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Sexual orientation and household savings. Do homosexual couples save more?*

Brighita Negrusa and Sonia Oreffice**

Abstract

We analyze how sexual orientation is related to household savings using 2000 US Census data, and find that gay and lesbian couples own more retirement income than do heterosexual ones, while cohabiting heterosexuals save more than their married counterparts. In a household savings model, we interpret this homosexual-specific differential as due to the extremely low fertility of same-sex households, in addition to the precautionary motives driving cohabiting couples to save more than married ones. Evidence from homeowners' ratio of mortgage payments to house value exhibits the same pattern of savings differentials by sexual orientation and cohabiting status.

Keywords: sexual orientation, household savings, retirement, housing.

JEL Classification: D1, D12, J15, J16.

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1. Introduction

The purpose of this paper is to examine how sexual orientation is associated with household savings; to investigate differences in savings behavior across types of couples, i.e., gay, lesbian, heterosexual married and cohabiting households; and to further explore same-sex household decision-making. A recent and widespread phenomenon across developed countries is the emergence of a sizable number of homosexual partnerships¹, and the important legal and cultural movement aimed at providing these households with the same rights and status as those enjoyed by heterosexuals, e.g., Massachusetts and Spain legalized same-sex marriages in 2004. Nevertheless, the economic analysis of household behavior is still centered on heterosexual families.

A large body of theoretical and empirical literature analyzes heterosexual households' outcomes, focusing on the savings patterns of married couples at different stages of their life cycle and comparing them with those of singles² (Blow Browning, and Ejrnaes, 2009; Zissimopoulos, Karney and Rauer, 2008; Browning and Lusardi, 1996; Browning, 2000). Regrettably, there is very little theory or evidence on couples' savings accounting for the type of relationship (cohabiting vs. marriage), or the two members' individual for instance their life-expectancy differential, as acknowledged by Blow et al. (2009) and Browning, Chiappori, Weiss, (2010). In particular, we are not aware of any study of sexual orientation and household savings.

In this first attempt to analyze homosexual couples' savings decisions, we develop a simple two-period model of household savings decisions, based on Browning et al. (2010), and consider differences by gender in survival rates, variation in precautionary motives due to the status of the relationship, and the role of children. These forces may affect a couple's savings and may vary by sexual orientation, as same-sex partners share the same gender, are not married (no US state had yet

¹ In the US, they are estimated to be between 2 and 10 percent of the population, most likely around 5 percent of the total population over 18 years of age (Smith and Gates, 2001). Other countries such as UK and France exhibit comparable estimates (Sells, Wells, Wypij, 1995).

² Cohabiting individuals are often disregarded in this type of analysis, or included in the same category as singles, e.g., Zissimopoulos, Karney and Rauer (2008).

legalized same-sex marriage in 2000) and typically exhibit quite low fertility. Next, using data from the 2000 US Census we show that homosexual couples own significantly more retirement and social security income than heterosexual couples, whether married or not, controlling for each partner's age. We also estimate higher savings for heterosexual cohabiting than for married households. Evidence from home-owners on the ratio of their mortgage payments relative to the value of their house confirms this pattern of savings differentials by sexual orientation and cohabiting status.

Economic studies of same-sex couples present both similarities and differences between same-sex and heterosexual households. Black, Sanders, and Taylor (2007) assume that families' preferences do not differ systematically according to sexual orientation. They instead emphasize the differences in biological constraints, affecting homosexuals' fertility, location, household specialization and human capital choices. The similarities in family preferences is also found by Jepsen and Jepsen (2002), who conclude that positive assortative mating for non-labor and labor market traits occurred across all types of couples, even though to a smaller extent for same-sex couples. Becker (1991) argues that the disparities between homosexual unions and heterosexual marriages are due to the lack of difference in comparative advantage between partners and to the presence of complementarities. Jepsen and Jepsen (2006), Tebaldi and Elmslie (2006) and Antecol and Steinberger (2009) link sexual orientation to partners' labor supply, in a unitary household framework, while Oreffice (2009) finds that gay and lesbian households' labor supplies are akin to those of heterosexual couples in that, they, too, are affected by bargaining power forces (proxied by the partners' age and non-labor income differences).

There is also evidence in the literature of persistent wage disparities among gay, lesbian and heterosexual workers, with lesbians earning significantly more than heterosexual women, and gay men earning significantly less than heterosexual men (e.g., Allegretto and Arthur, 2001, Black, Makar, Sanders, and Taylor, 2003, Jepsen, 2007). Finally, Jepsen and Jepsen (2009) and Leppel

(2007) perform empirical tests on homeownership rate differentials by sexual orientation, which show that the rate for homosexuals is lower than for married but higher than for opposite-sex cohabiting couples, and that gay and lesbian households do not differ in this respect. Unfortunately, they do not provide any theoretical decision-making framework with which to interpret these findings.

Moreover, neither in these studies of same-sex couples nor in the literature on savings has there been an examination of the role of sexual orientation in household savings choices, which is the focus of the present paper. Black et al. (2007), Jepsen and Jepsen (2002), and Oreffice (2009) suggest that family preferences and intra-household bargaining do not depend on sexual orientation. Our aim is to analyze and test whether this applies to savings decisions as well.

We use US Census data for the year 2000, specifically its five-percent sample, which provides detailed demographic, income, and homeownership information on the largest sample of gay and lesbian partners, along with standard samples of heterosexual individuals. The fact that these identify members of same-sex couples as such but not single gays or lesbians is of little consequence to our analysis since it is restricted to couples. Our empirical strategy consists of estimating the effects of being a homosexual rather than a married or cohabiting couple, comparing households' retirement and social security income, and the ratio of homeowners' mortgage payments to house value, cross-sectionally among gay, lesbian, and heterosexual couples. While it is regrettable that the US Census data do not provide any direct consumption variable better suited to an analysis of household savings, for the elderly retirement and social security income is a reflection of household savings throughout the life cycle (Lee, 2001; Lillard and Weiss, 1997). Moreover, the ratio of mortgage payments to house value reflects the couple's capacity and willingness to save rather than consume (Browning and Lusardi, 1996; Zissimopoulos, et al., 2008; Wolff, 1998; Deaton and Paxson, 1994; Lin, Chen, and Lin, 2000; Hurst, Ching Luoh, and Stafford, 1998).

Our empirical analysis reveals that same-sex households save more than opposite-sex households, controlling for age, education and other socioeconomic characteristics. Specifically, both gay and lesbian couples are found to save more than heterosexual cohabiting couples, who in turn save more than married couples, all these comparisons being statistically significant. This evidence is consistent with our interpretation that, because as a rule they have far fewer children and their union is less binding, homosexuals save more than heterosexuals. In particular, we find that a gay or lesbian couple owns, on average, \$5,785 more in annual retirement and social security income than does a married couple, who in turn has \$2,442 less in annual income than a heterosexual cohabiting couple. Data on the ratio of mortgage payments to house value displays the same pattern of savings differentials by sexual orientation and cohabiting status. In other words, sexual orientation can explain differences in household savings behavior, in addition to gender and the degree of commitment.

Alternative explanations such as discrimination against homosexuals in the savings and housing markets, differences in life expectancy characterizing homosexual couples, and the misreporting of unmarried homosexual partners in the 2000 Census sample, are considered. We argue that none of them can consistently explain our results, given our predictions on household savings and the corresponding evidence.

In this first study of homosexual couples' savings behavior we present evidence on both retirement income and homeownership of a homosexual-specific pattern, which distinguishes them from heterosexual married and cohabiting couples. We show that a sizable demographic group in the population, who constitutes a relatively new household type, is found to save more than heterosexual households. In spite of our data unavailability of a panel dimension and of direct consumption variables, we believe that this analysis can serve as a starting point for the economic understanding of homosexual household savings behavior, and that these documented differences

may inform future policy decision-making targeted at household savings, the elderly and homeowners.

The paper is organized as follows: Section 2 illustrates the theoretical framework. Section 3 describes the data and the empirical specification. Section 4 presents the empirical results and the sensitivity analysis. Section 5 concludes.

2. Theoretical Framework

We develop a simple two-period model of household savings decisions, based on Browning et al. (2010). We consider intra-household differences in survival rates, the presence of children, and precautionary motives, as forces affecting couples' savings, possibly differently by sexual orientation. The question we are addressing is how household savings may depend on sexual preferences and through which couples' characteristics.

A household is composed of two decision-makers, head and partner (or spouses), each having a distinct utility function on consumption. Households are assumed to live up to two periods, and to make Pareto-efficient decisions about each member's consumption. Preferences are egoistic, in that one mate's utility does not depend on the other's consumption. Let C_t^i for $i = h, p$ denote member i 's consumption of a private composite good (whose price is normalized to unity) in period t . The utility function of each member is assumed to be the same across periods and across partners, i.e. $u(C^i)$, where u is strictly quasi-concave, increasing, and continuously differentiable for $i = h, p$. In period 1, each member has an exogenously given income that we assume to be unity for both³. These incomes are the only source of household income, and in period 2 household income is simply what is saved from period 1. All prices are set to unity and the real interest rate to zero.

³ We abstract from analyzing how differences in income across individuals and types of couples may affect savings behavior, as our focus is on more "primitive" characteristics of homosexual and heterosexual couples.

In the first period, the household joint expenditure is X_1 . How this expenditure is transformed into consumption and how this consumption is shared by the couple are decisions that we sidestep here. Thus, we follow Browning et al. (2010) and assume that there is a linear transformation from expenditure to “private-equivalent” consumption and that the resulting consumption good is shared equally (if both members are alive). Consequently, the first period per capita consumption is given by μX_1 , where $\mu \in [0.5, 1]$. If $\mu=1$ all consumption is public, i.e., two persons can live as cheaply as one, whereas if $\mu=0.5$ all consumption is purely private. The intermediate case allows for both a public and a private component. In the second period, the household joint expenditure is X_2 and is subject to the same scale effects as X_1 . As the real interest rate is set to zero, the budget constraint is simply $X_2 = (2 - X_1)$. Finally, following convention, we abstract from the non-pecuniary benefits of companionship, and assume that the utility from companionship is additive; in particular, it does not influence the trade-off between consumption and savings. For ease of exposition, we begin by using a two-person model with a man and a woman, focusing on heterosexuals as our benchmark, and then characterize the potential differences with respect to gay and lesbian couples.

2.1 Benchmark model

We take into account the survival probability of each of the two individuals in the couple: the woman has a probability of one to survive to the end of period 2, while the man has a probability equal to λ , with $0 < \lambda < 1$. The survival probability is the only source of uncertainty in the model, and is gender-specific (after controlling for age, i.e., conditional on the individual’s being in period 2)⁴. We assume that the two agents have preferences that can be represented by a stationary intertemporally additive utility function with no discounting (Browning et al., 2010):

⁴ λ may also capture the degree of risk aversion, the higher the λ the more risk averse the individual is, consistent with the finding that women are more risk-averse than men (gender-specific parameter).

$$U^M = u(\mu X_1) + \lambda u(\mu X_2)$$

$$U^W = u(\mu X_1) + \lambda u(\mu X_2) + (1 - \lambda)u(X_2)$$

where the couple stays together if the husband survives to the second period. Note that we have assumed the same sub-utility function $u(C_t^i)$ for each person in each period, and that we do not allow for “caring” preferences, thus M does not gain anything from W’s private consumption, or vice-versa. However, the scale factor μ can be interpreted as capturing some caring, in the sense that consumption of the other (when together) raises the value of expenditures. Specifically, this factor may capture not only different levels of commitment and relationship stability, but also uncertainty in terms of entitlement to survivor’s benefits, all of which distinguish married from unmarried couples, with higher μ for more stable couples (see subsection 2.3).

We assume that agents to coordinate and reach Pareto-efficient outcomes, in line with the collective model assumption (Browning et al., 2010; Chiappori, 1988), and that the members of the couple have equal weights in the joint utility function, so that the household maximizes the following objective function:

$$U = 2u(\mu X_1) + 2\lambda u(\mu X_2) + (1 - \lambda)u(X_2)$$

by choosing X_1 , and subject to the budget constraint $X_2 = (2 - X_1)$. Solving this maximization problem yields the following first-order condition (assuming interior solutions):

$$2\mu u'(\mu \hat{X}_1) = 2\mu\lambda u'(\mu \hat{X}_2) + (1 - \lambda)u'(\hat{X}_2)$$

which implies that the per capita consumption in the first period is higher than in the second period (i.e., $\hat{X}_1 > \hat{X}_2$) if the consumption good is not fully public (i.e., $\mu < 1$) and if the couple remains together in the second period. Given the budget constraint, it follows that that the couple saves less than half of their total income, as can be seen from the first order condition:

$$\begin{aligned}
u'(\mu\hat{X}_1) &= \lambda u'(\mu\hat{X}_2) + \frac{(1-\lambda)}{2\mu} u'(\hat{X}_2) \\
&< \lambda u'(\mu\hat{X}_2) + \frac{(1-\lambda)}{2\mu} u'(\mu\hat{X}_2) \\
&< \left[\lambda + \frac{(1-\lambda)}{2\mu} \right] u'(\mu\hat{X}_2) \\
&\leq u'(\mu\hat{X}_2) \Rightarrow \mu\hat{X}_1 > \mu\hat{X}_2
\end{aligned} \tag{1}$$

In contrast, homosexual couples do not face different survival probabilities for each of their members, because the two partners share the *same gender* (*same* $\frac{1}{2}$ for both). Their objective function therefore becomes:

$$U = 2u(\mu X_1) + 2\lambda u(\mu X_2)$$

subject to the same budget constraint described above. We consider the same set of preferences of opposite-sex couples, without imposing dissimilar utility functions as the channel through which sexual orientation may affect savings. The first order condition follows:

$$2\mu u'(\mu\hat{X}_1) = 2\lambda\mu u'(\mu\hat{X}_2) \tag{2}$$

$$\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} = \lambda$$

From the first order condition (1), we have that $u'(\mu\hat{X}_1) > \lambda u'(\mu\hat{X}_2)$ for opposite-sex couples, and from first order condition (2) we have that $u'(\mu\hat{X}_1) = \lambda u'(\mu\hat{X}_2)$ for gay couples (both members face the same uncertain survival probability $\lambda < 1$) and $u'(\mu\hat{X}_1) = u'(\mu\hat{X}_2)$ for lesbian couples (both members survive with certainty, i.e., their $\lambda = 1$). This can be written as:

$$\left[\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} \right]_{lesbian} = 1 > \left[\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} \right]_{hetero} > \left[\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} \right]_{gay} = \lambda \quad \text{with } \lambda < 1 \tag{3}$$

From equation (3), we get that: $\mu\hat{X}_1 > \mu\hat{X}_2$ and thus $\hat{X}_1 > \hat{X}_2$ for opposite-sex couples. The same holds for gay couples. However, from (3) we can assert that there is less of a difference between first-period and second-period expenditures for heterosexual than for gay couples: that is, heterosexual couples save more than gay couples. Conversely, lesbian save more than heterosexual couples, as the per capita consumption is the same in each period, and the savings equal half of their total income.

In summary, households in which both members expect to live with certainty (lesbians) save more than households in which one member faces an uncertain survival probability (heterosexuals), who in turn save more than households in which both members face uncertain survival (gays). These predictions hold provided that the difference across types of couples stems from dissimilar survival probability (risk aversion) due to biological gender differences, other characteristics being equal or not affecting savings behavior (e.g., conditional on individual ages and incomes). The finding that households where women are present save more is consistent with the savings literature highlighting the fact that women want to save more than men since they expect to live longer, and outlive their male partners (e.g., Browning et al., 2010; Browning 2000; Lundberg and Ward-Bratts, 2000).

The awareness that household members will be able to enjoy savings together in the future may give an additional incentive to couples to save more, weighing more the state of the world in which both members will survive in the next period. The introduction of a multiplicative parameter $\alpha > 1$ into that portion of the utility of the second period in which both partners (spouses) are still alive, reveals that this “coincidence of life” encourages all types of couples to save more. Furthermore, for same-sex couples the incentive may be greater, since partners share the same gender and consequently would not experience widowhood, *ceteris paribus*.

We now extend our framework to take into account additional characteristics affecting a couple's savings that are likely to differ by sexual orientation.

2.2. Children

Children play an important role in most heterosexual families, they represent the main household production output (Becker, 1991) and are associated with relatively low household savings, constituting as they do a costly consumption good⁵ (Browning and Ejrnaes, 2009; Scholz and Seshadri, 2007; Browning and Lusardi, 1996). In contrast, same-sex couples have a very low fertility rate: an average of .36 children for lesbians and .10 for gays in the US in 2000, according to Carpenter and Gates (2008), Jepsen (2007), Oreffice (2009). In fact, they can have children only from (previous) heterosexual relationships, through artificial insemination (lesbians), adoption, or “renting a womb”, although the last two options may not be legally available everywhere. We include children in our model of couples' savings decisions, assuming that couples may derive utility from the public consumption good c (children), while incurring the expenditures related to childrearing (Browning et al., 2010). For sake of simplicity, we assume that consumption of this additional good occurs only in the first period and that its price is set to unity.

The heterosexual couples' maximization problem in the presence of children is as follows:

$$U = 2u(\mu X_1) + 2u_c(cX_1) + 2\lambda u(\mu X_2) + (1 - \lambda)u(X_2)$$

with $\mu \in [0.5 - 0.5c, 1 - c]$, $c > 0$ in the presence of children and $c = 0$ if no children, and the same intertemporal budget constraint as before, $X_2 = (2 - X_1)$. We thus assume the same kind of linear transformation from expenditure to personal consumption, with the per capita consumption of children equal to cX_1 for each member, as children are a public good. The first order condition

⁵Children may also represent a potential source of care-giving when parents are old. We do not model this aspect here, although we note that this source would generate a further incentive for the household to save less, as additional income would be available in the second period.

becomes: $2\mu u'(\mu\hat{X}_1) + 2u_c'(c\hat{X}_1)c = 2\mu\lambda u'(\mu\hat{X}_2) + (1-\lambda)u'(\hat{X}_2)$, yielding the following relationship between first and second period outcomes:

$$\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} = \lambda + \frac{(1-\lambda)}{2\mu} \frac{u'(\hat{X}_2)}{u'(\mu\hat{X}_2)} - \frac{c}{\mu} \frac{u_c'(c\hat{X}_1)}{u'(\mu\hat{X}_2)} \quad (4)$$

When the last term in (4) is zero (the couple has no children) the equation is the same as (1), and so we can write:

$$\left[\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} \right]_{children} < \left[\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} \right]_{no\ children} \quad (5)$$

One can see that $\mu\hat{X}_1 > \mu\hat{X}_2$ and thus $\hat{X}_1 > \hat{X}_2$ for heterosexual couples with and without children. Additionally, the difference between first-period and second-period expenditures is higher for opposite-sex couples with children than for those without. This means that heterosexual couples with children save less than do those without, as it is found in the literature (Browning and Ejrnaes, 2009; Scholz and Seshadri, 2007; Browning and Lusardi, 1996).

Within this setting, we can now compare same-sex to opposite-sex couples' savings. For homosexual couples we have that $U = 2u(\mu X_1) + 2u_c(cX_1) + 2\lambda u(\mu X_2)$, so that the first-order condition is $2\mu u'(\mu\hat{X}_1) + 2u_c'(c\hat{X}_1)c = 2\lambda\mu u'(\mu\hat{X}_2)$, with $\lambda = 1$ for lesbian couples and $\lambda < 1$ for gay couples. It follows that $\hat{X}_1 > \hat{X}_2$ for lesbian couples with children. Given that lesbian couples with no children were shown to save half of their income, and that lesbian couples with children spend more in the first period, we can safely assert that lesbian couples with children save less than those who do not have children. For gay couples as well the presence of children decreases

$$\text{savings: } \left[\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} \right]_{children} = \lambda - \frac{c}{\mu} \frac{u_c'(c\hat{X}_1)}{u'(\mu\hat{X}_2)} < \lambda = \left[\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} \right]_{no\ children} .$$

Several interesting implications emerge. First, a comparison of equations (2) and (4) reveals that heterosexual couples with children may save less not only than lesbian couples but also than gay couples without children. The formal condition under which this result holds is $\frac{1-\lambda}{2}u'(\hat{X}_2) < cu'_c(c\hat{X}_1)$, which intuitively indicates that the marginal utility associated with children is larger than the marginal utility of consumption as a widow, weighted by the probability of becoming a widow, which seems a realistic requirement (intertemporal trade-off) for couples who are willing to have children. Under these conditions, gay couples (being for the most part childless) would probably save more than heterosexual couples (being mostly parents).

Secondly, the presence of children decreases household savings across the board. The fact that homosexual couples have far fewer children than do heterosexuals implies that both lesbian and gay couples are likely to save more than heterosexual ones. Lesbians because they have higher survival rates (benchmark model) and fewer children than do heterosexual couples, gays because they have far fewer children than do heterosexual couples, despite their lower survival rates (benchmark model).

2.3. Marriage versus Cohabitation

The lack of legal marriage may act as a precautionary motive encouraging cohabiting couples to save more, as in the US married households are found to be more committed and stable than cohabiting couples (e.g., Kurdek, 1998). Since cohabitants may not be entitled to survivor's benefits or rights on the partner's pension, and since such a partnership is less likely than a legal marriage to endure, cohabiting couples may want to keep their consumption of public goods relatively low (Browning et al., 2010). We can incorporate variations in the level of commitment as changes in the extent of public consumption μ , assuming that the higher the commitment the higher the μ . While

we cannot derive a general result without making further assumptions regarding the utility functional form, we can present some qualitative implications.

Looking at equation (1) we notice that $\lambda < \frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)} < \lambda + \frac{(1-\lambda)}{2\mu}$ and that for a higher value of μ the upper limit in the expression above decreases; this means that the ratio $\frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)}$ takes values on a narrower interval, and thus could be lower. Higher commitment -- that is marriage rather than cohabitation -- may lead to lower savings.⁶ This observation is consistent with simulation results reported by Browning et al. (2010), where it is found that a higher degree of publicness in consumption decreases savings in the first period.

With these predictions in mind, we now turn to conduct an empirical investigation to determine whether same-sex couples exhibit different savings patterns from heterosexual cohabiting and married couples, as homosexual couples share the same gender, are not married (in year 2000, no US state had legalized same-sex marriage yet) and typically have very few children. These features represent relevant references for our analysis, as children have been found to be associated with lower household savings (Browning and Ejrnaes, 2009; Scholz and Seshadri, 2007), while there is mixed evidence on precautionary motives and the effect of marriage, with married individuals saving more than singles, and retirement being relevant for savings decisions (Browning and Lusardi, 1996; Lupton and Smith, 2003). Finally, wives are typically younger than their husbands, may tend to be more risk averse, and have more incentives to save as women live longer than men (Browning 2000; Browning and Lusardi, 1996; De Nardi et al., 2008).

⁶ If we assume a population of couples for whom $r = \frac{u'(\mu\hat{X}_1)}{u'(\mu\hat{X}_2)}$ takes values in the interval $\left[\lambda, \lambda + \frac{(1-\lambda)}{2\mu} \right]$ and is distributed according to a pdf function, then the average r is lower as μ increases.

3. Data Description and Empirical Specification

Estimation is carried out on the US Census data for the year 2000, specifically its five-percent sample “5% IPUMS data” (a 1-in-20 national random nationwide population), which provides -- in addition to standard samples of heterosexual individuals -- detailed demographic, labor and income information on the largest sample of gay and lesbian partners. Unmarried “heads” and “unmarried partners” and a random sample (twenty percent) of married “heads” and “spouses” were extracted from the Census using the variables “relationship to household head” and “marital status”. Records in these files were subsequently matched by means of the household identification code “serial” to create a single observation for each couple. Using the variable “sex”, couples with the head and the partner sharing the same gender were then identified as same-sex couples, gay and lesbian, and those with opposite gender as heterosexual couples. Individuals with imputed values for sex, marital status, and relationship to household head were excluded from our samples. This procedure is crucial to our purposes, to extract actual same-sex couples from the 2000 US Census. As documented in Black et al. (2006), Jepsen (2007), and in subsection 4.2 below, this method prevents heterosexual couples from being identified as homosexual, which could occur on account of a 2000 Census recoding error.

In the Census, gays and lesbians are identified by their cohabiting relationship, a household being recorded as a same-sex union if the “relationship to head” is specified as “unmarried partner”, so that single gays or lesbians cannot be recovered. This limitation is of less concern to us since our analysis is exclusively of couples. However, most economic studies on homosexuals use Census data, from either 1990 or 2000. Others (e.g., Black et al., 2003; Blandford, 2003) use data from the General Social Survey (GSS), in which one can identify single gays and lesbians. Nevertheless, the GSS’s homosexual sample comprises far fewer observations (around three hundred total) than the Census data, and sexual orientation in the GSS is inferred from self-reported sexual activity,

whereas in the Census self-reported sexual orientation is regarded as more relevant to the study of gay and lesbian partnerships (Carpenter and Gates, 2008).

Our main sample consists of gay and lesbian couples, and married men and women; heterosexual cohabiting couples are also considered, as additional comparison group. Dummy variables corresponding to these various types of couples are created and serve to capture any differences in savings behavior. All individuals in our samples are not in school, do not serve in the military, and do not live in a farm household. A couple consists of the head of the household and his or her unmarried partner, or spouse. A household is included only if both the head and the mate are actually present, while those where there are multiple mates, or more than two adults, are excluded. The age range varies from 60 to 80 year old for the heads of our elderly households for which we analyze their retirement and social security income pattern, and between 25 and 45 for the younger households of home-owners who do not own their residence free and clear yet (and thus pay mortgages). We focus on white couples but the inclusion of black couples does not alter our findings. Our elderly sample thus consists of 405 observations of same-sex couples, 111,109 of married couples, and 7,863 of heterosexual cohabiting couples. Our young sample consists of 2,054 observations of same-sex couples, 87,008 of married couples, and 14,994 of heterosexual cohabiting couples. These sample sizes are consistent with those of previous studies using Census data to analyze and compare homosexual with heterosexual households (Black, Sanders, and Taylor, 2007; Jepsen and Jepsen, 2002; Jepsen, 2007; Oreffice, 2009).

We consider two alternative measures of savings as dependent variables, controlling for the demographic and socioeconomic characteristics of both partners (spouses), along with a dummy variable for sexual orientation. These are the sum of the retirement and social security income of the head and the partner (spouse), and the annual mortgage payments (amounts due for the first mortgage, or for both the first and second mortgages, with or without property taxes and insurance payments) divided by the current value of the house in which the household lives, all expressed in contemporary dollars. These variables are believed to provide a reliable measure of household

savings, since retirement and social security income for the elderly is the result of household savings throughout the life cycle (Lee, 2001; Lillard and Weiss, 1997), while the ratio of mortgage payments to house value reflects the couple's capacity and willingness to save rather than consume (Wolff, 1998; Deaton and Paxson, 1994; Lin, et al., 2000; Hurst, et al., 1998).

The regressors are the age and the educational level, the latter defined as the number of completed years of schooling, of each partner (spouse); the number of household members or of each partner's own children living in the household; and a dummy variable for the length of time that the household has occupied the current residence (5 years or less), as a proxy for the duration of the relationship. Unfortunately, the Census does not record the total number of either the head or the partner's children but only the number of those who are currently members of the household. This is particularly regrettable in regard to our elderly-couples sample, in which the discrepancy between the actual total number of children and the total recorded by the Census would be particularly large.⁷ We account for economic conditions controlling for the total individual incomes of both heads and partners (spouses) in 1990, creating an average individual income in 1990 by state, race, sexual orientation, cohabitation status, age (5-year brackets) and education (4 groups, high-school dropouts, high school graduates, some college, college and college plus), which we merge by these characteristics to our sample in year 2000. As our analysis concerns current retirement income and the ratio of mortgage to house value by different types of households, we want to control for "lagged" income as a measure of the wealth and income that an individual in a given reference group is expected to have, on average.

Although an individual's health status is not recorded in the US Census, his or her disability status along several dimension of impairment (ambulatory, cognitive, and/or vision impairments, and independent living and work disabilities) is, and so we construct and control for the corresponding dummy variables in our estimation of the elderly sample. State dummy variables are

⁷ A record of the total number of children borne by a woman is available in the Census, but only for women and only until 1990.

included to capture not only constant differences in retirement, health insurance plans and housing markets across geographical areas in the US, (such as house prices and mortgage rates), but also cultural attitudes toward homosexuals and the presence of any legal provisions for homosexual couples, such as domestic partnerships and civil unions. Clustering at the metropolitan level is used (the PUMA area codes have been re-coded to make them unique across states). Observations are weighed with the Census individual weights, to make the sample representative of the US population and economy. For robustness checks purposes, data by individual age, race and gender on the expected number of years left to live in the year 2000 is merged to our samples from the National Vital Statistics Reports (CDC, 2002). We then use the absolute value difference of the expected years of the head and the partner (spouse) as additional control to account for the number of years that a couple can expect to spend together. The smaller this difference, the longer the expected coincidence of life between partners, and therefore the higher the incentive to save in the expectation of a longer period of time in which to spend their savings and enjoy public goods together. This measure may play a role as a saving motive especially for the elderly sample (De Nardi et al., 2009), and for homosexual couples, since they share the same gender and thus tend to face more time together ahead of them, *ceteris paribus*.

Tables 1 and 2 present the descriptive statistics for the heads' and partners' (spouses') main variables in the elderly and young samples, separately by type of couple. On average, wives are younger, almost as educated as men, and their health is similar to their spouses. Sexual orientation and cohabiting status seem to matter for retirement income with elderly married couples owning approximately \$1,000 less in retirement and social security income than gay couples and \$1,000 more than lesbian ones. Moreover, cohabiting heterosexuals own \$4,700 less in retirement and social security income than do their married counterparts. Also, across samples, the average number of children is highest for married couples, lower for cohabiting and lowest for lesbian and gay couples. Interesting features arise comparing homosexual to heterosexual homeowners. On average same-sex couples, especially gay ones, own houses that are on average slightly more expensive than

those of heterosexual couples. The same pattern holds for the annual mortgage payments contributing to the variation in the ratio of annual mortgage to house value variable: within same-sex couples, lesbians exhibit the higher mortgage to house value ratio, while within the heterosexual group cohabiting couples pay more in mortgage relative to house value than married ones. Finally, in the same-sex samples, gays and lesbians on average have similar education levels, earned a similar income in 1990, and their ages are also comparable. However, within both gays and lesbian couples, heads own more income than their partners, and are slightly more educated and older. In addition, we provide descriptive statistics for young non-homeowners in Table 2a. Young homosexual homeowners and non-homeowners have on average similar ages, education levels and number of children. Both lesbian and gay homeowners earn relatively more labor income than corresponding non-homeowners. The same pattern holds for heterosexuals with homeowners earning more labor income and exhibiting similar education levels, ages and number of children. This evidence is not suggestive of selection into homeownership by sexual orientation or cohabitation status.

4. Results

4.1 Main Findings

In Table 3 we present the results of several regressions in which the dependent variable is the household's retirement and social security income, and the specifications are run on our sample of elderly couples. We begin by comparing all homosexual and heterosexual married couples (column 1), testing whether gay couples are different from lesbian ones in column 2. We then compare homosexual to heterosexual but cohabiting households (column 3), and then we estimate the role of cohabitation in heterosexual couples only (column 4).

All of the specifications indicate that same-sex households save more than opposite-sex ones, after one has controlled for the age, education and other socioeconomic characteristics of each partner (spouse). Specifically, homosexual couples own on average \$5,785 more annual retirement income than married couples (25 percent more than the average annual retirement income of married couples) a statistically significant difference. This evidence is consistent with our argument that homosexuals save more than heterosexual individuals since over their lifetime they have far fewer children⁸ (Browning and Ejrnaes, 2009; Scholz and Seshadri, 2007), and possibly a less binding relationship, since as of the year 2000 no US state had yet legalized same-sex marriages. Although married couples own on average more assets than single or divorced individuals (Browning and Lusardi, 1996), our estimates suggest that they save less than same-sex couples.

In columns 3 and 4 the specifications remain unchanged, but we add heterosexual cohabiting couples, identified by an additional dummy variable so that the excluded category is married. One can see evidence of higher savings for cohabiting than married couples (column 4) and that the gap between same-sex and opposite-sex cohabiting households is even wider (column 3). More specifically, we find that homosexuals own \$3,776 more annual retirement income than the average heterosexual cohabiting couple (21 percent more than the average annual retirement income of heterosexual cohabiting couples), who in turn owns \$2,442 more annual retirement income than the average married household (11 percent more than the average annual retirement income of married couples). These figures illustrate that the lack of legal marriage is not the main factor determining the disparity by sexual orientation. The evidence indicating that cohabiting couples, regardless of their sexual orientation, save more than married ones suggests that the absence of a legal tie encourages these couples to save more (precautionary motive for less stability); however it also suggests that cohabitation is not the main reason why we find that same-sex households save more than their heterosexual counterparts, and that other forces must be at play: for instance, fertility. As

⁸ The Census only reports the number of children living in the household, which does not reflect the actual number of children of elderly couples, so that our dummy variable for homosexuality would capture this fertility disparity.

to the other covariates, most parameter estimates are comparable to those found in the literature. More educated partners (spouses) own more retirement income, as well as older couples, with age of head having a stronger impact than age of partner. Individuals with disability own lower income, and the number of household members decreases the available income for retirement.

We acknowledge that homosexual individuals may differ from heterosexuals in their attitudes toward retirement and that the children variable in the US Census does not allow us to determine the total fertility of each individual but only the number of children currently residing in the household, which is on average very low in the elderly sample. However, the empirical evidence that we have presented is in line with the predictions generated by our household savings model, which incorporates differences in survival rates, commitment, and fertility as factors that contribute to couples' savings decisions. We now turn to our sample of young couples between 25 and 45 years of age, for whom the number of children present is likely to reflect their actual fertility, and more specifically to those homeowners who have not yet finished paying off their mortgages.

In Table 4 we report the same regression specifications as in Table 3, but now the dependent variable is the ratio of mortgage payments to house value and additional controls for number of children and labor income of the head and the partner are added. All of these specifications confirm the existence of a significant savings differential by sexual orientation and cohabiting status. Being homosexual significantly increases the ratio by 2.6 units, or about 4 percent of the average ratio in the sample (column 1). Column 2 highlights a difference between gay and lesbian couples in our young sample. Lesbians save 5.5 units more than heterosexual married couples, while gay households save 5.3 units less. We interpret this disparity within our benchmark framework which indicates that two women may save more than one man and a woman, who in turn may save more than two men on account of differences in their survival rates and degree of risk aversion, and controlling for number of children. Finally, education negatively affects this ratio, since among young couples, the more educated are likely to have fewer savings as high education is costly and

takes years to achieve. The age and labor income of the head, along with the number of children, are negatively related to our ratio, too, even though the impact is negligible. Next, without changing the specifications, we add heterosexual cohabiting couples to our comparison (columns 3 and 4); the fact that their savings are higher than those of married couples (column 4) confirms our findings derived from the elderly sample, and lends support to our contention that the lack of legal marriage is not the main factor driving the savings disparity by sexual orientation. Conversely, there is no statistical difference among same-sex cohabiting and opposite-sex cohabiting households (column 3), indicating that, among those young couples who decided to be homeowners while cohabiting, sexual orientation may not play a role in mortgage payments when we control for fertility.

We now focus our attention to couples that do not have children, to further investigate the role of fertility in the homosexual savings differential. Table 5 shows that overall this homosexual differential disappears when one compares childless homosexual and heterosexual couples (column 1), which lends support to our argument that the very low fertility of same-sex couples is the main reason why homosexual couples save more. Furthermore, the fact that lesbians save more than heterosexual married who in turn save more than gays (column 2) is consistent with the predictions of our theoretical model. Gay couples are formed by two men, who in general save less than women because of risk aversion and/or a shorter life span (Browning et al., 2010), and thus may save less than heterosexual and lesbian households. These findings are in line with Table 4 (all young couples) in that the homosexual-heterosexual gap narrows when the fertility channel is cut off. Indeed, in Table 5 the corresponding dummies exhibit a lower coefficient. Comparison of Table 4 and 5 with Table 3 (the elderly sample) suggests that the fertility differentials among all these types of couples plays a more important role later in life than in the savings decisions of young households since the impact of having children is cumulative.

Table 6 presents additional estimates of the homosexual differential for elderly households, using the same specification as in Table 3 but now also controlling for the absolute life-expectancy

difference between head and partner, and then narrowing the focus, from all same-sex couples to never married homosexuals. The estimated coefficient for the dummy variable identifying same-sex households remains positive and significant, with a similar magnitude to the corresponding one estimated in Table 3.

The point estimates in Columns 1 and 2 show that our main finding of higher savings associated to same-sex couples is robust to the inclusion of the absolute intra-household difference in life expectancy, with a similar magnitude, of about \$5,700 (column 1). This result reinforces our interpretation that homosexual couples save more than heterosexual ones not simply because they share the same gender and thus they have the same life expectancy. Moreover, this life-expectancy differential is estimated to be a significant determinant of savings, with its negative significant coefficient suggesting that the more far apart the partners are in terms of coincidence of future life, the lower are their savings. If instead partners could share their remaining lifetime together, they would have the incentive to save more to enjoy future consumption jointly. The fact that women tend to live longer than men has received considerable attention in the savings literature (De Nardi, French, Bailey Jones, 2009; Browning and Lusardi, 1996), although a control for intra-household differences in expected lifetime is usually absent in these empirical studies.

We do find a negative significant effect of age difference on savings, as predicted by household bargaining (Lundberg and Ward-Batts, 2000): the older the wife, the more bargaining power she has and the more she wants to save. Our analysis contributes to this line of research in that it accounts for various types of couples and for their intra-household differences in life expectancy, which allows us to distinguish the effect of bargaining power (age difference) from the influence that differing life expectancies can have on the partners' (spouses') willingness to save for future joint consumption. In particular, the insignificant impact of the age difference that Lundberg and Ward-Batts (2000) find could be due to its capturing both life-expectancy differences and bargaining power. Our interpretation is reinforced by the fact that the age difference has no

impact at all on the retirement income of our subsample of same-sex couples (column 2). Since homosexual partners' gender-specific incentives and preferences for savings coincide, any age gap and thus bargaining power balance would have little if any effect on their savings. This is in stark contrast with heterosexual couples, where female spouses are found to save more when they have more bargaining power because of gender-specific attitudes toward savings that differ from their male spouses' (Lundberg and Ward-Batts, 2000).

Focusing on homosexual partners who have never been heterosexually married allows us to exclude those who share some heterosexual (married) life history and have dealt with the issues of fertility and marital commitment. We find that the estimated homosexual savings differential is enhanced, by about \$3,000, a figure that confirms their very low fertility (columns 3 and 4). Since our data derive from the year 2000 before any US state had legalized same-sex marriages, a previous marriage is by definition heterosexual permitting us to identify heads and partners who are separated, divorced and/or widowed, using the variable marital status. As our elderly sample is at least 60 years old and infertility treatments and adoption by same-sex couples were not options until recently, these never-married homosexuals are very unlikely to have children, a fact that goes far to explain the higher savings difference of this subgroup with respect to heterosexual married households.

This is the first analysis of homosexual couples' savings behavior, and our empirical evidence on retirement income and mortgage to house-value describes a homosexual-specific saving pattern, relatively to heterosexual married and cohabiting couples. Our theoretical framework encompassing the chief factors driving savings decisions, along with our estimates of two separate measures of savings in the elderly and young samples, indicate that the relatively high savings of homosexuals is primarily due to the fact that they have very few children, while commitment and relationship stability can be ruled out as the main explanatory variable. However, we recognize that the unavailability of a panel dimension and of direct consumption variables does

not allow us to distinguish each individual force and characteristic driving this differential savings pattern.

4.2 Sensitivity Analysis

Our results are robust to controlling for age and education squared, presence of grandchildren, and self-employment status. Exclusion of the observations associated with the top one or five percent of the distribution of our dependent variables does not alter our findings. When we modify the age thresholds, from 60 to 75 years old for the elderly sample, and from 30 to 45 years old for the young sample, respectively, the associations between homosexuality and the retirement income and mortgage ratio remain unchanged, nor do they change when we use the log of the income variables, or when we consider only first mortgages or exclude the property tax and insurance payments.

Using house value as dependent variable for the specifications run in our elderly and young samples yields a distinctive pattern of results (Table 7, columns 1 and 2). In both samples, now gay and lesbian couples exhibit a different behavior, with gay households owning more expensive houses than lesbian and married couples. Conversely, lesbians own cheaper houses than married couples. House value represents an important form of saving for old age, and a large component of household wealth (the largest for the elderly). Our estimated homosexual-specific house value differentials are in line with Jepsen and Jepsen (2009) and Leppel (2007). Using the same US Census 2000 data, they empirically tests home-ownership rates differentials by sexual orientation, and find that the homosexual households' rate of ownership is lower than for married but higher than for opposite-sex cohabiting couples. Jepsen and Jepsen (2009) also show that the house value is higher for gay couples than for married ones (although controlling for metropolitan area fixed effects makes their difference insignificant), whereas lesbian couples own houses of lower value

than married ones. However, the authors do not provide any theoretical decision-making framework with which to interpret their findings, with no link to savings decisions. We show that this differential pattern across gays and lesbians holds also when controlling for metropolitan area fixed effects, and we are able to interpret these findings in terms of savings behavior. Our analysis and various estimates of couples' savings and of the homosexual-specific differential point to the fact that household savings, including house value, follow a pattern different from that of home-ownership rates, and do not exhibit evidence of discrimination.

When we include black couples in our samples of elderly and young households, the estimated homosexual savings differential is still positive significant in both samples, for retirement income and mortgage to house value ratio, but by a lesser magnitude than when black couples were not included (columns 3 and 4). In addition, the dummy variable for black, while insignificant in the elderly sample, is positive significant in the young sample, possibly on account of racial discrimination in the mortgage market.

As to alternative explanations to our findings of higher savings for same-sex couples, we argue that the following phenomena cannot consistently explain our results, given our predictions on couples' savings and the corresponding evidence presented so far. The estimated same-sex couples' differential could be due to discrimination by sexual orientation in the savings and housing markets, since there is evidence of discrimination in the labor market against gays and in favor of lesbians (e.g., Allegretto and Arthur, 2001, Black, Makar, Sanders, and Taylor, 2003; Jepsen, 2007). However, such discrimination would result in lower savings by same-sex couples relatively to the non-discriminated opposite-sex couples, not in the positive differential that we consistently find in our analysis. Retirement income on one hand, and the mortgage to house value ratio on the other, would be lower as a consequence of adverse conditions in the credit, labor and pension plan markets, and would likely exhibit a different pattern between gay and lesbian individuals, as it is the case for labor market discrimination. In fact, Jepsen and Jepsen (2009) find that the probability of

having a mortgage is the same for homosexual and heterosexual households. In addition, we control for state fixed effects and cluster standard errors by metropolitan area, which should capture any geographic variations in the US population's attitudes toward homosexuals.

Possible health differences between same-sex and opposite-sex couples should not invalidate our estimated sexual orientation differential and its interpretation. In fact, the scant available evidence on the health status of homosexuals (no federal health survey includes a question on sexual orientation) points toward worse homosexuals' health, especially of young gay men mainly on account of AIDS and STDs (Healthy People, 2010), even though the 2009 Massachusetts report on homosexual health states that "the health of lesbian, gay people is comparable to that of heterosexual respondents" (Landers and Gilsanz, 2009). Therefore our samples of elderly homosexual and young couples should not suffer from poorer health, also because the AIDS health differential is found to fade away after age 30 (Frisch, Bronnum-Hansen, 2009). Moreover, the supposed lower access to healthcare and insurance, and the higher exposure to viral or cancer diseases (Krehely, 2009) would have lead the homosexual population to save less and have less income available at retirement and for mortgage payments, whereas we have found that the opposite is the case.

Alexander, Davern and Stevenson (2010) argue that US Census IPUMS data do not provide a reliable basis to run age and sex-specific population estimates for individuals older than 65, especially due to missing old women. At the same time, they state that the data are accurate if grouped in one age category of 65 and above, and most importantly if the estimation does not focus on variables that vary by age. We do not believe that these claims undermine our findings. For one thing, our main variable of interest, a dummy variable for sexual orientation, does not vary by age; for another, on the fact that all of our samples consist of couples obtained by matching heads and partners (spouses) guarantees that if women are missing, men would be missing as well. In addition, the same pattern of results emerges in both our young and elderly samples.

Finally, there is a concern that the homosexual couples analyzed here may not be same-sex households. The Census identifies same-sex partners by their cohabiting relationship with an unmarried individual of the same gender who records his/her “relationship to household head” as “unmarried partner”. Unfortunately, the 2000 Census modified the relationship to head from “spouse” to “unmarried partner”, and/or the marital status from married to unmarried, for couples with both mates of the same sex, without signaling the allocated values in the flag variable of relationship to head. As documented in Black et al. (2006), this procedure leads to consider several heterosexual married couples as same-sex couples who wrongly reported their sex or relationship to head. To avoid misclassifying heterosexual couples as homosexual ones, Black et al. (2006) and Jepsen (2007) propose that individuals with imputed values for “marital status”, “sex”, and “relationship to household head”, are excluded from the ‘homosexual’ samples, using the corresponding “q” variables which flag allocated values. We follow this well-established procedure to ensure that the same-sex couples under consideration constitute genuine homosexual partnerships, rather than heterosexuals misreporting their gender or their relationship to head; in addition homosexuals who misidentify themselves as married are also dropped (by year 2000, no US state had legalized same-sex marriages). The risk that sentimentally un-related individuals voluntarily identify themselves as unmarried partners (rather than roommates) is minimal, given the stigma attached to homosexuality. However, all these instances of misreporting would work against our findings of significantly higher savings in same-sex couples, as the presence of heterosexual families in our homosexual sample would lead to a statistically insignificant differential. Older homosexuals may be more reluctant to identify themselves as such, so that our same-sex couples may be a subsample of the actual couples in the population. However, there is no reason to think that declaring to the Census that one is in a homosexual partnership indicate anything about the nature of household savings. Finally, in the Census sexual orientation is inferred from self-reported data and underreporting of homosexual status may be correlated with demographic characteristics such as education and income. At any rate, there is no reason to assume that misreporting is more

severe in the Census than in the other smaller data sets that include information on homosexuals, such as the GSS.

5. Conclusions

Our analysis of household saving decisions made by same-sex couples clearly indicates that the savings of gay and lesbian couples are higher than those of heterosexual ones, whether married or not. Drawing on US Census data for the year 2000, we find that on average a homosexual couple owns \$5,785 more in annual retirement and social security income than does a married couple, who saves \$2,442 less annually than the average heterosexual cohabiting couple. In a simple two-period household savings model, we discern a differential effect of sexual orientation on household savings patterns, which may be due to the extremely low fertility rate of homosexual couples. The fact that cohabiting couples, regardless of their sexual orientation, appear to save more than the married ones suggests that absence of legal marriage encourages couples to save more (precautionary motive), but at the same time it indicates that cohabitation is not the main reason why same-sex households save more than their heterosexual counterparts. Evidence from homeowners on the ratio of their mortgage payments to house value is consistent with the existence of this savings differential by sexual orientation and cohabiting status, also for young households.

The role of sexual orientation in household savings choices had not yet been explored in the literature. This first study shows that homosexual couples, a sizable demographic group in the population that constitutes a relatively new household type, save more than heterosexual married and cohabiting households, by presenting empirical evidence on retirement and social security income and mortgage payments. We hope that our analysis will be a useful tool in the economic understanding of this demographic group, and thereby help to inform public policy decision-making targeted at household savings, the elderly, and homeowners.

Appendix

Table 1: Summary Statistics for Elderly Couples

Variable	Lesbian Couples				Gay Couples			
	Heads		Partners		Heads		Partners	
	mean	std. dev	mean	std. dev	mean	std. dev	mean	std. dev
Retirement & SS Income	21,938	24,890	21,938	24,890	24,057	36,114	24,057	36,114
Age	65.37	5.47	58.12	10.27	65.92	5.22	55.10	10.60
Education	14.52	2.89	14.86	2.93	15.18	2.81	14.26	2.41
Household Size	2.18	0.66	2.18	0.66	2.06	0.29	2.06	0.29
# of Children Present	0.09	0.33	0.00	0.00	0.04	0.21	0.02	0.19
Disability	0.09	0.29	0.06	0.23	0.05	0.23	0.05	0.21
Dummy Move	0.23	0.43	0.23	0.43	0.38	0.49	0.38	0.49
Total Income	40,081	45,662	34,399	35,312	67,617	79,109	37,337	54,391
Total Income 1990	59,952	39,828	39,349	21,063	63,688	32,101	35,676	16,146
Life Expectancy Diff	7.32	6.43	7.32	6.43	9.21	7.25	9.21	7.25
Number of observations*	141		141		264		264	

Variable	Heterosexual Cohabiting Couples				Heterosexual Married Couples			
	Male Mates		Female Mates		Husbands		Wives	
	mean	std. dev	mean	std. dev	mean	std. dev	mean	std. dev
Retirement & SS Income	18,183	21,974	18,183	21,974	22,860	25,108	22,860	25,108
Age	67.01	5.57	59.81	9.78	68.52	5.78	65.24	7.97
Education	12.45	2.96	12.58	2.20	12.81	2.92	12.60	2.17
Household Size	2.07	0.36	2.07	0.36	2.26	0.68	2.26	0.68
# of Children Present	0.05	0.28	0.07	0.33	0.179	0.480	0.179	0.480
Disability	0.10	0.30	0.09	0.29	0.10	0.30	0.09	0.29
Dummy Move	0.36	0.48	0.36	0.48	0.21	0.41	0.21	0.41
Total Income	36,674	49,054	26,373	34,271	45,172	55,910	16,047	25,396
Total Income 1990	40,261	21,598	24,453	12,900	50,100	22,391	15,109	7,057
Life Expectancy Diff	9.05	6.52	9.05	6.52	5.59	4.12	5.59	4.12
Number of observations*	7,863		7,863		111,109		111,109	

Data from the U.S. Census year 2000, five percent sample of the Public Use Microdata Set (PUMS).

Disability refers to mobility limiting disability.

Dummy Move In is equal to 1 if resident moved in the house in the last five years.

*For couples whose head is between 60 and 80 years of age.

Table 2: Summary Statistics for Young Couples

Variable	Lesbian Couples				Gay Couples			
	Heads		Partners		Heads		Partners	
	mean	std. dev	mean	std. dev	mean	std. dev	mean	std. dev
Mortgage/House Value**	72.97	31.94	72.97	31.94	67.92	36.21	67.92	36.21
House Value	184,065	147,216	184,065	147,216	251,011	206,174	251,011	206,174
Total Annual Mortgage	11,691	7,691	11,691	7,691	14,709	11,220	14,709	11,220
Age	38.64	3.73	37.89	4.02	38.73	3.87	37.70	4.01
Education	15.21	1.98	14.85	2.16	15.23	1.95	14.69	2.10
# of Children Present	0.33	0.72	0.07	0.31	0.06	0.37	0.00	0.08
Labor Income	47,947	47,730	39,529	42,754	62,884	65,516	43,920	46,920
Dummy Move	0.66	0.48	0.66	0.48	0.69	0.46	0.69	0.46
Total Income	54,427	52,846	44,637	47,549	73,429	71,278	49,276	50,374
Total Income 1990	35,739	16,128	28,764	12,732	36,512	17,645	28,819	13,219
Life Expectancy Diff	3.59	2.88	3.59	2.88	3.46	2.84	3.46	2.84
Number of observations*	1,037		1,037		1,017		1,017	

Variable	Heterosexual Cohabiting Couples				Heterosexual Married Couples			
	Male Mates		Female Mates		Husbands		Wives	
	mean	std. dev	mean	std. dev	mean	std. dev	mean	std. dev
Mortgage/House Value**	79.82	52.33	79.82	52.33	72.78	37.80	72.78	37.80
House Value	140,411	114,791	140,411	114,791	184,040	144,123	184,040	144,123
Total Annual Mortgage	9,468	6,648	9,468	6,648	11,649	7,877	11,649	7,877
Age	37.75	4.31	36.92	4.36	38.68	4.08	37.29	4.13
Education	13.36	1.73	13.37	1.94	14.15	2.02	14.00	2.03
# of Children Present	0.40	0.85	0.61	0.95	1.86	1.12	1.86	1.12
Labor Income	40,278	39,687	28,843	27,918	57,416	56,855	22,104	29,427
Dummy Move	0.63	0.48	0.63	0.48	0.50	0.50	0.50	0.50
Total Income	45,688	43,804	32,438	30,026	64,716	62,575	24,429	31,999
Total Income 1990	29,387	9,766	20,042	7,887	40,532	13,257	17,519	6,546
Life Expectancy Diff	5.71	3.58	5.71	3.58	5.72	2.69	5.72	2.69
Number of observations*	14,994		14,994		87,008		87,008	

Data from the U.S. Census year 2000, five percent sample of the Public Use Microdata Set (PUMS).

Dummy Move In is equal to 1 if resident moved in the house in the last five years.

The total annual mortgage is net of property taxes and insurance costs, and includes second mortgages.

*For couples between 25 and 45 years of age that own a home and are paying mortgage.

**Ratio of the total annual mortgage to house value times 1000.

Table 2a: Summary Statistics for Young Couples - Non Homeowners

Variable	Lesbian Couples				Gay Couples			
	Heads		Partners		Heads		Partners	
	mean	std. dev	mean	std. dev	mean	std. dev	mean	std. dev
Rent	803	399	803	399	983	533	68	36
Age	37.14	4.32	37.19	4.07	37.38	4.21	36.63	3.99
Education	14.42	2.04	13.88	2.36	14.62	2.03	14.23	2.19
# of Children Present	0.31	0.78	0.08	0.35	0.15	0.55	0.01	0.09
Labor Income	32,967	30,219	26,170	23,247	43,257	47,051	34,347	40,924
Dummy Move	0.83	0.37	0.83	0.37	0.77	0.42	0.77	0.42
Total Income	36,017	30,858	29,226	23,990	49,722	49,503	42,085	57,980
Total Income 1990	31,167	14,333	25,925	11,912	33,733	14,739	27,737	11,785
Life Expectancy Diff	3.63	3.15	3.63	3.15	3.65	2.87	3.65	2.87
Number of observations*	304		304		417		417	

Variable	Heterosexual Cohabiting Couples				Heterosexual Married Couples			
	Male Mates		Female Mates		Husbands		Wives	
	mean	std. dev	mean	std. dev	mean	std. dev	mean	std. dev
Rent	653	369	653	369	713	410	713	410
Age	36.92	4.33	36.07	4.33	37.55	4.30	36.20	4.25
Education	13.22	1.71	12.98	2.13	13.63	1.95	13.29	2.18
# of Children Present	0.37	0.85	0.57	0.98	1.67	1.28	1.67	1.28
Labor Income	30,862	31,964	20,848	23,045	38,071	42,765	16,504	24,159
Dummy Move	0.85	0.36	0.85	0.36	0.78	0.42	0.78	0.42
Total Income	34,122	33,430	23,354	23,871	42,604	45,746	18,243	25,351
Total Income 1990	28,156	9,025	18,459	7,371	37,064	11,856	15,520	6,441
Life Expectancy Diff	5.75	3.65	5.75	3.65	5.86	3.11	5.86	3.11
Number of observations*	10,586		10,586		12,741		12,741	

Data from the U.S. Census year 2000, five percent sample of the Public Use Microdata Set (PUMS).

Dummy Move In is equal to 1 if resident moved in the house in the last five years.

*For couples between 25 and 45 years of age that do not own a home and are paying rent.

Table 3: Effects of Being Homosexual versus Heterosexual Married and Cohabiting on Household Retirement and Social Security Income: Elderly Couples

	Homosexual & Heterosexual Married	Homosexual & Heterosexual Married	Homosexual & Heterosexual Cohabiting	Heterosexual Married & Cohabiting
	(1)	(2)	(3)	(4)
Dummy for Homosexual	5785.02*** (1859.28)	4715.35** (2132.96)	3775.83** (1827.96)	--
Dummy for Gay	--	1643.42 (3349.20)	--	--
Dummy for Cohabiting	--	--	--	2442.26*** (332.32)
Age of Head	775.33*** (19.93)	775.15*** (19.93)	828.40*** (59.85)	767.48*** (18.97)
Age of Partner	437.74*** (14.78)	437.98*** (14.84)	477.07*** (33.04)	456.43*** (12.79)
Education of Head	621.43*** (62.31)	621.41*** (62.31)	691.74*** (125.54)	645.81*** (58.78)
Education of Partner	1441.79*** (99.84)	1440.96*** (100.02)	1093.74*** (207.36)	1298.91*** (78.49)
Household Size	-629.65*** (113.71)	-629.14*** (114)	-804.05 (516)	-622.77*** (112)
Disability of Head	-1754.59*** (227.47)	-1754.02*** (227.50)	-1656.58** (646.56)	-1793.17*** (217.53)
Disability of Partner	-1144.91*** (249.99)	-1145.07*** (249.99)	131.34 (876.53)	-1070.06*** (241.66)
1990 Income of Head	0.176*** (0.01)	0.176*** (0.01)	0.040* (0.02)	0.163*** (0.01)
1990 Income of Partner	-0.254*** (0.03)	-0.254*** (0.04)	-0.05 (0.04)	-0.190*** (0.03)
Dummy Move In	633.71*** (208.25)	632.71*** (208.30)	225.61 (571.24)	593.80*** (195.65)
Number of Observations	111,514	111,514	8,268	118,972

Estimated coefficients, S.E. (in paranthesis) clustered by recoded PUMA.

* ; ** ; *** significant at 10 % , 5% , 1 % .

Regressions run with the covariates described in Section 3.

Table 4: Effects of Being Homosexual versus Heterosexual Married and Cohabiting on Ratio of Mortgage to House Value: Young Couples

	Homosexual & Heterosexual Married	Homosexual & Heterosexual Married	Homosexual & Heterosexual Cohabiting	Heterosexual Married & Cohabiting
	(1)	(2)	(3)	(4)
Dummy for Homosexual	2.594** (1.06)	5.444*** (1.27)	-0.70 (1.12)	--
Dummy for Gay	--	-5.345*** (1.80)	--	--
Dummy for Cohabiting	--	--	--	5.469*** (0.64)
Labor Income of Head	-0.00004*** (0.00)	-0.00004*** (0.00)	-0.00006*** (0.00)	-0.00004*** (0.00)
Labor Income of Partner	0.00001 (0.00)	0.00001* (0.00)	-0.00005*** (0.00)	0.00 (0.00)
No. Children Head	-1.09 (1.24)	-1.79 (1.27)	1.218** (0.58)	0.41 (0.37)
No. Children Partner	0.87 (1.25)	1.57 (1.27)	0.41 (0.55)	-0.55 (0.38)
Age of Head	-0.507*** (0.07)	-0.507*** (0.07)	-0.13 (0.14)	-0.475*** (0.08)
Age of Partner	-0.08 (0.05)	-0.08 (0.05)	-0.09 (0.14)	-0.07 (0.05)
Education of Head	-11.07*** (1.35)	-11.07*** (1.35)	-15.78*** (3.61)	-12.18*** (1.34)
Education of Partner	-2.44*** (0.81)	-2.44*** (0.81)	-4.183** (1.95)	-3.039*** (0.79)
1990 Income of Head	0.00 (0.00)	0.00 (0.00)	-0.00008* (0.00)	0.00004* (0.00)
1990 Income of Partner	-0.00015*** (0.00)	-0.00015*** (0.00)	-0.0001 (0.00)	-0.00022*** (0.00)
Dummy Move In	-1.409*** (0.31)	-1.405*** (0.31)	4.02*** (0.93)	-0.575* (0.30)
Number of observations	89,062	89,062	17,048	102,002

Estimated coefficients, S.E. (in paranthesis) clustered by recoded PUMA.

* ; ** ; *** significant at 10 % , 5% , 1 % .

Regressions run with the covariates described in Section 3.

Table 5: Effects of Being Homosexual versus Heterosexual Married and Cohabiting on Ratio of Mortgage to House Value: Young Couples Childless

	Homosexual & Heterosexual Married	Homosexual & Heterosexual Married	Homosexuals & Heterosexual Cohabiting	Heterosexual Married & Cohabiting
	(1)	(2)	(3)	(4)
Dummy for Homosexual	1.082 (1.27)	3.844** (1.51)	-0.183 (1.26)	--
Dummy for Gay	--	-4.829** (1.87)	--	--
Dummy for Cohabit	--	--	--	3.274*** (1.04)
Labor Income of Head	-0.00004*** (0.00)	-0.00004*** (0.00)	-0.00005*** (0.00)	-0.00004*** (0.00)
Labor Income of Partner	-0.00002** (0.00)	-0.00002** (0.00)	-0.00004*** (0.00)	-0.00003*** (0.00)
Age of Head	-0.416*** (0.13)	-0.412*** (0.13)	-0.361** (0.17)	-0.571*** (0.16)
Age of Partner	-0.13 (0.12)	-0.14 (0.12)	0.29 (0.18)	0.14 (0.12)
Education of Head	-19.036*** (3.15)	-19.033*** (3.15)	-18.930*** (4.70)	-20.097*** (3.12)
Education of Partner	-2.45 (2.85)	-2.42 (2.85)	-7.759** (3.33)	-4.627* (2.60)
1990 Income of Head	0.00001 (0.00)	0.00001 (0.00)	-0.00005 (0.00)	0.00008 (0.00)
1990 Income of Partner	-0.00003 (0.00)	-0.00002 (0.00)	-0.00012 (0.00)	-0.00025*** (0.00)
Dummy Move In	-0.75 (0.87)	-0.74 (0.87)	3.557*** (1.21)	1.530* (0.79)
Number of observations	13,109	13,109	8,291	17,944

Estimated coefficients, S.E. (in paranthesis) clustered by recoded PUMA.

* ; ** ; *** significant at 10 % , 5% , 1 % .

Regressions run with the covariates described in Section 3.

Table 6: Effects of Being Homosexual & Never Married Homosexual versus Heterosexual Married Accounting for Life Expectancy on Household Retirement and Social Security Income: Elderly Couples

	Homosexual & Heterosexual Married	Homosexual Only	Never-married Homosexual & Heterosexual
	(1)	(2)	(3)
Dummy for Homosexual	5689.56*** (1858.64)	--	8695.93*** (3165.58)
Life expectancy difference	-175.80*** (47.66)	-278.42 (393.24)	-181.44*** (47.85)
Age Difference	-322.54*** (34.61)	-56.36 (248.61)	-316.43*** (34.74)
Age of Head	1194.21*** (18.67)	1286.51*** (340.44)	1192.75*** (18.67)
Education of Head	609.05*** (62.27)	2681.95*** (806.96)	577.59*** (62.24)
Education of Partner	1468.08*** (99.81)	2181.82** (911.55)	1519.56*** (97.53)
Household Size	-612.04*** (113.75)	-2815.22 (1955.17)	-612.42*** (113.96)
Disability of Head	-1755.20*** (227.49)	1701.75 (5924.05)	-1772.81*** (227.84)
Disability of Partner	-1106.01*** (250.03)	762.15 (5868.79)	-1110.91*** (250.39)
1990 Income of Head	0.178*** (0.01)	0.00336 (0.07)	0.183*** (0.01)
1990 Income of Partner	-0.265*** (0.03)	-0.07219 (0.19)	-0.287*** (0.03)
Dummy Move In	651.52*** (208.42)	-2201.65 (3771.97)	662.32*** (208.51)
Number of observations	111,514	405	111,302

Estimated coefficients, S.E. (in paranthesis) clustered by recoded PUMA.

* ; ** ; *** significant at 10 % , 5% , 1 % .

Regressions run with the covariates described in Section 3.

Table 7: Effects of Being Homosexual versus Heterosexual Married on House Value and Retirement and Social Security Income: Elderly and Young Couples

<i>Dependent Variable</i>	<u>Young Sample</u>	<u>Elderly Sample</u>	<u>Elderly Sample (Blacks & Whites)</u>	<u>Young Sample (Blacks & Whites)</u>
	<u>House Value</u>	<u>House Value</u>	<u>Retirement & SS Income</u>	<u>Mortgage Ratio</u>
Dummy for Homosexual	-40950.16*** (4073.93)	-40022.63** (18070.98)	4717.46*** (1829.36)	1.880* (1.05)
Dummy for Gay	55230.03*** (6468.21)	72247.60** (29387.42)	--	--
Age of Head	886.20*** (191.81)	2274.18*** (149.79)	762.15*** (19.31)	-0.478*** (0.07)
Age of Partner	372.43** (145.20)	585.50*** (94.71)	449.89*** (13.94)	-0.07 (0.05)
Education of Head	-33422.47*** (5387.54)	2308.11*** (341.36)	664.85*** (54.53)	-10.56*** (1.32)
Education of Partner	-4808.14*** (1718.40)	1087.98* (629.17)	1333.36*** (90.35)	-2.604*** (0.81)
1990 Income of Head	0.706*** (0.09)	1.305*** (0.06)	0.167*** (0.01)	0.00002 (0.00)
1990 Income of Partner	1.789*** (0.18)	2.816*** (0.26)	-0.187*** (0.03)	-0.00009** (0.00)
Dummy Move In	36412.66*** (1030.91)	12689.38*** (1592.09)	552.68*** (201.79)	-1.675*** (0.31)
No. Children Head	36342.70*** (1031.28)	--	--	-1.556 (1.23)
Labor Income of Head	0.871*** (0.02)	--	--	-0.00004*** (0.00)
Household Size	--	2998.16*** (817.30)	-622.28*** (99.81)	--
Disability of Head	--	-8807.18*** (1307.34)	-1782.87*** (215.16)	--
Disability of Partner	--	-10178.02*** (1425.60)	-1009.22*** (240.68)	--
Dummy for Black Head	--	--	1958.15 (1245.01)	9.785*** (1.44)
Number of Observations	98,681	103,636	118,173	94,040

Estimated coefficients, S.E. (in paranthesis) clustered by recoded PUMA.

* ; ** ; *** significant at 10 % , 5% , 1 % .

Regressions run with the covariates described in Section 3.

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