupation. Gay females are significantly more likely to work as technicians and associate professionals, and significantly less likely to work as clerks and service workers. This finding is significant. Gay

males are less likely than heterosexual males to work in traditionally male dominated sectors, and more likely to work in traditionally female sectors, whereas the opposite is true for gay females. This gives further weight to the theory of gay males more closely matching heterosexual females in the workplace, and gay females more towards heterosexual males. As traditionally female dominated professions are generally lower paid, this is likely a determinant of the disparity between gay males and females in the labour market compared to their heterosexual peers.

Figure 4
Occupation by sexual orientation (%)

	Male			Female		
	Heterosexual	Homosexual	Probability	Heterosexual	Homosexual	Probability
Legislators, senior officials and managers	18.16	13.73	0.08*	10.81	13.84	0.15
Professionals	14.94	16.31	0.56	14.18	16.52	0.32
Technicians and associate professionals	11.89	14.59	0.21	16.66	20.98	0.09*
Clerks	7.88	10.30	0.18	20	14.29	0.02**
Service workers	10.54	23.61	0.00**	28.45	19.64	0.00**
Skilled agriculture	0.86	0.86	1	0.08	0	0.68
Craft and trade	11.58	5.15	0.00**	0.45	0.89	0.33
Plant and machine operators	11.04	5.15	0.00**	1.42	2.68	0.12
Elementary occupations	12.88	10.30	0.25	7.23	11.16	0.03**

To determine the wage differential between gay and heterosexual populations, and the factors determining such differences, I conduct OLS regression, whereby log hourly wages is regressed on a set of human capital and sociodemographic indicators. The results are shown

below in figures 5 and 6. Due to the presence of heteroscedasticity in the models, I use robust standard errors.

Figures 5 and 6 show estimates of the relationship between sexual orientation and log hourly earnings. Column 1 represents the whole sample, columns 2 only partnered-males (females), column 3 only non-partnered males (females), and column 4 full-time workers only.

I find that gay men earn less than their heterosexual counterparts, but this is not statistically significant, while gay women earn significantly more than their heterosexual peers. I find that the negative earnings differential for males is greater in males with a partner than those without, however this continues to be insignificant. For females, however, there is not a great difference in the earnings of partnered and non-partnered females.

Control variables

The sign of the coefficients in the OLS regression largely fits with what is expected given economic theory. Experience, obtaining a degree, and living in an urban area positively affect log wages, whereas reporting ill-health negatively effects log wages. Furthermore having a cohabitating partner increases the wage of males and females.

There is a notable difference in the effect of having a dependent child for males and females. Males face a premium for having a dependent child, whereas females face a wage penalty. This is to be expected given the traditional differing role mother's and father's play in childrearing, and the effects of becoming a mother on women's labour market experience.

Full time

I run a separate full-time worker only regression to estimate the wage disparity faced only by individuals in full-time employment. I find that for females, the significant positive disparity faced by lesbians increases from 0.074 to 0.087 (7.7% to 9.1%) when including only full-time workers, while the earnings disparity for males remains similar magnitude and remains insignificant.

Partner

For the full sample of males, sexual minority status negatively effects log wages by -0.023. When restricting the sample to only those individuals with a cohabitating partner, this increases to -0.046. This suggests that using only cohabitation data overstates the negative male earnings differential, however this effect remains insignificant.

For females, there is a positive significant effect of sexual minority status on log wages of 0.074 for the full sample, and 0.059 for partnered females. This suggests that such a disparity between partnered and the full sample of females is not seen using OLS earnings regression, however the coefficient for partner is positive and significant for both males and females, indicating that the presence of a cohabitating partner increases earnings for both males and females.

Furthermore, the additional effect on earnings of being gay and having a partner is negative for males, but is positive and statistically significant for females. This suggests that gay males are penalised for having a cohabitating partner, although this effect is not significant, while gay females are rewarded.

Urban

Columns 5 and 6 show the effects of living in an urban area on log wages, where column 5 represents individuals living in an urban area, and column 6 those who do not. There is no significant effect of sexual minority status on earnings for gay males once separating by residence in an urban area. For females, however, there remains a positive significant effect of sexual minority status for individuals living in an urban area, but this difference is eliminated for those not living in an urban area. This suggests that for gay females, the positive earnings differential is confined to those living in urban areas.

Return to education

For both gay males and females, I find a positive additional effect on log wages of being gay and having obtained a degree, which suggests that sexual minorities face an additional premium in the labour market for having a degree as compared to heterosexuals. This effect is significant at the 5% level for gay males, at 0.114 log points, while the effect for females is not significant, at 0.047.

Return to having a child

Conversely to obtaining a degree, both gay males and females face an additional penalty on log wages of being gay and having a dependent child. A statistically significant effect is found for both males and females, at -0.405 for males and -0.211 for females.

Return to ethnicity

The additional effect on log wages of being gay and being black is negative and statistically significant for males, but not significant for females. This suggests that there is a negative effect of being gay on the effect of being black on earnings, particularly for males. This

supports previous ideas of "multiple minorities", where individuals are penalised for belonging to more than one minority. This additional effect is greater for gay males than females, which suggests that gay black males are discriminated against more heavily in the labour market than black gay females.

Occupation

When conducting initial analysis, I did not include each occupational control within the regression. These results are shown in figure 12 in the appendix. The lesbian earnings premium was statistically significant, although larger in magnitude than when controlling for occupation. For males, however, I found a significant negative earnings differential for sexual minority status when occupational controls were not included. The inclusion of such occupational controls eliminated this significant effect of sexual minority status on earnings, suggesting that occupational choice by sexual minority males is a determinant of the lower wages faced by sexual minority males as compared to heterosexual males.

I find that occupational choice significantly effects the earnings of males, but the effect for females is much less. This suggests that earnings differ greatly between occupational sectors for males, but this effect is not seen for females. This may explain why the inclusion of occupational sector in the earnings regression eliminates the gay earnings differential for males but the female differential remains.

Figure 5
Sexual orientation and log hourly earnings: male

	Full Sample	Partner	No Partner	Full time	Urban	Not Urban
Gay	**-0.023**	**-0.046**	**-0.002**	**-0.027**	**-0.017**	**-0.061**
Experience	0.176**	0.242**	0.138**	0.241**	0.192**	0.111**
Age	0.055**	0.049**	0.057**	0.066**	0.052**	0.064**
Age squared	-0.001**	-0.001**	-0.001**	-0.001**	-0.001**	-0.001**
Black	-0.071**	-0.148**	-0.025	-0.071**	-0.075**	0.115
Black*gay	-0.381**					
Partner	0.055**			0.062**	0.052**	0.068**
Partner*gay	-0.013					
Ill	-0.034**	-0.039**	0.036**	-0.034**	-0.040*	-0.036*
Degree	0.217**	0.246**	0.174**	0.217**	0.209**	0.246**
Degree*gay	0.114**					
Child	0.026**	0.031**	-0.011	0.026**	0.029**	0.021
Child*gay	-0.405**					
Urban	0.009	-0.006	0.012	0.017*		
Urban*gay	0.062					
Occupation						
2	0.016	0.038	-0.019	0.088	-0.161	0.050
3	-0.137*	-0.116	-0.160	-0.060	-0.334**	-0.031
4	-0.350**	-0.367**	-0.349*	-0.266**	-0.566**	-0.211*
5	-0.444**	-0.441**	-0.443*	-0.325**	-0.668**	-0.237*
6	-0.559**	-0.479**	-0.629**	-0.456**	-0.789**	-0.395**
7	-0.277**	-0.255**	-0.299	-0.174*	-0.478**	-0.153
8	-0.421**	-0.411**	-0.429*	-0.318**	-0.631**	-0.273*
9	-0.553**	-0.554**	-0.554**	-0.446**	-0.766**	-0.390**
R Squared	0.327	0.296	0.323	0.337	0.345	0.281

** significant at 5%, * significant at 10%

Figure 6
Sexual orientation and log hourly earnings: female

	Full Sample	Partner	No Partner	Full time	Urban	Not Urban
Gay	**0.074****	**0.059****	**0.089***	**0.087****	**0.085****	**0.029**
Experience	0.127**	0.125**	0.130**	0.172**	0.129**	0.122**
Age	0.040**	0.043**	0.038**	0.059**	0.039**	0.041**
Age squared	-0.000**	-0.001**	-0.001**	-0.001**	-0.000**	-0.000**
Black	0.074**	0.018	0.101**	0.037*	0.079**	-0.141
Black*gay	-0.212					
Partner	0.046**			0.055**	0.042**	0.058**
Partner*gay	0.050					
Ill	-0.055**	-0.052**	-0.056**	-0.041**	-0.060**	-0.040**
Degree	0.221**	0.224**	0.212**	0.227**	0.223**	0.215**
Degree*gay	0.047					
Child	-0.018**	-0.007	-0.048**	-0.048**	-0.018**	-0.017
Child*gay	-0.211**					
Urban	0.001	0.006	0.008	0.003		
Urban*gay	0.014					
Occupation						
2	0.350*	0.517	0.301	0.302*	0.057	0.506**
3	0.146	0.315	0.102	0.132	-0.144	0.299
4	-0.044	0.128	-0.094	-0.044	-0.337	0.115
5	-0.204	-0.073	-0.219	-0.206	-0.492	-0.059
6	-0.395*	-0.174	-0.512*	-0.518*	-0.569	-0.396
7	-0.173	-0.001	-0.223	-0.159	-0.505	0.065
8	-0.140	0.042	-0.199	-0.150	-0.420	-0.017
9	-0.255	-0.129	-0.269	-0.230	-0.552	-0.077
R Squared	0.328	0.321	0.316	0.354	0.322	0.350

** significant at 5%, * significant at 10%

Oaxaca-Blinder Decomposition

Lastly, I use Oaxaca-Blinder decomposition to identify the earnings differential between the sexual minority and the heterosexual population. The results are shown below in figures 7 and 8. I find a significant negative difference in log wages for gay males of 0.065 log points (6.7%), with gay males earning approximately 2.632 log wages as compared to 2.697 for heterosexual males. The difference in such earnings is driven by significant differences in the coefficient, suggesting that this negative disparity cannot be primarily explained by differences in the characteristics of individuals, but rather differing returns to each characteristic.

I next divided the male sample into partnered and non-partnered individuals, to investigate the effect of using only cohabitation data to derive sexual orientation, as in previous studies. I find that when dividing by partner status, the earnings differential between gay and heterosexual males is equal for partnered and non-partnered males, and is not significant. I do, however, find that partnered males earn more than their non-partnered counterparts, both for gay and heterosexual individuals.

For gay females, I find a positive significant difference between the earnings of gay and heterosexual females, with gay females earning 2.587 log hourly wages, as compared to that of 2.507 for heterosexual females, which equates to approximately 8.2%. This difference is again primarily due to the coefficient, significant at the 5% level, which suggests that returns to characteristics rather than a difference in the individuals' characteristics causes the wage differential. When restricting to only partnered or non-partnered females, however, the difference is stark. I find that gay females with a cohabitating partner earn 2.692 log hourly wages, as compared to 2.586 for heterosexual partnered females, significant at the 5% level.

This too was primarily driven by a significant difference in the coefficient, suggesting positive discrimination to be the driving force behind this disparity. However, when controlling for females without a cohabitating partner, I find a difference of 0.053 log hours. This suggests that using only partnered females in the analysis of earnings differentials overstates the positive effect of sexual minority status on earnings.

Figures 10 and 11 in the appendix show the detailed decomposition for males and females. This shows that for males the endowment is driven by negative differences in experience, age, and partner and positive difference in having obtained a degree. While for females, the endowment is driven by negative differences in experience and age, while having a child is positive and significant.

Figure 7
Oaxaca-Blinder decomposition log hourly earnings: male

	Full Sample		Full Time		Partner		No Partner	
	Differential	**Decomposition**	**Differential**	**Decomposition**	**Differential**	**Decomposition**	**Differential**	**Decomposition**
Prediction_1	2.632		2.681**		2.757		2.534**	
Prediction_2	2.697		2.735**		2.791		2.566**	
Difference	-0.065**		-0.055**		-0.033		-0.032	
Endowments		-0.016		-0.011		0.044**	-0.016	-0.030
Coefficients		-0.099**		-0.083**		-0.123**	-0.057*	-0.072
Interaction		0.051**		0.040*		0.046	0.041**	0.059

**significant at 5%, * significant at 10%

Figure 8
Oaxaca-Blinder decomposition log hourly earnings: female

	Full Sample		Full Time		Partner		No Partner	
	Differential	**Decomposition**	**Differential**	**Decomposition**	**Differential**	**Decomposition**	**Differential**	**Decomposition**
Prediction_1	2.587		2.690**		2.692**		2.481**	
Prediction_2	2.507		2.594**		2.586**		2.427**	
Difference	0.079**		0.095**		0.106**		0.053	
Endowments		-0.021		-0.013		0.027	-0.068**	-0.097**
Coefficients		0.098**		0.130**		0.067**	0.125**	0.084
Interaction		0.001		-0.023*		0.012	-0.004	0.011

** significant at 5%, * significant at 10%

Misclassification bias

A significant problem within the analysis of sexual minority disparities in the labour market is misclassification. It is possible than an individual may be hiding their true sexual minority status either from their workplace, from the study or both. This can lead to bias in the determination of the true wage faced by sexual minorities.

There are competing theories as to whether there is a systematic pattern to disclosing true sexual minority status. Some argue that it is only those that can afford to be 'out' that do so, for instance those with the highest education and earnings. Others, however, argue that it is these such individuals who have the most to lose by revealing their true sexual identity. This would influence the findings of this study, as this would indicate that self-reported sexual minorities are either at the higher or lower end of the earnings spectrum, depending on which theory is accepted as true. Testing for such systematic pattern in disclosing true sexual minority status is beyond the scope of this paper. Instead, I attempt to estimate the effect of hiding sexual minority status on true sexual minority disparities in earnings.

If individuals are 'out' to the survey but not to their workplace, it follows that their wage may reflect that of a heterosexual individual's. The individual will therefore be present in the gay sub-group, but their wage will reflect that of a heterosexual individuals, thus biasing the results. This is true too if an individual is 'out' to the workplace but not the survey.

It is estimated that up to 83% of individuals who identify themselves as LGBTQ+ hide this from all or most people they know (Poitras 2019). Such individuals will therefore be present in the heterosexual sub-group of the sample, despite similar experiences as sexual minorities. For example, sexual minorities are more likely to suffer from mental health difficulties,

which may be exacerbated by trying to conceal one's true identity. This may lead to negative outcomes in the labour market, despite being counted in the survey as heterosexual.

To estimate the effect of misclassification of sexual orientation on earnings, I conduct misclassification analysis, whereby a given proportion of gay individuals do not report their true sexual orientation. The results are shown below in figure 9.

As the proportion of individuals reporting sexual minority status is so few, the effect of misclassification on earnings is negligible. If 83% of sexual minority males hide their true minority status, the earnings of heterosexual individuals will be understated by 0.28%. If 83% of sexual minority females hide their true minority status, the earnings of heterosexuals will be overstated by 0.51%.

Although this number is relatively small, this estimate is based on the proportion of individuals reporting themselves as gay (2.39%). As this number is likely to be higher, the effect of misclassification of sexual minority status is likely to be greater.

Figure 9

Misclassification bias: males

Proportion Misclassified	Bias (%)
0.01	0.0035
0.02	0.0070
0.03	0.0104
0.04	0.0139
0.05	0.0174
0.06	0.0209
0.07	0.0243
0.08	0.0278
0.09	0.0313
0.1	0.0347
0.15	0.0521
0.2	0.0693
0.25	0.0866
0.3	0.1038
0.35	0.1209
0.4	0.1380
0.83	0.2836

Misclassification bias: females

Proportion Misclassified	Bias (%)
0.01	-0.0063
0.02	-0.0127
0.03	-0.0190
0.04	-0.0253
0.05	-0.0316
0.06	-0.0380
0.07	-0.0443
0.08	-0.0506
0.09	-0.0569
0.1	-0.0632
0.15	-0.0946
0.2	-0.1260
0.25	-0.1573
0.3	-0.1885
0.35	-0.2196
0.4	-0.2506
0.83	-0.5140

Discussion

Using OLS and Oaxaca-Blinder decomposition, I find a significant positive earnings disparity between gay and heterosexual females after controlling for sociodemographic and human capital indicators of between 7.7% and 10%. The differential is largely due to a difference in the return to characteristics, rather than a difference in the endowment of sexual minority individuals compared to heterosexuals. This suggests that positive discrimination is the driver of the lesbian earnings premium.

The results for males are ambiguous. Using OLS regression, I do not find a significant effect of sexual minority status on earnings once including occupational controls in the regression. This suggests that occupational choice is a determinant of the negative earnings differential faced by gay males. Using Oaxaca-Blinder decomposition, however, I do find a significant negative earnings disparity between gay and heterosexual males, although this is smaller in magnitude than that found for gay females. Again, such disparity is driven by difference in the coefficient, suggesting differing returns to characteristics drive the disparity in wages, rather than a difference in the individuals characteristics, likely due to discrimination.

The finding of a wage premium for gay females and a wage penalty for gay males supports the theory that gay females are rewarded for their perceived masculinity and workplace attachment that more closely follows that of heterosexual males', while gay males are penalised for their perceived femininity and workplace attachment more closely related to heterosexual females'. This is supported by findings of probability of working part-time, with gay males significantly more likely than heterosexual males to work part-time, while gay females are significantly less likely than heterosexual females. This may lead to discrimination of gay males by employers, akin to discrimination faced by heterosexual

women. If employers perceive a less favourable workplace attachment, they may exhibit discriminatory behaviours based on this perception of decreased productivity and commitment to the workplace, thus favouring heterosexual males and gay females.

However, both gay males and females are less likely than heterosexuals to have children, and are penalised for doing so, as the additional effect of being gay and having a child on earnings is negative for sexual minorities. This casts doubt on the above theory, as a lower probability of having children likely acts as a signal to employers of a greater workplace attachment than heterosexuals, who are more likely to have children. One theory may be that lesbian women are rewarded in the labour market for their lower probability of having children, as having children places a greater strain on the labour market experience of females than males. Notably, having a child has a significant negative effect on the earnings of females, but not on that of males. This suggests that as the penalty for having a child on females is so great, the reward for not having children in the labour market may be greater for gay females than for gay males, whose earnings are not as greatly affected by having children.

Furthermore, it may be expected that gay males take a greater share of childcare responsibilities than heterosexual males, likely explaining the negative return to having children on earnings for gay males but not heterosexual males, due to a more equal share of household responsibilities found among same-sex couples.

In addition to the differing workplace attachment of gay males and females, I find that gay males are more likely than their heterosexual peers to work in traditionally female dominated professions, and less likely to work in traditionally male occupations. The opposite is true for

gay females, who are more likely than heterosexual females to work in traditionally male dominated professions, and less likely to work in female dominated professions. I find that occupational choice significantly effects the earnings of males, while there is little effect on the earnings of females. This suggests that the effect of gay males working in traditionally female-dominated sectors significantly effects the earnings of gay males, driving the negative differential faced by gay males, while this effect is not seen for gay females working in traditionally male-dominated sectors. Once controlling for each occupational sector, the significant effect of sexual minority status on earnings for males is eliminated using OLS, but this is not true for females. This indicates that occupational choice is a key determinant in the negative earnings disparity for gay males.

For both gay males and females, I find that the effect of having obtained a degree on earnings for sexual minorities is greater than that for heterosexuals. However, males continue to earn less than their heterosexual counterparts despite this premium on having obtained a degree. The effect of having a cohabitating partner, however, differs between gay males and females. Gay males face a penalty for having a cohabitating partner, whereas gay females face a premium. Aksoy and Carpenter et al., 2018 suggests that this negative effect of having a partner for gay males may be driven by the idea that having a partner makes sexual minority status more observable for gay males, and thus leads to greater discrimination than single gay males. This effect of having a partner on the perception of sexual orientation may not be true for females, possibly explaining the differing effect of having a partner on gay males and females.

Bulgar-Medina 2018 suggests that individuals may face additional discrimination from belonging to more than one minority group, for example an ethnic and sexual minority. I find

that gay males and females face an additional negative effect of being gay on earnings, and this is statistically significant for males. This suggests that minorities may indeed face additional penalties from belonging to more than one minority group, and this effect is likely greater for gay males than females.

Previous studies used cohabitation data as a proxy for sexual orientation due to the lack of available data on sexual orientation. In addition to investigating disparities in employment outcomes for gay males and females, I further separate the analyses into partnered and non-partnered sub-groups, to investigate the effect of the use of cohabitation data on disparities in previous studies. I find that using cohabitation data may have overstated the effect of sexual minority status on earnings for both males and females, with a greater negative disparity found for partnered males, and a greater positive disparity found for partnered females.

I find that the gender wage gap is almost eliminated when controlling only for sexual minorities, which suggests that disparities in outcomes for sexual minorities equates the earnings of males and females. As the gender pay gap is an important issue within society, this highlights the determinants of the gender pay gap and thus the need for policy to address such issues, both for heterosexual females and gay males. The gender pay gap is effectively opposite to the sexual minority pay gap, as gay males may be perceived as, and as such discriminated for, their characteristics similar to heterosexual females.

The findings casts doubt on theories of minority stress and taste-based discrimination, as such theories would suggest that both males and females would suffer wage penalties as compared to their heterosexual counterparts. It is possible, however, that gay males face greater discrimination and as such the negative consequences from discrimination than gay females.

A recent study of 23 countries indeed found greater negative attitudes towards gay men than women, and men were found to hold greater negative attitudes towards sexual minorities, particularly gay men (Bettinsoli, Suppes et al. 2020).

Limitations

The UK Household Longitudinal Study asks each individual their sexual orientation only once. This means that any change in sexual orientation over time is missed by the data. If an individual changes their sexual orientation but this is not collected in the data, the individual will be misclassified, and results biased. However, this issue is likely to have only a small prevalence, and as such a minor effect on the findings.

In the sample, 2.39% of individuals report to be homosexual or bisexual. This small sample size as compared to the heterosexual sample can affect the validity of the results. This is because an outlier in the data for sexual minorities will have a much larger impact than in the data for the heterosexual sample, as the sample is much greater. To mitigate this, I use bootstrap sampling for Oaxaca-Blinder decomposition, whereby the sample is randomly resampled with replacement, and inference is carried out on the resampled data to improve the accuracy and stability of results (Yen 2019).

Although I find significant differences in the wages of sexual minorities and their heterosexual peers, I am not able to conclude on the determinants. The findings indicate that occupational choice and discrimination are drivers of the earnings differentials, however further information on individual's household responsibilities would allow exploration of the theory of household responsibilities as a cause for disparities in earnings.

The UK Household Longitudinal Survey contained rich information on individuals sociodemographic and human capital characteristics such as earnings, hours worked, sexual orientation, and household composition. However, a variable indicating previous workplace experience is missing. To overcome this, I used a proxy for experience, namely "whether in paid employment in the previous wave". This is likely to be correlated with experience, but does not capture the breadth of one's experience in the workplace, which would greatly affect earnings. Further analysis should seek to include experience within the earnings regression, as to reduce omitted variable bias caused by this omission.

It is clear that further research is needed into sexual minority disparities in earnings, in particular to include non-binary and transgender individuals, who are not included within this analysis, as well as the inclusion of sexual orientation in further national surveys. It is likely that transgender individuals may face greater discrimination than gay individuals due to the lower level of acceptance and visibility within society.

To conclude, I find a negative earnings disparity for gay males driven by occupational choice and likely discrimination, and a positive earnings disparity for gay females, likely driven by positive discrimination. Such lesbian earnings differential is confined to those living in urban areas, while the gay male differential is inflated for those with a cohabitating partner. These findings support those of previous studies which find a gay male penalty and gay female premium. This is likely because the labour market rewards perceived masculinity over femininity, and a workplace attachment that more closely follows that of a heterosexual male's. I find that previous studies using cohabitation data to infer sexual minority status likely overstate the sexual minority wage disparity. Analyses of sexual minority disparities in the labour market suffer inherently from misclassification bias, as many individuals are likely

to hide their true sexual minority status. I estimate this to have a minimal effect on the earnings differential, however the true effect if unknown and is likely to be larger. Further analysis is required using a larger sample of sexual minority individuals, and including transgender and other gender non-conforming individuals.

Appendix

Figure 10
Oaxaca-Blinder decomposition log hourly earnings detailed: male

	Differential	**Endowments**	**Coefficients**	**Interaction**
Prediction_1	2.632**			
Prediction_2	2.697**			
Difference	-0.065**			
Experience		-0.008**	0.020	-0.001
Age		-0.257**	-0.660	0.065
Age squared		0.215**	0.355	-0.062
Black		0.000	-0.005*	0.000
Partner		-0.010**	-0.014	0.003
Ill		-0.002*	-0.017	-0.003
Degree		0.024**	0.029	0.007
Child		-0.007**	-0.071**	0.041**
Occupation		0.027**	-0.007	0.001
Urban		0.000	0.012	0.002
Wave 3		-0.000	0.003	0.000
Wave 5		-0.001	-0.001	-0.000
Wave 7		0.001	0.021	-0.001
Total		-0.017	-0.099**	0.051**
Constant			0.236	
Number of observations	24,108			

Figure 11
Oaxaca-Blinder decomposition log hourly earnings detailed: female

	Differential	**Endowments**	**Coefficients**	**Interaction**
Prediction_1	2.587**			
Prediction_2	2.508**			
Difference	0.079**			
Experience		-0.005**	-0.032	0.001
Age		-0.191**	0.030	-0.003
Age squared		0.162**	0.068	-0.012
Black		-0.000	-0.003	0.001
Partner		-0.000	-0.024	0.000
Ill		-0.005**	-0.017*	-0.005
Degree		0.011*	-0.027	-0.002
Child		0.005**	-0.042*	0.020*
Occupation		0.000	0.003	-0.000
Urban		0.000	0.048	0.003
Wave 3		0.002	0.011	-0.000
Wave 5		0.000	0.016	-0.000
Wave 7		-0.000	-0.002	-0.000
Total		-0.021	0.099**	0.001
Constant			0.071	
Number of observations	31,106			

Figure 12
Sexual orientation and log hourly earnings: initial analyses

	Male		Female	
	Full Sample	Full Time	Full Sample	Full Time
Gay	-0.049*	-0.044*	0.100**	0.109**
Experience	0.194**	0.248**	0.132**	0.162**
Age	0.060**	0.067**	0.044**	0.064**
Age squared	-0.001**	-0.001**	-0.000**	-0.001**
Black	-0.093**	-0.094**	0.057**	0.024
Partner	0.065**	0.070**	0.059**	0.064**
Ill	-0.044**	-0.039**	-0.059**	-0.046**
Degree	0.238**	0.232**	0.286**	0.273**
Child	0.025**	0.028**	-0.025**	-0.047**
Occupation	-0.065**	-0.060**	-0.084**	-0.085**
Urban	0.003	0.013	0.002	-0.005
R Squared	0.306	0.316	0.297	0.327

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