

SEXUAL IDENTITY AND THE MARRIAGE PREMIUM

Amélie Lafrance, Casey Warman and Frances Woolley

Version: October 2nd, 2009

Amélie Lafrance: Statistics Canada, Economic Analysis, Tunney's Pasture, Ottawa, Canada K1A 0T6 E-mail: Amelie.Lafrance@statcan.gc.ca, voice: 613-951-0060 fax: 613-951-3292.

Casey Warman: Department of Economics, Dunning Hall, Queen's University, Kingston, Canada K7L 3N6 E-mail: warmanc@econ.queensu.ca, voice: (613) 533-6224. fax: (613) 533-6668.

Frances Woolley: Department of Economics, Carleton University, 1125 Colonel By Drive, Ottawa, Canada K1S 5B6 E-mail: frances_woolley@carleton.ca, voice: (613) 520-2600 x 3756 fax: (613) 520-3906.

We would like to thank Adrienne ten Cate, Rachel Goddyn, David Long, Tammy Schirle, Bryce Van Sluys, and Christopher Worswick for their very helpful comments. While the research and analysis are based on data from Statistics Canada, the opinions expressed do not represent the views of Statistics Canada. Data used in this paper is available in Research Data Centres across Canada, as described on the Statistics Canada website at <http://www.statcan.gc.ca/rdc-cdr/index-eng.htm>.

Abstract:

We use the Canadian Community Health Survey (CCHS) to explore the effects of marriage and cohabitation on gay, lesbian, bisexual and heterosexual individuals' hours worked and full-time earnings. The CCHS is one of the largest national-level data sets containing both income and sexual orientation information (Carpenter, 2008). Partnered gay and bisexual men spend more hours in paid employment than their unattached counterparts. However, for those working more than 30 hours per week, the earnings advantage of partnered gay and bisexual men relative to the unattached is insignificant. The hours worked of partnered and unattached lesbians are indistinguishable, however partnered lesbians earn about ten percent more than the unattached. Bisexual men and women experience some of the worst labor market outcomes of any group. These findings suggest that caution should be employed when generalizing results based on studies of cohabiting gay and lesbian couples to the entire non-heterosexual population.

“Being gay and single is the new smoking,”

Playwright Paul Rudnick quoted in Morris (2004)

1. Introduction

Heterosexual married men enjoy an earnings premium over other men; heterosexual married women sometimes – though not always – earn less than otherwise similar single women. Much less is known about the effect of marriage or partnership on the earnings of homosexuals and bisexuals. Zavodny (2008) finds no evidence of a partnership premium for gay males, and Booth and Frank (2008) find no partnership premium for either gay males or lesbians, however research in this area has been hampered by lack of national-level data that permits the identification of both single and partnered gay, lesbian and bisexual individuals (Black, Sanders and Taylor 2007). In this paper, we explore the effect of partnership – formal or common-law marriage – on gay, lesbian, bisexual and heterosexual individuals’ employment, hours worked, and full-time earnings.

By exploring how marriage and partnership premiums vary with sexual identity, our paper contributes to the marriage premium literature. Ours is the first study that we know of to use a single dataset to provide comparable estimates of the marriage and partnership premiums experienced by lesbians, gay men, bisexuals and heterosexuals. Second, the presence or absence of partnership premiums among lesbians and gay men sheds light on the causes of the marriage premium – are marriage premiums associated with selection into marriage (Dougherty 2006) or the division of labor within the household?

Our paper also contributes to the growing literature on sexual identity and economic outcomes (for example, Badgett (2003)). Much of the research on sexual

identity and earnings has been based on samples of behaviorally gay and bisexual individuals created by identifying same-sex couples in large-scale data sets (see, for example, Clain and Leppel (2001), Allegretto and Arthur (2001), Arabsheibani, Marin and Wadsworth (2003), Elmslie and Tibaldi (2007), and Antecol, Jong and Steiberger (2008)). In order to assess the validity of basing estimates of gays' and lesbians' earnings on samples of couples, we need to know whether partnered and single gay and lesbian individuals have similar labor market outcomes. If gay and lesbian individuals experience a marriage premium, then estimates of economic outcomes for all gays and lesbians based on people in couples will be biased upwards.¹ Studies of same-sex couples also exclude single bisexuals and bisexuals living in opposite-sex relationships. Our study is one of the first to report results for these groups.

This paper is based on data from the Canadian Community Health Survey (CCHS), which has information on sexual identity, marital status, income level and income source, to analyze the effects of marriage/cohabitation on homosexuals and bisexuals' labor market outcomes. This same data set has also been used to analyze the effect of sexual identity on income by Carpenter (2008), who provides a detailed description of the data set.² The main difference between our paper and his is our focus on the marriage premium. As well, we use more waves of data, and report results for bisexuals and heterosexuals.

2. Why would there be a same-sex marriage premium?

Explanations of the marriage premium can be roughly grouped into selection-type explanations and household production-type explanations. There are a number of reasons

¹ Carpenter (2008) also addresses this issue, but with a different set of comparisons. He compares (1) married heterosexuals with partnered gays/lesbians and then (2) all heterosexuals and all gays/lesbians.

² He uses 2003 and 2005 data, while in addition to these two years, we also use 2007 and 2008 data.

why selection into marriage might be correlated with earnings. First, characteristics valued in the labor market may be valued in the marriage market also (see, for example, Dougherty (2006) for heterosexuals, Carpenter and Gates (2008) for gays and lesbians). However this does not imply a marriage premium if people have partners without marrying or cohabiting. Also, if gays and lesbians tend to partner with people similar to themselves in terms of education and income, that is, there is positive assortative mating (Jepsen and Jepsen 2002; Black, Sanders and Taylor 2007), low-income people might match with other low-income people, rather than remaining single.

Selection into marriage can also be caused by tax and benefit programs that either subsidize or penalize marriage. Income support programs frequently condition benefits on total household income (Warman and Woolley 2009). Moving in with a partner may result in considerable loss of benefits. For people with good jobs, however, advantages to marriage or partnership include access to a partner's health benefits or survivor benefits from a partner's pension plan.³ When the financial incentives for marriage rise with income we would expect to see a marriage premium in the earnings function.

A final source of selection into marriage is that cohabiting with a same-sex partner increases the risk that one's sexual identity will become generally known. Living alone may be a way of remaining "closeted". Marriage premiums/penalties may arise if the cost of being known as gay or lesbian varies with earnings.

Another standard explanation of the effect of marriage on earnings is that the typical division of labor within the family facilitates men's labor market productivity and hampers women's (Becker 1985; Chun and Lee 2001). However, even if partnered gays

³ For a more detailed discussion of the tax incentives for and against marriage, and further references, see Warman and Woolley (2009).

and lesbians choose to have one partner specialize in household production and the other specialize in the labor market, the higher earnings of market specialists could counteract the lower earnings of home specialists, leaving average earnings unchanged.

Specialization would, however, cause a greater dispersion in the hours worked of partnered gays and lesbians relative to singles.

Cohabitation may also create economies of scale and hence greater efficiency in the completion of household tasks. From a theoretical point of view, however, it is impossible to predict whether greater efficiency leads to a substitution away from time spent in household production (dinner is cooked more quickly) or a substitution towards time spent in household production (dinner is cooked more often).

The presence of children increases the value of both time spent in household production and of labor market income. One explanation of the male heterosexual marriage premium, is that – given the usual division of labor within the household and the correlation between marriage and having children -- married men devote more effort and time to paid employment to provide for their children (for a discussion of children and the male marriage premium, see Choi, Joesch and Lundberg (2008)). If children are the cause of the marriage premium, it should decrease once the presence of children is controlled for.

Children tend to amplify the traditional division of labor within the household, to the extent that women specialize in child care. Heterosexual women earn less if they are mothers (Waldfogel 1998), which contributes to the female marriage penalty. For lesbians, however, there is no possibility of relying on a male breadwinner to pay for a child's needs, hence the effect of children on earnings is more ambiguous.

There are three approaches we use to distinguishing between selection and household production explanations of the marriage premium. First, we consider hours worked. If cohabiting same-sex individuals have a greater dispersion in hours worked than the unattached, this would support household production-type explanations. Second, we examine the persistence of the marriage premium in full-time earnings. If there is selection into marriage based on observable characteristics (for example, highly educated gays and lesbians are more likely to marry), then any marriage premium in our raw data will disappear once individual characteristics are controlled for. Finally, we explore the effect of children on the marriage premium.

3. Data and Descriptive Statistics

This study uses repeated cross-sections from Statistics Canada's Canadian Community Health Survey (CCHS) for which information was collected in 2003 (cycle 2.1) , 2005 (cycle 3.1), and 2007-2008 (cycle 4.1). This survey asks each respondent

Do you consider yourself to be:

INTERVIEWER: Read categories to respondent.

- 1 . . . heterosexual? (sexual relations with people of the opposite sex)
- 2 . . . homosexual, that is lesbian or gay? (sexual relations with people of your own sex)
- 3 . . . bisexual? (sexual relations with people of both sexes).

Carpenter (2008) provides additional information about the interview process, and compares the CCHS data with information from the 2001 Canadian Census. He finds that the characteristics of self-identified gay and lesbian couples in the CCHS are similar to those of behaviorally gay and lesbian couples identified through the Census, suggesting that self-reports of sexual identity are reasonably accurate. Honest reporting is encouraged by Statistics Canada's policy by removing the sexual identity data from the

public use files.⁴

The sample is restricted to all persons between the ages of 25 and 59 in the CCHS. In this way our analysis differs from Carpenter (2008), who used a sample of 18-55 year olds. Individuals under 25 were excluded primarily because very few people are likely to be married or cohabiting in the younger age groups. Second, because gays and lesbians tend to have higher levels of post-secondary education than heterosexuals, results for those under 25 may be shaped by educational decisions. The age restrictions also help exclude people with non-wage income from, for example, scholarships. The hours results are based on the full sample of 25-59 year olds who do not have missing information on either the hours worked variable or the personal income variable. The sample consists of 870 lesbians, 722 bisexual females and 89,486 heterosexual females, as well as 1370 gay males, 517 bisexual males and 79,878 heterosexual males, as shown in Table 1. For the earnings results, we restrict the sample to people working 30 or more hours per week.⁵

Table 1 provides descriptive statistics for the dependent and explanatory variables. Earnings information is based on responses to the question “What is your best estimate of your total personal income, before taxes and deductions, from all sources in the past 12 months?” Responses are adjusted for inflation using the monthly consumer price index to December, 2005 and, to eliminate those with primarily non-labor income, the sample is restricted to those working 30 hours or more per week. Carpenter (2008: 1248-52) uses this same income variable, and provides a detailed discussion of the CCHS

⁴ Access to the sexual orientation question is restricted to the Statistics Canada Research Data Centers for which output is vetted and access is granted through a peer reviewed government approval process.

⁵ Descriptives for this sub-sample are available from the authors on request.

data quality.⁶ Table 1 shows a strong relationship between sexual identity and earnings: heterosexual men earn around five thousand dollars more than gay men, while heterosexual females earn around five thousand dollars less than lesbians. For both males and females, bisexuals earn much less than either of the other two sexual orientation groups. Hours worked follow the same pattern as earnings, with heterosexuals being the males most likely to work over 30 hours per week, while lesbians are the group of females who work the longest hours.

Our key explanatory variable is marital status. The CCHS asked respondents about their marital status directly, with the possible responses being married, living common-law, widowed, separated, divorced, and single, never married. Collection of Cycle 2.1 of the CCHS began in January, 2003, when same-sex marriage was not recognized anywhere in Canada, and continued through to December, 2003, by which time same-sex marriage had been legalized in Ontario and British Columbia. Collection of CCHS Cycle 3.1 occurred throughout 2005, spanning the federal recognition of same-sex marriage on July 2005. Cycle 4.1 collection began in 2007, when same-sex marriage had been legal for two years. Given that the CCHS was collected during a period of rapid change in the legal environment surrounding same-sex marriage, and our homosexual and bisexual sample is relatively small, in our empirical work we aggregate married and common-law into one category for homosexuals and bisexuals. This is justified because, with only a few exceptions, married and common-law couples have the same legal rights and privileges under Canadian law. The unavailability of marriage has historically prevented gays and lesbians from becoming divorced or widowed. In order to create an

⁶ Carpenter does not place restrictions on hours worked when he examines differences in personal income but uses 30 or more hours worked per week to define full-time work when he examines employment status.

“unattached” category that is comparable across sexual orientations, we aggregate the “single” and “divorced/separated/widowed” categories.

Table 1 shows that six percent of the gay sample and nine percent of the lesbian sample reported being married. The portion reporting being married has been increasing over the time, with more gays and lesbians in the 2008 survey reporting being married than gays and lesbians in previous survey years. Another 28.3 percent of gay men and 38.7 percent of lesbians live in a common-law relationship. The majority of homosexual men, and 40.6 percent of lesbians, are single/never married, suggesting that studies based on gays and lesbians cohabiting with same-sex partners exclude a broad population. Bisexuals are more likely to be married and less likely to live in a common-law relationship than gays and lesbians. We are not able to identify the gender of a person’s partner. However we cannot think of a reason why there would be a large difference between bisexuals and gays/lesbians in the rate of same-sex marriage, so we suspect that the substantially higher rate of marriage among bisexuals reflects opposite-sex marriages. The majority of heterosexuals in the sample are married and only a quarter are single. Here our findings contrast with those of Black, Sanders and Taylor (2007: 56), who find that in the US “family formation in the gay and lesbian community differs only modestly from the population as a whole.”

There are other differences across sexual orientations. The gays and lesbians in our sample are much more highly educated than either bisexuals or heterosexuals. The education levels of bisexuals is generally similar to, or slightly lower than, heterosexuals. Residence varies by sexual identity. The gay male population, in particular, is more urban than the heterosexual population, although lesbians are also relatively concentrated in

urban areas. Both gays and lesbians are less likely to be immigrants or members of visible minorities than heterosexuals and bisexuals. More lesbians than gay men live in a household where a child is present, but both are much less likely to live with a child than heterosexuals or bisexuals.

4. Methodology and results

We hypothesize that hours worked and full-time earnings for each individual i are determined by the interaction of a vector of sexual identity dummy variables (\mathbf{S}_i) and marital status dummies (\mathbf{M}_i), together with a vector of standard controls, \mathbf{Z}_i , which includes age, education, place or residence, immigrant status and ethnicity. In general, each dependent variable Y_i is given by:

$$(1) Y_i = f(S_i \cdot M_i, Z_i) + \varepsilon_i$$

In our first set of results, we aggregate all males across sexual orientations and also aggregate all females. The advantage of this approach is that the large sample size allows us to estimate precisely the effect of education, age, and so on upon hours and full-time earnings, and to compare directly marriage premiums across sexual orientations.

However this approach does assume that returns to characteristics are not a function of sexual identity. As this is not an unproblematic assumption, we also allow returns to characteristics to vary by running separate earnings regressions for heterosexuals and homosexuals.

4.1 Hours worked

Figure 1 shows the effect of sexual identity on the probability of not working, working one to 29 hours per week, and so on, relative to the omitted category of married heterosexuals. So, for example, Figure 1a shows that a gay single male is 11 percent more

likely to be working zero hours than a married heterosexual man, and about 15 percent less likely to be working more than 50 hours per week. These marginal effects are estimated from an ordered probit regression, and include basic control variables: age, age squared, highest level of education, place of residence, rural status, immigrant status, visible minority (non-white) status,⁷ the year interview, in addition to the presence of children. Each point estimate in Figure 1 is bracketed by lines showing a 95 percent confidence interval.

Married heterosexual men are less likely to be found at zero hours and more likely to be working over 50 hours than single or cohabiting heterosexuals, which is compatible with a division of labor within the household that gives men primary responsibility for earning the family's income. For women, heterosexual singles, as well as heterosexuals living common law, are less likely to be working zero hours than married heterosexuals, and more likely to be working more than 50 hours per week. This also is compatible with a division of labor story where married heterosexual women assume primary responsibility for household production. Interestingly, in Figure 1, partnered bisexuals – both men and women -- have labor supplies that are virtually indistinguishable from those of married heterosexuals. Possibly married bisexuals are “in the closet”, living lives similar to those of heterosexuals.

Married and cohabiting gay men, like married heterosexuals, are more likely to work over 50 hours a week and less likely to work zero hours than their single counterparts. For gays, however, it is harder to explain this pattern in terms of a division of labor within the household. If same-sex couples divided labor within the household so that one person specialized in the market and one specialized in household production,

⁷ Visible minority status is based on questions on cultural or racial group.

we would expect to observe some partnered gays specializing in the market and working long hours, and some partnered gays specializing in household production and worked relatively short hours. We see the former, but not the latter. Partnered gay men are significantly less likely to be working zero hours than the unattached. The distribution of hours for partnered gay men is essentially shifted to the right compared to the distribution of hours for single gays.⁸ There may be a division of labor in gay families, but something other than a division of labor within the household is necessary to explain the pattern of labor force participation that we see in the data.

For lesbians, the hours distributions for partnered and unattached individuals are indistinguishable. As shown in Figure 1b, partnership has no effect on the probability of being employed, working part-time or working full-time once basic demographic controls are included. No special division of labor within lesbian couples is readily apparent from the data.

One of the more striking findings from Figures 1a and 1b is the low work hours of single bisexual men and women. Single bisexuals, whether male or female, are more likely to be not working and less likely to work 50 hours or more a week than any sexual identity/marital status grouping. We explore the reasons for this in more detail when we discuss the determinants of hours worked in Tables 2 and 3 below. However the poor labor market outcomes of single bisexuals is a finding that appears repeatedly throughout this paper. We do not have a good explanation for it. One hypothesis is that the definition of bisexual in the CCHS is having “sexual relations with people of both sexes” – which implies having at least two sexual partners. People with multiple partners in their

⁸ One possibility that we cannot test using this data is that singles’ shorter work hours are due to time spent searching for partners.

personal lives may also tend to have less stability in their professional lives, or engage in other risky behaviors, and so be less likely to be employed and or to have a well-paid job.

Figures 1a and 1b give a sense of how the distribution of work hours is structured, but because it is not a particularly concise way of expressing results, these figures do not readily allow us to explore the sensitivity of our results to the addition of further explanatory variables. Tables 2 and 3, which provide ordinary least squares regressions for hours worked, allow us to do just that.⁹ The results for the various sexual identity/marital status categories are all relative to married heterosexuals, the excluded category. Since the province of Quebec has a very high rate of cohabitation, we have included a Quebec/common-law interaction variable.¹⁰ Table 2 shows that no other men spend as many hours in paid work as married heterosexuals. The effect of partnership status and sexual identity on hours worked is, once base controls are added, consistent across specifications: controlling the presence of children under 12 or the income of other household members does not substantially alter the estimated effect of sexual identity on hours worked. Regardless of sexual identity, single males spend fewer hours in paid employment than married or cohabiting ones. The F-test results reported in Table 2 show that we can reject the null hypothesis that the singles and common-law/married coefficients are equal at the 5 percent level in all specifications, except for bisexuals when we do not include any controls ($p=.11$).

The effect of sexual identity on labor supply has also been studied by Leppel (2009) and Tebaldi and Elmslie (2006). Our results are most similar to those of Tebaldi and Elmslie (2006) in that we find that partnered gays are less likely to be employed than

⁹ We obtain similar results using a Tobit model.

¹⁰ We also include a Quebec cohabitation dummy in the ordered probit regressions used to construct figures 1a and 1b.

married or cohabiting heterosexuals, as was shown in Figure 1a,¹¹ and work four to five fewer hours per week than married heterosexuals and around three fewer hours per week than common law heterosexual males, as shown in Table 2. An important contribution of our paper is that, unlike others in the literature, we are able to compare the labor supplies of single gays and single heterosexuals. We find that single heterosexuals spend about two more hours per week in paid employment than single bisexuals or homosexuals, and using an F-test we reject the null hypothesis that the coefficients on single heterosexual and homosexual are statistically equivalent.¹²

Tebaldi and Elmslie (2006) hypothesize that gay males' lower hours of paid work (relative to partnered heterosexuals) may result from the relatively high incidence of HIV/AIDS in the gay male population leading to poor health outcomes (Centre for Disease Control, 2000), but were not able to test this hypothesis. Although we do not have information on HIV/AIDS, we can test the Tebaldi and Elmslie (2006) hypothesis by including controls for self-reported health status (excellent, very good, good and so on). Comparing the third and the last column of Table 2 shows that, while controls for self-reported health status were statistically significant,¹³ inclusion of such controls made only a small difference to the estimated coefficients.

The findings for women are reported in Table 3. Lesbians and every group of non-married heterosexuals spend more time in paid employment than married

¹¹ Estimating a probit regression for whether or not the respondent worked positive hours, we reject the equivalence of the gay common law and married and heterosexual common law coefficient at the ten percent level when we add basic controls (p-value = 0.06) and at the five percent level when we add controls for children and other household income (results not shown but available from authors).

¹² The p-values from an F-test on the equivalence of the heterosexual single and gay single coefficients range from 0.01 to 0.03 depending on the specification.

¹³ Using an F-test to test the joint significance of the health coefficients, we find that for both males and females the P-value is equal to 0.00.

heterosexual women. The predicted hours worked for cohabiting and single lesbians are similar, working seven (no controls) to three (all controls) more hours per week than married heterosexuals. With no control variables, single lesbians work four more hours per week than single heterosexual women and using an F-test, we can reject that the coefficients on heterosexual single and homosexual single are identical at the five percent significance level. However, once we add our basic controls and control for the presence of children (column 3 of Table 3), the magnitude of the difference decreases to about two hours per week, and the difference in the coefficients is no longer statistically significant at conventional levels. Single bisexual women spend significantly less time in paid employment than their heterosexual and lesbian counterparts. With only basic controls, the predicted hours of single bisexuals are very similar to those of married heterosexuals. However, when we control for the presence of children and other household income, the predicted hours of single bisexuals relative to married heterosexuals drop significantly. The reasons for this finding are not clear but possibly reflect, as for the male results in Table 2, particular challenges bisexuals face.

Tebaldi and Elmslie (2006) argue that lesbian couples tend to allocate household responsibilities more equally between the two partners than do heterosexual couples, leaving lesbians with relatively fewer household responsibilities and more time for paid work than married heterosexual women. Certainly the results for married and cohabiting lesbians are compatible with this hypothesis. Differences in reservation wages also explain people's commitment to the labor market: when we control for income of other household members, the estimated coefficients on lesbian, bisexual and heterosexual singles fall substantially, suggesting that the (absence of) income from other family

members is one reason why they work longer hours.

4.2 Earnings

The CCHS does not have an earnings variable, however it is possible to obtain a close estimate of the effect of sexual identity on earnings by imposing appropriate sample restrictions. Here we restrict the sample to those who worked more than 30 hours per week, which eliminates, or at least greatly minimizes, the influence of other sources of income, such as social assistance, and gives us a close measure of full-time earnings. Tables 4 and 5 summarize the effect of sexual identity and marital status on the log of annual full-time earnings. As in Tables 2 and 3, married heterosexual is the excluded category; the coefficients can be interpreted as the approximate percentage each sexual identity/marital status category earns more or less than married heterosexuals.

Table 4 shows that nobody earns as much as married heterosexual males. In general, men with partners appear to have higher full-time earnings than men without, although the differences in earnings between the partnered and the unattached are, for gay men and bisexuals, not statistically significant. With no controls, partnered gays earn six percentage points more than those without partners; adding basic controls for demographic variables and education, and controlling for the presence of children, decreases the earnings differential to a little less than four percentage points.¹⁴ Focussing only on gay men, however, could cause one to miss the most disadvantaged group in terms of earnings: single, bisexual men, who consistently earn less than any other sexual identity/marital status grouping.

Table 5 provides results for women. Lesbians, cohabiting or single, have significantly higher full-time earnings than married heterosexual women – without

¹⁴ This is calculated using $[(\exp(b^{\text{partnered}})-1) - (\exp(b^{\text{single}})-1)]*100\%$.

controls, partnered lesbians earn $([\exp[b]-1]*100\%=)$ 25 percent more than married heterosexuals while unattached lesbians earn around 12 percent more. The earnings differences between lesbians and married heterosexual women shrink when lesbians' advantages in terms of basic control variables such as region and education are accounted for, and shrink again once controls for the presence of children under 12 are added, but are generally statistically significant, especially for partnered lesbians. Partnered lesbians have a significant earnings advantage over singles of about thirteen percentage points,¹⁵ however with the addition of controls for demographic status, education, and the presence of children, the difference shrinks and becomes statistically insignificant. Bisexual women have consistently low earnings: partnered bisexual women have the lowest earnings of any sexual identity/marital status grouping, while single bisexuals earn consistently less than single heterosexuals and, single lesbians.

We re-estimated the earnings regressions using several different restrictions to check the robustness of these results. First we tried different restrictions on hours worked (35 and 40). Generally, we find that when we place stricter restrictions on hours worked, there are slight changes in the magnitudes of the coefficients. The only notable difference was that the earnings of partnered lesbians relative to married heterosexual women decreases and becomes almost identical to the single lesbians in terms of magnitude when we use stricter measures of earnings in terms of hours worked. Sexual identity and marital status appears to have a greater effect on the number of hours to work than on earnings conditional upon working a certain number of hours. We used questions about the source of household income to examine the sensitivity of the results to the choice of

¹⁵ We find almost identical results in terms of magnitude when we add year dummies to column 1, except that the standard errors are larger.

sample by restricting the sample to people whose main source of household income is wages and salaries. As well, we also reran the results restricting the sample to people who do not have any source of household income other than (employment or self-employment) earnings.¹⁶ Despite a large decrease in the sample size (drops from 68,692 to 45,281 for males and from 57,798 to 35,085 for females) the magnitude of the coefficients is very similar to the results present in Tables 4 and 5. Again, the only notable difference is that the magnitude of the earnings advantage of partnered lesbians decreases and becomes almost identical to the single lesbians in terms of magnitude.

The earnings regressions are subject to the potential criticism that, if gays, lesbians and bisexuals experience different returns to characteristics such as education or the presence of children, our estimates of the effect of partnership on gays and lesbians earnings may be biased. Accordingly, in Table 6, we report the results of regressions run separately for male heterosexuals, gay males, female heterosexuals and lesbians. The coefficient(s) reported show the effect of being unattached (as well as, for heterosexuals, being cohabiting) on (log) earnings. In each case, the coefficient shows the impact of being unattached *relative to married or married/cohabiting people of the same gender and sexual identity*. For gay males, although there is some suggestion of an earnings advantage for men with partners, the coefficients are fairly small and insignificant. For heterosexuals, as always, we see the consistent earnings advantage enjoyed by married men. The most striking results are for lesbians. Unattached lesbians earn about ten percent less than lesbians with partners, and the difference becomes, if anything, more pronounced and more significant as additional controls are added. Single heterosexual

¹⁶ We drop people who receive income from employment insurance, worker's compensation, CPP/QPP, pensions, OAS/GIS, child tax benefit or social assistance but not people who had income from self-employment or dividends and interest.

women enjoy a substantial earnings premium over other women but there is not much of a difference in earnings between cohabiting and married heterosexual women.

5. Conclusion

Many of our basic results are consistent with the literature: gay men tend to work on average fewer hours and have lower earnings than heterosexuals; lesbians tend to work longer hours and have higher earnings. Carpenter (2008) is the only other study to have used the sexual orientation questions in the CCHS to date. Despite using more waves of data, a slightly different sample, and separating by marital status, we obtain similar basic results: a gay earnings penalty and a lesbian earnings premium.

However our study differs from others in the literature in three key respects. The first is our estimate of the effect of partnership on gays' and lesbians' earnings. Unlike Zavondy (2008) and Booth and Frank (2008), we find a significant relationship between partnership and economic outcomes. Unattached gay men tend to work shorter hours than those with partners. Unattached lesbians have full-time earnings about ten percent lower than their partnered counterparts. For gays, any "marriage premium" in full-time earnings shrinks and become insignificant when controls are added; for lesbians, in some specifications (Table 6) it is more persistent. A possible explanation of the difference between our findings and those of other studies of the effect of partnership is that we have a larger and more representative data set, which allows us to get a more precise estimate of the effect of partnership on earnings.

Our results are also different from others in the literature in terms of our estimate of the relative economic outcomes of common-law heterosexual, partnered gay and married heterosexual couples. Allegretto and Arthur (2001: 644) compare all three types

of couples. They find that heterosexual men in common-law relationships and partnered gay men have similar wages. They conclude that the (heterosexual) marriage premium is “the main characteristic that explains the wage gap between gay men and married men.” This is not true in our data. With controls for basic demographic and other differences, cohabiting heterosexuals outside Quebec have earnings around 13 percent lower than those of married heterosexuals, while partnered gay men have earnings around 20 percent less. Cohabiting heterosexuals in Quebec earn around 9 percent more than those in the rest of Canada, so substantially more than partnered gay men. Hence in our data, the heterosexual marriage premium explains part, but not all, of the earnings gap between gay men and married men.

Finally, our study differs from many others in the literature¹⁷ in that we include unattached individuals in our analysis. Generally the differences in economic outcomes between single gays/lesbians and single heterosexuals are smaller than the differences between partnered gays/lesbians and married heterosexuals. Comparing gays and lesbians only with married or cohabiting heterosexuals tends to exaggerate the differences between the heterosexual and homosexual populations.

This raises a more general point. Compared to the heterosexual marriage premium, the differences between partnered and unattached gays’ and lesbians’ economic outcomes are not large. Partnered gay men work somewhat more hours, and partnered lesbians have earnings about ten percent higher than those of their unattached counterparts. For gay men, especially, earnings differences shrink once more controls are added. However to the extent that there is a difference, studies of populations of partnered gays and lesbians overstate the community’s economic success.

¹⁷ With some notable exceptions, for example, Carpenter (2008).

We do not have a definitive answer to the question “Why are there differences between partnered and unattached gays and lesbians?” For lesbians, partnership status has very little effect on hours worked, hence household production arguments do not readily explain the partnership premium, leaving us with the explanation that living with someone is correlated with variables that are valued in the labor market. The role of tax and benefit policies in discouraging low income homosexuals, particularly those with children, from forming cohabiting partnerships, is discussed in Warman and Woolley (2009). For gay men, the most striking difference in economic outcomes is that partnered gays spend more time in paid employment. Again, household production arguments do not explain this finding. It could be selection into marriage, or it could be that people with partners do not spend as much time in search activity.

Finally, one of the more disturbing findings of our analysis is the persistently poor labor market experience of bisexuals. Studying gays and lesbians in stable partnerships will lead to a serious underestimate of the labor market difficulties faced by those who are unable either to fit with the heterosexual norm, or to achieve the high education/urban lifestyle pictured in the New York Times marriage announcements. Bisexuals have received very little attention in the sexual identity to date, which is unfortunate, given that single bisexual men and married bisexual women are the most disadvantaged of all sexual identity/marital status groups.

References

- Antecol, Heather, Anneke Jong, and Michael D. Steinberger. 2008. "The Sexual Orientation Wage Gap: The Role of Occupational Sorting and Human Capital." *Industrial and Labor Relations Review*, Vol. 61, No. 4, (July) pp. 518-543.
- Allegretto, S.A. and M. Arthur. 2001. "An empirical analysis of homosexual/heterosexual male earnings differentials: Unmarried and unequal?," *Industrial and Labor Relations Review*, Vol. 54, pp. 631-646, April.
- Arabsheibani, A. G.R. and J. Wadsworth. 2005. "Gay pay in the UK," *Economica*, Vol. 72, pp. 333-347.
- Badgett, M.V. Lee 2003. *Money, Myths and Change: The Economic Lives of Lesbians and Gay Men* Chicago: University of Chicago Press.
- Becker, Gary S. 1985. "Human Capital, Effort, and the Sexual Division of Labor" *Journal of Labor Economics*, Vol. 3, No. S1
- Black, S. D.A., Seth J. Sanders, and L.J. Taylor. 2007. "The economics of gay and lesbian families," *Journal of Economic Perspectives*, Vol. 21, pp. 53-70, Spring. 51
- Booth, Alison L and Jeff Frank. 2008. "Marriage, partnership and sexual orientation: a study of British university academics and administrators" *Review of Economics of the Household*, Vol. 6, No. 4, pp. 409-422.
- Carpenter, Christopher 2008. "Sexual Orientation, Work, and Income in Canada," *Canadian Journal of Economics* Vol. 41, No. 4, pp. 1239-61.
- Carpenter, Christopher and Gary J. Gates. 2008. "Gay and Lesbian Partnership: Evidence from California" *Demography* Vol. 45, No. 3, pp. 573-590.
- Choi, Hyung-Jai, Jutta M. Joesch and Shelly Lundberg. 2008. "Sons, daughters, wives, and the labour market outcomes of West German men" *Labour Economics*, Vol. 15, No. 5, pp. 795-811.
- Chun, Hyunbae and Injae Lee, 2001. "Why Do Married Men Earn More: Productivity or Marriage Selection?," *Economic Inquiry*, Vol. 39, No. 2, pp. 307-19.
- Clain, S.H. and K.Leppel. 2001. "An investigation into sexual discrimination as an explanation for wage differences," *Applied Economics*, Vol. 33, pp. 37-47.
- Dougherty, Christopher. 2006. "The Marriage Earnings Premium as a Distributed Fixed Effect" *Journal of Human Resources* Vol. XLI, No. 2, pp. 433-443.

Elmslie, B and E. Tebaldi. 2007. "Sexual Orientation and Labor Market Discrimination" *Journal of Labor Research* Vol. 28, No. 3, pp. 436-453.

Leppel, Karen. 2009. "Labour Force Status and Sexual Orientation" *Economica*, Vol. 76, No. 301, pp. 197-207.

Jepsen, Lisa K and Christopher A. Jepsen. 2009. "An Empirical Analysis of the Matching Patterns of Same-Sex and Opposite-Sex Couples" *Demography*, Vol. 39, No. 3, pp. 435-453

Morris, Bob. 2004. "The Age of Dissonance; Gay Marriage? How Straight" *The New York Times* Sunday, March 7, 2004, <http://www.nytimes.com/2004/03/07/style/the-age-of-dissonance-gay-marriage-how-straight.html>

Plug, E. and B. Berkhout. 2001. "Effects of sexual preferences on earnings in the Netherlands," *Institute for the Study of Labor, Discussion Paper*, August 2001.

Mueller, Richard. 2007. "Straight Pay for the Queer Guy? Earnings Differentials of Males and Females in Same-Sex Couples in Canada" Available at SSRN: <http://ssrn.com/abstract=991312>

Tebaldi, E. and B. Elmslie. 2006. "Sexual orientation and labour supply," *Applied Economics*, Vol. 38, pp. 549-562.

Waldfogel, Jane. 1998. "Understanding the "Family Gap" in Pay for Women with Children" *The Journal of Economic Perspectives*, 12(1): 137-156, 1998

Warman, Casey and Frances Woolley. 2009. "The Tax/Benefit Implications of Recognizing Same-Sex Partnerships" presented at Tax Policy Conference, Toronto, August, 2009, <http://accounting.uwaterloo.ca/taxconference/2009papers/woolley.pdf>

Weichselbaumer, D. 2003. "Sexual orientation discrimination in hiring," *Labour Economics*, Vol. 10, pp. 629-642. 52

Zavodny, Madeline 2008. "Is there a 'marriage premium' for gay men?" *Review of Economics of the Household* Vol. 6, No. 4, pp. 369-390.

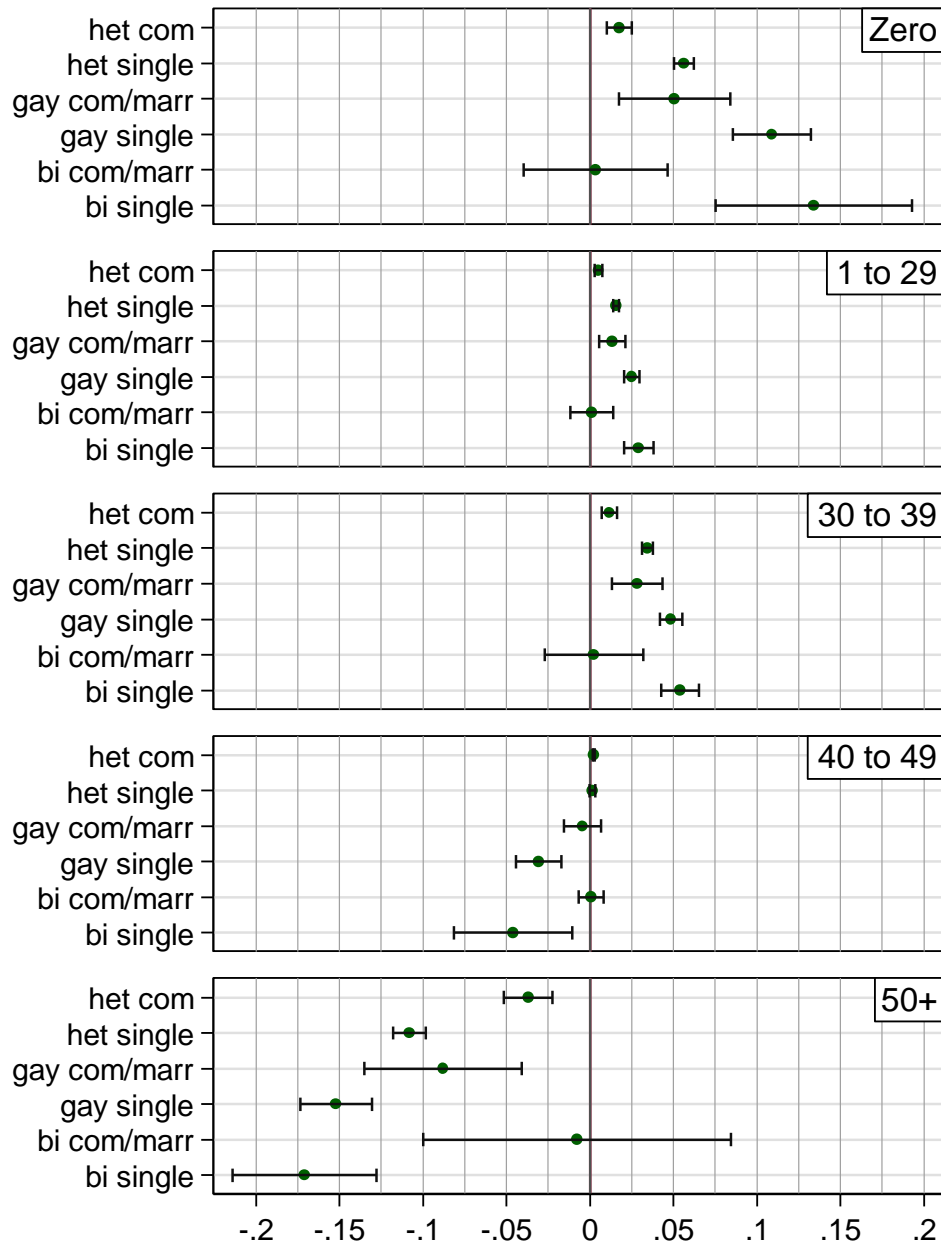
Table 1: Descriptive statistics for CCHS sample, cycle 2.1, 3.1 and 4.1 combined.

	Males			Females		
	Hetero- sexual	Gay	Bisexual	Hetero- sexual	Lesbian	Bisexual
age	41.8	41.0	43.1	41.7	41.1	37.0
work 30+ hours	86.9	81.1	74.0	64.6	78.0	62.8
Income work 30+ hrs ^a	58,617	53,261	46,840	40,708	45,630	34,489
Marital Status						
Married	61.5	6.5	33.7	60.2	9.7	26.7
Common-law	13.4	28.3	9.7	13.0	38.7	25.1
Divor/Sep/Widow	7.4	5.8	12.6	12.3	11.0	14.7
Single	17.7	59.4	44	14.5	40.6	33.5
Any kids 0 to 5	19.9	1.4	12.7	19.5	4.6	15.7
Any kids 6 to 11	20.7	1.8	9.9	22.5	8.5	19.2
Education						
less than high school	11.2	4.0	12.9	9.7	5.7	9.6
high school	16	9.4	17.3	17.0	11.9	15.8
some post secondary	6.8	9.7	15	6.8	6.7	10.2
college	39.8	37.1	34.1	40	37.6	42.4
bachelors	17.2	25.4	11.4	19	24.3	15.6
Univ. cert > Bach	8.8	14.3	9.3	7.5	13.8	6.5
Residential Patterns						
Urban	81.8	93.9	81.8	82.3	87.3	83.7
Atlantic	7.0	4.6	3.5	7.3	5.9	4.7
Quebec (exc. Montreal)	12.5	12.5	15.3	12.3	13.6	17
Montreal	11.5	23.7	17.6	11.4	20.4	12.0
Ontario (exc. Toronto)	22.6	12.8	16.2	22.4	23.5	19.7
Toronto	16.7	23.7	19.2	17.4	12.6	12.4
Prairies	16.5	9.9	13.3	15.8	9.9	13.3
British Columbia (exc. Vancouver)	6.1	3.2	6.2	6.3	6.2	8.7
Vancouver	6.6	9.5	8.3	6.7	7.6	11.9
Immigrant	22.2	12.6	19.7	21.9	11.9	11.8
Non-Visible Minority	82.2	89.9	80.2	82.5	90.3	82.8
Total observations for hours regressions	79,878	1,370	517	89,486	870	722
Observations for Earnings Regressions	67,245	1,075	372	56,709	658	431

Notes: Sample aged 25 to 59.. Standard Errors and the means for the health variables are omitted due to room constraints but are available from the authors.

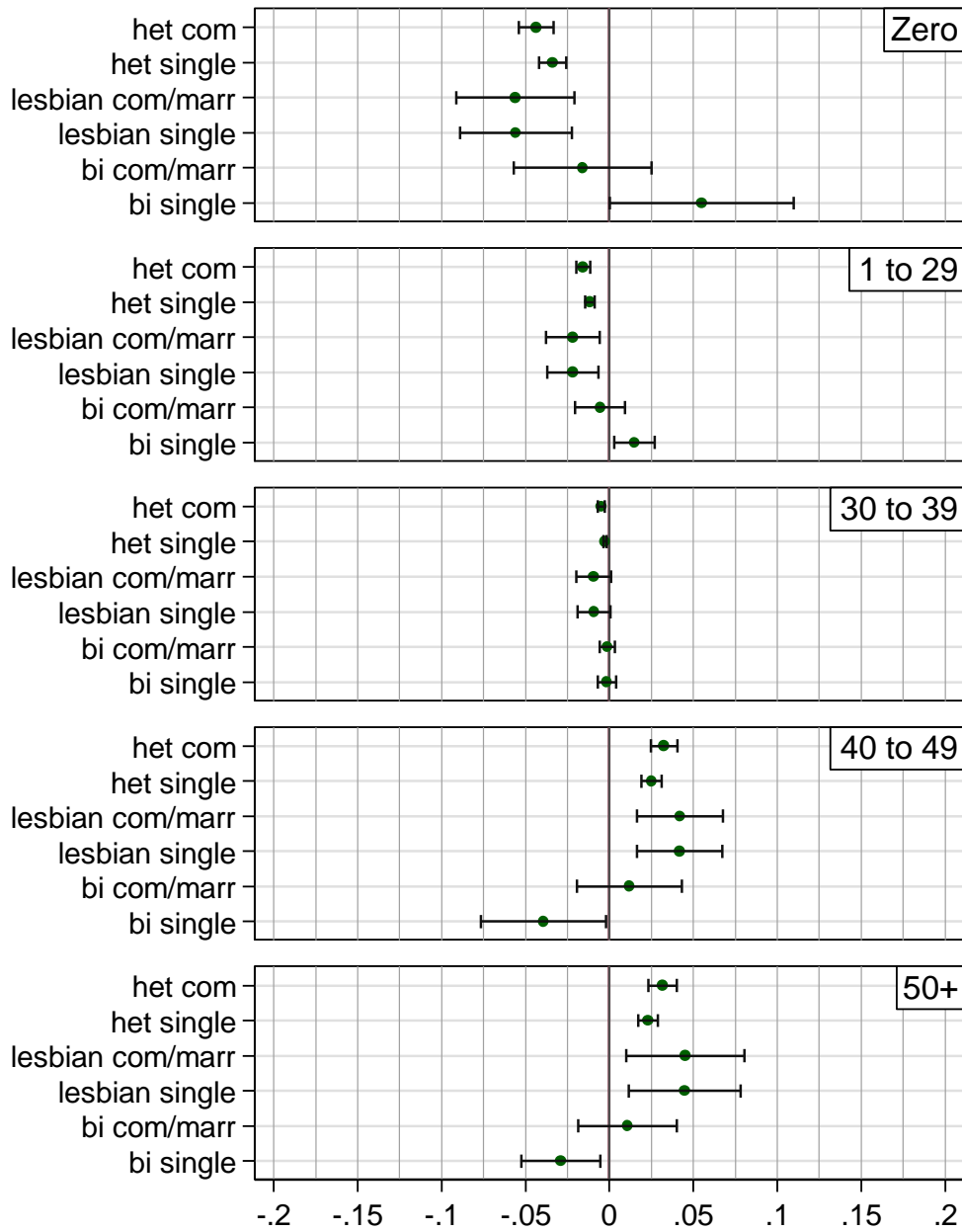
a. Income in \$2005

Figure 1a: Hours worked relative to married heterosexuals, Basic controls, Males



Notes: Marginal effects and the 95 percent confidence intervals from ordered probit regressions. Regressions control for age, age squared, place of residence, rural status, immigration status, ethnicity, year of interview and presence of children. Reference group is married heterosexual.

Figure 1b: Hours worked relative to married heterosexuals, Basic controls, Females.



Notes: Marginal effects and the 95 percent confidence intervals from ordered probit regressions. Regressions control for age, age squared, place of residence, rural status, immigration status, ethnicity and year of interview. Reference group is married heterosexual.

Table 2: Males, Hours worked relative to married heterosexuals, OLS

	(1)	(2)	(3)	(4)	(5)
Hetero common law	0.032 [0.337]	-1.597** [0.336]	-1.611** [0.340]	-1.535** [0.340]	-1.463** [0.338]
Quebec*Hetero common law	-3.338** [0.503]	0.447 [0.568]	0.457 [0.569]	0.416 [0.570]	0.328 [0.568]
Hetero single	-5.452** [0.234]	-5.537** [0.229]	-5.659** [0.255]	-5.270** [0.273]	-5.314** [0.252]
Gay common law/married	-3.816** [1.175]	-4.168** [1.182]	-4.207** [1.187]	-4.300** [1.179]	-4.108** [1.162]
Gay single	-7.507** [0.792]	-7.374** [0.761]	-7.419** [0.768]	-7.051** [0.780]	-6.867** [0.747]
Bi common law/married	-1.041 [2.948]	1.003 [2.790]	1.040 [2.792]	1.204 [2.809]	1.531 [2.770]
Bi single	-8.335* [3.430]	-8.169** [3.133]	-8.227** [3.130]	-8.022** [2.865]	-7.139* [3.110]
Observations	81,765	81,765	81,765	81,765	81,765
R-squared	0.02	0.08	0.08	0.08	0.1
F-test					
Gay common law = gay single	0.01	0.02	0.02	0.05	0.04
Bi common law = bi single	0.11	0.03	0.03	0.02	0.04
Additional Controls					
Base controls		Yes	Yes	Yes	Yes
Kids			Yes	Yes	Yes
Level of other household income				Yes	
Health					Yes

Notes: Sample aged 25 to 59. Standard Errors are below coefficients in brackets. Base controls include controls for age, age squared, highest level of education, place of residence, rural status, immigration status, ethnicity and year of interview.

Table 3: Females, Hours worked relative to married heterosexuals

	(1)	(2)	(3)	(4)	(5)
Hetero common law	4.468**	4.224**	2.678**	2.318**	2.882**
	[0.367]	[0.365]	[0.355]	[0.356]	[0.348]
Quebec*Hetero common law	-1.582**	0.745	1.734**	1.765**	1.639**
	[0.503]	[0.563]	[0.553]	[0.552]	[0.548]
Hetero single	4.050**	4.554**	2.073**	0.927**	2.441**
	[0.241]	[0.237]	[0.264]	[0.293]	[0.262]
Lesbian common law/married	7.397**	6.029**	3.692**	3.350*	3.634**
	[1.324]	[1.397]	[1.318]	[1.360]	[1.300]
Lesbian single	8.087**	7.184**	4.124**	2.931*	4.369**
	[1.400]	[1.352]	[1.365]	[1.358]	[1.366]
Bi common law/married	1.972	2.815+	1.666	1.282	1.843
	[1.532]	[1.439]	[1.385]	[1.391]	[1.352]
Bi single	-0.195	0.032	-3.233*	-4.244**	-2.383+
	[1.407]	[1.428]	[1.431]	[1.442]	[1.364]
Observations	91078	91078	91078	91078	91078
R-squared	0.01	0.08	0.11	0.12	0.13
F-test					
Lesbian common law = lesbian single	0.72	0.55	0.82	0.83	0.69
Bi common law = bi single	0.3	0.17	0.01	0.01	0.03
Additional Controls					
Base controls		Yes	Yes	Yes	Yes
Kids			Yes	Yes	Yes
Level of other household income				Yes	
Health					Yes

Notes: Sample aged 25 to 59. Standard Errors are below coefficients in brackets. Base controls include controls for age, age squared, highest level of education, place of residence, rural status, immigration status, ethnicity and year of interview. ** significant at p=0.01, * significant at p=0.05, + significant at p=0.10

Table 4: Log annual earnings relative to married heterosexuals, Males

	(1)	(2)	(4)	(5)	(6)
Hetero common law	-0.200**	-0.144**	-0.136**	-0.133**	-0.133**
	[0.016]	[0.016]	[0.016]	[0.016]	[0.016]
Quebec*Hetero common law	-0.015	0.090**	0.085**	0.085**	0.082**
	[0.020]	[0.021]	[0.021]	[0.021]	[0.021]
Hetero single	-0.270**	-0.186**	-0.167**	-0.144**	-0.166**
	[0.009]	[0.009]	[0.010]	[0.010]	[0.010]
Gay common law/married	-0.152**	-0.234**	-0.215**	-0.219**	-0.217**
	[0.051]	[0.047]	[0.047]	[0.047]	[0.047]
Gay single	-0.225**	-0.281**	-0.260**	-0.240**	-0.258**
	[0.038]	[0.036]	[0.036]	[0.036]	[0.036]
Bi common law/married	-0.308**	-0.287**	-0.289**	-0.266*	-0.281**
	[0.110]	[0.100]	[0.100]	[0.105]	[0.096]
Bi single	-0.437**	-0.378**	-0.358**	-0.347**	-0.349**
	[0.089]	[0.099]	[0.099]	[0.088]	[0.097]
Observations	68,692	68,692	68,692	68,692	68,692
R-squared	0.03	0.16	0.16	0.17	0.17
F-test					
Gay common law = gay single	0.25	0.42	0.44	0.72	0.48
Bi common law = bi single	0.36	0.52	0.62	0.55	0.62
Additional Controls					
Base controls		Yes	Yes	Yes	Yes
Kids			Yes	Yes	Yes
Level of other household income				Yes	
Health					Yes

Notes: Sample aged 25 to 59. Standard Errors are below coefficients in brackets. Base controls include controls for age, age squared, highest level of education, place of residence, rural status, immigration status, ethnicity and year of interview. Sample restricted to people working 30+ hours per week. ** significant at p=0.01, * significant at p=0.05, + significant at p=0.10

Table 5: Log annual earnings relative to married heterosexuals, Females

	(1)	(2)	(3)	(4)	(5)
Hetero common law	-0.014	0.035*	0.026+	0.043**	0.032*
	[0.016]	[0.015]	[0.015]	[0.015]	[0.015]
Quebec*Hetero common law	-0.033	0.034	0.040+	0.027	0.037
	[0.022]	[0.023]	[0.023]	[0.022]	[0.022]
Hetero single	0.032**	0.054**	0.036**	0.099**	0.040**
	[0.011]	[0.010]	[0.011]	[0.014]	[0.011]
Lesbian common law/married	0.223**	0.119**	0.105*	0.110*	0.100*
	[0.051]	[0.044]	[0.044]	[0.044]	[0.044]
Lesbian single	0.113**	0.066+	0.047	0.103**	0.048
	[0.038]	[0.038]	[0.038]	[0.038]	[0.039]
Bi common law/married	-0.240**	-0.131*	-0.135**	-0.112*	-0.141**
	[0.057]	[0.052]	[0.052]	[0.051]	[0.052]
Bi single	-0.019	-0.03	-0.051	0.017	-0.036
	[0.048]	[0.044]	[0.045]	[0.044]	[0.043]
Observations	57,798	57,798	57,798	57,798	57,798
R-squared	0.00	0.16	0.17	0.18	0.17
F-test					
Lesbian common law = lesbian single	0.08	0.35	0.31	0.90	0.37
Bi common law = bi single	0.00	0.14	0.22	0.05	0.12
Additional Controls					
Base controls		Yes	Yes	Yes	Yes
Kids			Yes	Yes	Yes
Level of other household income				Yes	
Health					Yes

Notes: Sample aged 25 to 59. Standard Errors are below coefficients in brackets. Base controls include controls for age, age squared, highest level of education, place of residence, rural status, immigration status, ethnicity and year of interview. Sample restricted to people working 30+ hours per week. ** significant at p=0.01, * significant at p=0.05, + significant at p=0.10

Table 6: Log annual earnings relative to married or married/cohabiting individuals of same gender and sexual orientation

	(1)	(2)	(3)	(4)	(5)
Gay male: unattached	-0.073	-0.060	-0.033	-0.111	-0.027
	[0.064]	[0.059]	[0.060]	[0.077]	[0.058]
Observations	1,075	1,075	1,075	1,075	1,075
R-squared	0.00	0.19	0.20	0.22	0.21
Male heterosexual: cohabiting	-0.200**	-0.144**	-0.136**	-0.133**	-0.133**
	[0.016]	[0.016]	[0.016]	[0.016]	[0.016]
Quebec*cohabiting	-0.015	0.088**	0.083**	0.083**	0.080**
	[0.020]	[0.021]	[0.021]	[0.021]	[0.021]
Single	-0.270**	-0.186**	-0.168**	-0.144**	-0.166**
	[0.009]	[0.009]	[0.010]	[0.010]	[0.010]
Observations	67,245	67,245	67,245	67,245	67,245
R-squared	0.03	0.16	0.16	0.17	0.17
Lesbian: unattached	-0.110+	-0.087	-0.114+	-0.109	-0.123*
	[0.063]	[0.057]	[0.061]	[0.067]	[0.057]
Observations	658	658	658	658	658
R-squared	0.01	0.25	0.26	0.26	0.29
Female heterosexual: cohabiting	-0.014	0.036*	0.027+	0.044**	0.033*
	[0.016]	[0.015]	[0.015]	[0.015]	[0.015]
Quebec*cohabiting	-0.033	0.03	0.037	0.023	0.033
	[0.022]	[0.023]	[0.023]	[0.022]	[0.023]
Single	0.032**	0.054**	0.036**	0.100**	0.040**
	[0.011]	[0.010]	[0.011]	[0.014]	[0.011]
Observations	56,709	56,709	56,709	56,709	56,709
R-squared	0.00	0.16	0.16	0.17	0.17
Additional Controls					
Base controls		Yes	Yes	Yes	Yes
Kids			Yes	Yes	Yes
Level of other household income				Yes	
Health					Yes

Notes: Sample aged 25 to 59. Standard Errors are below coefficients in brackets. Base controls include controls for age, age squared, highest level of education, place of residence, rural status, immigration status, ethnicity and year of interview. ** significant at p=0.01, * significant at p=0.05, + significant at p=0.10