RESEARCH REPORT

How Might Legal Recognition of Same-Sex Marriage Affect Retirement Incomes and Federal Programs?

Final Report

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Abstract

This paper uses the Urban Institute's Dynamic Simulation of Income Model (DYNASIM) to estimate the impact of legal same-sex marriage on retirement incomes of lesbians and gays from 2015 to 2065. It also estimates the impact of legal same-sex marriage on government budgets. Legal same-sex marriage reduces government budgets (increases the deficit) but also increases retirement incomes for seniors in the bottom three-fifths of the income distribution.

We find that legal same-sex marriage increases some components of net income while reducing others. Net per capita retirement income increases on average for lesbians and gays in the bottom three lifetime earnings quintiles, but falls for those in the top quintile and the change gets bigger over time. Marriage provides an important financial cushion for partners during periods of unemployment, ill health, and in retirement. Poverty rates among gays and lesbians ages 62 and older are projected to fall from 18 percent in 2015 to 5 percent in 2065 after same-sex marriage becomes legal. Legal same-sex marriage is one factor contributing to this reduction.

Legal same-sex marriage on net lowers aggregate government budgets (increases the deficit) in the long run, but because lesbians and gays are a small share of the US population, the aggregate effect of legal same-sex marriage is small (about $3.5 billion (less than 1 percent) lower in 2065). The number of Social Security beneficiaries and benefit outlays increase with expanded access to spouse and survivor benefits. More Social Security beneficiaries will pay taxes on Social Security benefits, contributing to an increase in federal income taxes. The number of Medicare Part B and D participants falls slightly as some same-sex partners gain employer sponsored health insurance through a working spouse. On net, the savings from Medicare and higher revenue from taxes do not offset the increase in Social Security spending.

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Executive Summary

The Defense of Marriage Act (DOMA), enacted in 1996, barred the federal government from recognizing same-sex marriages legalized by the states. On June 26, 2013 in *United States v. Windsor*, the U.S. Supreme Court ruled that DOMA violated the Fifth Amendment and that the federal government must recognize state-sanctioned same-sex marriages. Exactly two years later, the U.S. Supreme court opened the gates to legal marriage for same-sex couples across the nation when it ruled 5 to 4 in *Obergefell v. Hodges* that the U.S. Constitution guarantees the right to same-sex marriage. These recent Supreme Court decisions significantly improve access to retirement benefits for today's nearly 800,000 same-sex couples.

This study analyzes how many and to what extent older gay and lesbian Americans gain financially from the federal recognition of same-sex marriage. It also projects the impact of legalized same-sex marriage on federal government spending and revenues for the next 70 years.

While there is some uncertainty about the size of the gay and lesbian populations, survey results suggest that between 1.3 and 2.5 percent of Americans (about 4 to 8 million people) identify as lesbian or gay. Among those, about 1.6 million are living with a same-sex partner.

Survey data suggest that about 75 percent of gays and lesbians report wanting to marry someday, but the number of married-same-sex couples has been historically constrained for couples living in states that do not recognize same-sex marriage. Of the nearly 800,000 couples living with a same-sex partner in 2014, 42 percent were married, but the share of same-sex couples that are married is markedly higher in states that legalized same-sex marriage relatively early.

While about the same share of lesbians and gays partner and marry, lesbian women typically do so at slightly younger ages than gay men. Nonmarital cohabitation is typically a transitory status for opposite-sex couples, with many transitioning to marriage. The absence of legal marriage for many same-sex couples means that nonmarital cohabitation is common among same-sex couples even at older ages.

Same-sex couples are more likely to be white and well-educated than opposite-sex couples and tend to have higher earnings. However, same-sex couples are more likely than opposite-sex couples to partner with someone of a different age and racial group. A substantially higher share of women in heterosexual couples have no market earnings than women in same-sex couples, as more heterosexual

women remain at home to raise children. Family heads in the majority of working-age same-sex and opposite-sex couples have earnings that differ substantially from their partners, suggesting that Social Security spouse and survivor benefits will be an important financial resource for both same-sex and opposite-sex couples in the future.

The opportunity to marry will, on average, improve the financial security of older gays and lesbians. The average per capita annual retirement income of lesbians and gays in the middle income quintile was approximately $2,000 higher when same-sex marriage was legal than under the baseline case in which same-sex marriage was not legal. For couples, then, the gain in this middle income range was $4,000. Poverty rates for gays and lesbians ages 62 and older are sharply higher than for all seniors. Poverty rates for gays and lesbians ages 62 and older are projected to decline from 18 percent in 2015 to 5 percent in 2065. While poverty rates are projected to fall in general due to rising earnings, gays and lesbians will also benefit from the many advantages of combining incomes and access to additional retirement benefits. Legal same-sex marriage reduces poverty rates for gays and lesbians ages 62 and older by one to two percentage points per year.

The rise of middle quintile incomes for older gays and lesbians and decline in poverty rate are due to several factors. First, pooling of income reduces the number of gay and lesbian people with low family income and provides certain economies of scale (a slimmed down version of the old saying that "two can live as cheaply as one"). Second, married couples tend to have higher per capita incomes because people with responsibilities to other people tend to have higher earnings and are more likely to accumulate savings and become home owners. Third, couples can survive layoffs or other problems more easily than single people, because a spouse's resources can provide a financial cushion. Fourth, they gain access to private and public spouse benefits, such as coverage by a spouse's employer-sponsored health insurance, higher Social Security payments that are based on the employment history of a higher-earning spouse, and Social Security survivor benefits.

Using our simulation model, we examined the impact of same-sex marriage on federal programs and tax revenues. Our projections showed the following:

- A small increase in the number of people receiving OASDI benefits (0.03 percent in 2015);

- An increase in the net cost of OASDI benefits of several billions of dollars per year (0.02 to 0.04 percent increase) due to the increase in the number of beneficiaries and an increase in the number receiving spouse and survivor benefits that exceed their own worker benefits. This change is too small, however, to materially affect the Social Security Trust Fund;

- A small decrease in the number receiving SSI benefits (0.12 percent in 2015) that dissipates over time;

- A small decrease (0.02 percent) in the number of people receiving Medicare Part B and Part D benefits which slightly reduced Medicare costs, net of premiums (0.018 percent decline), because these programs are subsidized by the federal government;

- A small decrease in the amount of the Medicare surtax (0.17 to 0.9 percent);

- More older people paying income taxes on their Social Security benefits (0.15 percent in 2015 rising to 0.33 percent in 2065);

- Small changes in federal income taxes paid that are not uniformly higher or lower as some couples get marriage bonuses and others get marriage penalties; and

- The combined effect of these changes is a reduction in the net federal budget (increase deficit) of between $3 billion to $6 billion dollars a year after 2030 (which represents about four one-hundredths of one percent).

Chapter 1: Introduction

The Defense of Marriage Act (DOMA), enacted in 1996, barred the federal government from recognizing same-sex marriages legalized by the states. On June 26, 2013 in *United States v. Windsor*, the U.S. Supreme Court ruled that DOMA violated the Fifth Amendment and that the federal government must recognize state-sanctioned same-sex marriages. At that time, 15 states had legalized same-sex marriage. By June 25, 2015, same-sex marriage was legal in 36 states. On June 26, 2015, exactly two years after the Supreme Court ruled DOMA unconstitutional, the U.S. Supreme Court opened the gates to legal marriage for same-sex couples across the nation when it ruled 5 to 4 in *Obergefell v. Hodges* that the U.S. Constitution guarantees the right to same-sex marriage.

Because DOMA defined marriage for federal purposes as a relationship between a man and a woman, it denied married same-sex couples hundreds of federal benefits. At issue in the *Windsor* case was the federal income-tax exemption on estates granted to surviving spouses that was denied to Edith Windsor when her legal same-sex spouse died. In addition to the tax provisions considered in *Windsor*, Social Security spouse, divorced spouse, and survivor benefits are important benefits available to married heterosexual couples that were unavailable to legally married same-sex couples prior to *Windsor*. Also, employers were not required to make joint and survivor annuities available to employees in qualified defined benefit plans that were married to same-sex spouses (although some employers did extend these benefits to same-sex domestic partners). The Supreme Court's rulings in *Windsor* and *Obergefell* significantly improved access to retirement benefits for the nearly 800,000 same-sex couples today.

This project uses the Urban Institute's state-of-the-art DYNASIM microsimulation model to estimate Social Security and pension benefits newly available to legally married same-sex couples. We analyze how many and to what extent older gay and lesbian Americans gain financially from the federal recognition of same-sex marriage and project the impact of legalized same-sex marriage on Social Security solvency over the next 70 years.

This report addresses the following research questions:

1. How do the characteristics of same-sex couples who choose to marry differ from same-sex couples who remain partnered?
2. How do marriage rates compare for states that were early adopters of same-sex marriage and those that were late adopters?

3. How many same-sex couples are likely to gain Social Security and other retirement income and what are their characteristics?
4. How large will the gains likely be? How do gains differ by the lifetime earnings of both married partners?
5. How are expanded benefits expected to impact Social Security solvency and government budgets?

The impact of the policy change will depend on the number of same-sex couples who choose to marry, on the earnings differentials of married same-sex couples, and on the duration of same-sex couple marriages. Because of the uncertainty of how high same-sex marriage rates will be, we present low, medium, and high estimates of how many same-sex marriages there will be in the future and how each of these estimates affect incomes, Social Security solvency, and government budgets.

Background

Employee benefits affected by the Supreme Court's recent same-sex marriage rulings include retirement plans, health insurance, life insurance, and flexible spending accounts.[1] In particular, the ruling requires defined benefit plans governed by ERISA to offer retiring employees the option of a joint and survivor annuity benefit that covers a same-sex spouse. Some employers may have offered joint and survivor annuities that cover same-sex domestic partners, but the court's ruling now requires all qualified defined benefit plans to offer such annuities for all married couples.

The same-sex marriage rulings also enable same-sex spouses and the qualifying children of same-sex marriages to receive Social Security spouse and survivor benefits. Under Social Security program rules, a widow or widower is entitled to 100 percent of a deceased worker's benefit amount. A spouse is entitled to half of a primary worker's benefit amount. In both cases, beneficiaries must choose between a spouse or survivor benefit and the retirement benefit they could receive based on their own earnings. Divorced men and women are entitled to spouse and survivor benefits if their marriage lasted at least 10 years. Social Security also pays benefits for dependent children and parents.

In 2015, Social Security provided spouse or survivor benefits to 48 percent of women ages 62 and older (or 12.9 million) (SSA 2016, Table 5.A14). For these women, spouse and survivor benefits provide higher Social Security benefits than what they could collect based on only their own earnings. While the share receiving these auxiliary benefits has fallen over time—from 61 percent in 1960—as women's labor supply and earnings have increased and marriage rates have declined, auxiliary benefits remain an

important source of retirement income for many older women today (Butrica and Smith 2012a, 2012b; Wu, Karamcheva, Munnell, Purcell 2013; Tamborini and Whitman 2007). These same benefits are likely to improve the retirement security of married same-sex couples who now qualify for spouse and survivor benefits as a result of the Supreme Court's ruling. However, the impact will depend on the relative lifetime earnings of same-sex spouses. Couples with similar lifetime earnings will not gain much from access to spousal benefits because each spouse would be better off collecting retirement benefits based on his or her own earnings (although a lower-earning spouse who outlives a higher-earning spouse would gain somewhat from access to survivor benefits). However, couples with very different lifetime earnings could experience substantial gains in Social Security benefits from access to spousal benefits. Although these additional Social Security outlays would improve retirement security for same-sex couples, they would at least somewhat worsen the long-term financial outlook for Social Security, which is now projected to lack sufficient revenue to fully pay scheduled benefits by 2034.

Report Plan

This report will consist of seven chapters, organized around the various tasks that we have set out to accomplish.

Chapter 2 presents a literature review of prior work on same-sex demographics and same-sex marriage. The first section describes the various estimates of the share of lesbians, gays, bisexuals, and transgender people (LBGTs) in the United States. Other areas covered in this literature review include estimates of the number of same-sex marriages and divorces and attempts to estimate the fiscal effects of legalizing same-sex marriage.

Chapter 3 focuses on the numbers and demographic characteristics of lesbian and gay household couples. The American Community Survey (ACS) has reliable data on same-sex couples who are cohabiting and married from 2012 to 2014. The 2012 daily Gallup tracking polls include estimates of the LBGT share of the population independent of living arrangement in each state.

These data sources provide reasonable estimates of the number of lesbian and gay couples in each state and in the country as a whole. Further, we compare the share married, share cohabiting, and share unattached for each state by age and sex. This shows that the national marriage share of opposite-sex people is considerably higher than that of same-sex people. Further, we present data showing the married share in states by year that same-sex marriage was legalized. A key finding here is that the same-sex married share rose rapidly after states legalized same-sex marriage.

Chapter 4 focuses on the demographics of same-sex couples by age, educational attainment, race/ethnicity, and personal earnings. In this chapter, we compare the distributions along each of these dimensions comparing lesbians and gays living in household couples to opposite-sex men and women in household couples. Further we examine a) how male same-sex couples differ from female same-sex couples, b) how same-sex couples differ from opposite-sex couples, and c) how married same-sex couples differ from unmarried cohabiting same-sex couples.

Chapter 5 presents estimated cohabitation, marriage, separation, and divorce hazard models using 1979 and 1997 National Longitudinal Survey of Youth (NLSY) data for heterosexual couples. We use these models to update DYNASIM's year-to-year cohabitation, marriage, separation, and divorce projections. The heterosexual hazard models account for individual characteristics including age, sex, race, ethnicity, education, earnings, prior marital status, and economic factors that are available on the NLSY data. This chapter presents the parameters of the equations that determine each of these yearly transitions. This chapter also presents cohabitation and marriage hazard estimates for same-sex couples using data from the 2004-2014 ACS by age, sex, and race. The same-sex hazard models include a more limited set of explanatory variables that are observable on the ACS cross-sectional data.

Chapter 6 reports DYNASIM's simulations of future federal revenues and expenditures, participation in government programs, and family incomes, comparing results under our baseline scenario that incorporated legalized same-sex marriage nationwide with an alternative scenario that assumed neither the federal government nor any of the states recognized same-sex marriage. Because the share of same-sex couples who will eventually marry is necessarily uncertain, we also ran simulations that varied the long-run same-sex marriage rate. We projected benefits from the Old Age, Survivors, and Disability Insurance (OASDI) program, better known as Social Security, because legalized same-sex marriage gives same-sex couples access to spouse and survivor retirement benefits, which could substantially improve their financial security at older ages. We also projected Supplemental Security Income (SSI), which provides cash benefits to older people (as well as people with disabilities) with very few resources. In addition, we simulated federal income tax payments, Medicare Part B and D participation, and Medicare premiums. Chapter 7 concludes.

Chapter 2: Literature Review

This literature review first provides estimates of the share of lesbians, gays, and bisexuals (LGBs) in the United States. It then provides a brief history of the evolution of same-sex marriage and attempts to estimate the number of potential same-sex marriages in the future. It then summarizes the results of studies that examined individual well-being of same-sex couples and how legalization will impact government finances. Key findings in this section are that about 1.8 percent of Americans are lesbian or gay, defining the population at risk of same-sex marriage, and the fiscal impact of same-sex marriage is likely small.

Share of Lesbians, Gays, and Bisexuals

Table 1 shows the share of the population that reported being lesbian, gay, and bisexual from various survey data. Among the six surveys that are representative of the entire adult population—Gallup Daily Tracking Survey, General Social Survey (GSS), National Survey of Sexual Health and Behavior (NSSHB), National Health Interview Survey (NHIS), Pew US Religious Landscape Survey, and National Health and Nutrition Examination Surveys (NHNES)—the LGB share varies from 2.3 to 6.8 percent of the population and the gay and lesbian share ranges from 1.5 to 2.5 percent.

With the exception of the NHIS, all surveys find that there are slightly more bisexuals than lesbians and gays. This is an important finding for our study because few bisexuals enter into long-term same-sex relationships. Unpublished NHIS-based estimates from Gary Gates show that only 4 percent of bisexuals were in a cohabiting same-sex relationship, 42 percent were in an opposite-sex marriage or cohabitation relationship, and the remainder were not coupled.

For this analysis, we will focus on the lesbian and gay share and use the 1.8 percent estimate of the population size in the United States. The 1.8 share is based on the largest and most recent nationally representative survey reporting sexuality and is consistent with estimates from Gary Gates of the Williams Institute at UCLA Law School (Gates 2011).

TABLE 1

Estimates of the Number of Lesbians, Gays, and Bisexuals in the U.S. and Selected Foreign Countries

Source	Both Sexes, Share of Adult Population		
	Homosexual	Bisexual	Total LGB
No Age Restrictions			
Gallup, 2012	na	na	3.4
General Social Survey, 2014	1.7	2.6	4.3
National Survey of Sexual Health and Behavior, 2009	2.5	3.1	5.6
National Health Interview Survey, 2013	1.6	0.7	2.3
U.S. Religious Landscape Study, 2014	1.8	2.8	4.6
National Health and Nutrition Examination			
Surveys, combined 2003-2010	1.5	2.3	3.8
With Age Restrictions			
Gallop 2012			
Ages 18-29	na	na	6.4
Ages 30-49	na	na	3.2
Ages 50-64	na	na	2.6
Ages 65+	na	na	1.9
National Survey of Family Growth, 2002			
Ages 20-44	1.8	2.3	4.1
National Survey of Family Growth, 2006-2008: Ages 20-44	1.7	2.2	3.9
National Survey of Family Growth, 2011-2013: Ages 18-44	1.3	5.5	6.8
Youth Risk Behavior Survey, 2001-09			
Ninth to twelfth grade	1.3	3.7	5.0
International Surveys			
Australia, 2013	1.6	1.8	3.4
Canada, 2015	1.7	1.3	3.0
Netherlands, 2009	2.5	6.5	9.0
Norway, 2010	0.7	0.5	1.2
United Kingdom, 2010	1.0	0.5	1.5

Sources: Gallup: Gates and Newport (2012); General Social Survey: (authors' tabulations from GSS Data Explorer); National Survey of Sexual Health and Behavior: CDC table 16 (Chandra, Mosher, Casey 2011); National Health Interview Survey: Ward, Dahlhamer, Galinsky, Joestl (2014); U.S. Religious Landscape Study (Pew Research Center [2015b]); National Health and Nutrition Surveys: Cochran et al (2013); National Survey of Family Growth: Chandra, Mosher, Copen, Sionean (2011); National Survey of Family Growth: Copen, Chandra, Febo-Vazquez (2016); Youth Risk Behavior Survey: Kann et al (2011). Australia: Richters et al 2014; Canada: Statistics Canada 2015; Netherlands: Sandfort, Graaf, Bijl, and Schnabel (2010); Norway: Gates (2011); United Kingdom: BBC News (2010).
Note: na=not available.

Potential Number of Same-Sex Marriages

The fight for same-sex marriage began in 1972 when a Minnesota same-sex couple sued the state for not issuing them a marriage certificate. In *Baker v. Nelson*, the U.S. Supreme Court affirmed the state court's ruling upholding the government's decision to refuse the couple a marriage license. Following that decision, a number of state legislatures passed laws banning same-sex marriages. The first victory for same-sex couples seeking to marry occurred in 1993 when the Hawaiian Supreme Court ruled in *Baehr v. Lewin* that denying three gay couples marriage licenses violated the equal protection clause of the state's constitution. This victory was relatively short-lived, however, because the state amended its constitution in 1998 to prohibit same-sex marriages. To squelch any momentum on local actions promoting same-sex marriage, 32 state legislatures soon banned same-sex marriage, with some legislatures arguing that allowing same-sex marriage would harm traditional family formation (Trandafir 2015). By the end of 2000, 40 states had either statutory or constitutional bans on same-sex marriage (National Conference of State Legislatures 2015).

In 1999, California passed a domestic partnership statute and Vermont passed a civil union act giving same-sex couples many—but not all—of the rights enjoyed by married couples. The next significant victory for same-sex marriage occurred in Massachusetts in 2004, which granted same-sex couples full marriage rights. In May 2008, the California Supreme Court ruled that the prohibition of same-sex marriage was unconstitutional. While some gays and lesbians immediately took advantage of their new right to marry, a statewide ballot initiative (Proposition 8) was passed in November 2008 that overturned this right. However, it became clear that the tide was turning in favor of same-sex marriage in 2009 when Connecticut, Iowa, and Maine legalized same-sex marriages. By June 26, 2015, when the *Obergefell* decision was announced, 37 states and the District of Columbia had already legalized same-sex marriage. Although many of these actions were being challenged in court, the *Obergefell* decision settled the issue definitely and permanently. Appendix Table A1 shows the effective dates of legal same-sex marriage by state.

Gates and Brown (2015) use data from the ACS and Gallup Daily Polls to show that the number of married same-sex couples has rapidly increased in response to the Supreme Court's decisions and the spread of legalized same-sex marriage. In 2013, before *Windsor* opened up federal benefits to married same-sex couples by overturning the DOMA provisions, 23 percent of co-residing same-sex couples (230,000) were married. In June 2015, the date of the *Obergefell* decision, 38 percent of co-residing same-sex couples (390,000) were married. By October 2015—less than 4 months after the *Obergefell* decision—the share of married same-sex couples grew to 45 percent (486,000). Many more same-sex

couples may have been ready to marry in the months after the *Obergefell* decision but needed more time to plan their weddings.

Before these marriage data became available, several commentators speculated about the share of co-residing same-sex couples that would marry. Badgett and Sears (2005) projected that perhaps only 50 percent of same-sex couples would marry. By contrast, Stevenson (2012) applied the demographic parameters from opposite-sex marriages to same-sex marriages and estimated that 85 percent of same-sex couples would marry once all the restrictions were lifted.

While it is possible that homosexuals will marry at much lower rates than heterosexuals, there are other indicators that homosexuals have as much desire to couple as heterosexuals. For example, Badgett (2010), in a review of surveys assessing LGB interest in marriage, concludes that there is "a very strong demand for marriage by same-sex couples." A 2001 survey of self-identified LGB adults living in 15 major urban areas found that almost three quarters of respondents (74 percent) would like to marry someday. A 2003 survey of LGB adults found that more than three quarters of respondents (78 percent) would like to marry.

In 2013, the Pew Research Center released a large study on lesbian, gay, bisexual, and transsexual (LBGT) Americans' attitudes towards many important life decisions including marriage and coupling (Pew Research Center 2013). While only 5 percent of lesbians and gays were married at the time, 56 percent of single gay men and 58 percent of single lesbians said that they hoped to married "if given the opportunity." The reasons for getting married included love, companionship, making a life-long commitment, and financial stability. The intensity of support for each of these motives was the same in the LGB community as in the general population. Wanting to marry because of children and religion, however, was much stronger among heterosexuals than LGBTs. By contrast, LGBT people felt strongly about legal rights and benefits, which heterosexuals took for granted.

Very little data exist on same-sex divorce. Badgett and Mallory (2014) tracked data in 23 states with same-sex civil unions or marriages and found that the divorce/dissolution rate of same-sex couples was slightly lower than the rate for opposite-sex couples. In the two states with data on divorce, 1.1 percent of same-sex married couples and 1.6 percent of opposite-sex married couples divorced each year. These findings are only suggestive of the true divorce rate, however, because they are based only on the relatively few years that passed since these state-sanctioned arrangements became legal. By contrast, the divorce rate of opposite-sex marriages is based on dissolutions over a longer time period. Furthermore, many same-sex couples were in long-term relationships before marriage became legal.

Some earlier relationships may have dissolved before marriage was legalized, leaving more lasting relationships eligible for marriage.

Finally, Manning and Brown (2015) use the 2013 ACS to look at co-residing same-sex couples ages 50 and older. Compared with opposite-sex married couples older than 50, same-sex couples are younger, more likely to be white and much more likely to have a college degree, raising household incomes and employment rates for same-sex couples. But the variation in economic circumstances among same-sex couples was greater than among opposite-sex married couples, with same-sex couples exhibiting a much higher poverty rates and likelihood of receiving food stamps.

Same-Sex Marriages, Individual Well-Being, and Government Finances

The *Windsor* and *Obergefell* decisions will undoubtedly impact both same-sex couples' benefits and the federal budget. The Government Accountability Office counted 1,138 statutory provisions that would be affected by federal recognition of same-sex marriage (Crandall-Hollick, Pettit, and Sherlock 2015), but the literature concerning the effect of these decisions on same-sex couples is limited. While marriage opens up lots of benefits to same-sex partners, some companies had already offered benefits to unmarried domestic partners. The National Compensation Survey reported that 16 percent of same-sex domestic partners had access to defined benefit retirement survivorship benefits and 36 percent had access to health care benefits (U.S. Labor Department 2015).

The Congressional Budget Office issued a detailed analysis of the potential budgetary effects of federal recognition of same-sex marriage in 2004 (CBO 2004). In this analysis, CBO assumed that all states would legalize same-sex marriage and assumed that 0.6 percent of adults, or 600,000 same-sex couples, would initially enter into same-sex marriages. CBO estimated that federal recognition of same-sex marriage would improve the federal budget's bottom line by less than $1 billion in each of the next ten years. The federal budget would improve because same-sex marriage would raise federal revenues and depress federal outlays. According to CBO, individual income tax and estate tax revenues would rise by $200 million per year between 2005 and 2010 and by $500 million to $700 million per year between 2011 and 2014. CBO also determined that the legalization of same-sex marriage would change same-sex couples' eligibility for federal benefits, raising outlays for Social Security and the Federal Employees Health Benefits (FEHB) program but reducing outlays for Supplemental Security Income (SSI), Medicaid, and Medicare. In total, CBO estimated that federal recognition of same-sex marriage would impact outlays, in either direction, by less than $50 million per year between 2005 and

2009 and reduce federal outlays by between $100 million and $200 million per year between 2010 and 2014.

Couples with more similar lifetime earnings will gain less from Social Security spouse and survivor benefits than couples with different lifetime earnings. Black, Sanders, and Taylor (2007) found that gay and lesbian couples were less likely than their heterosexual counterparts to have a stay-at-home partner. Having a stay-at-home partner was more common when children were present in the family. For both same-sex and opposite-sex couples, the stay-at-home partner tended to have less education than the working partner. Among two-earner couples, the earnings gap between the higher-earner and lower-earner was typically higher for opposite-sex couples than for same-sex couples, partly because men typically earn more than women.

Federal and state income taxes depend on income and filing status. Changing filing status from a single filer to a married filer can increase income tax liabilities (creating a marriage penalty) or reduce income tax liabilities (creating a marriage bonus). Pamerleau (2015) found that marriage bonuses typically occur when individuals with disparate incomes marry and that marriage penalties typically occur when individuals with similar incomes marry. Alm and Leguizamon (2015), using Current Population Survey (CPS) data, found substantial changes in marriage penalties and bonuses from 1969 to 2010, with large marriage penalties prevalent during much of the 1990s and early 2000s and marriage bonuses becoming more common after 2003. Cruz (2013) shows that marriage rates declined in the 1990s when marriage penalties were more prevalent. Alm and Whittington (1997), using Panel Study of Income Dynamics (PSID) data, found a small positive probability of delaying marriage for couples facing marriage penalties compared to couples facing marriage bonuses. Pamerleau (2015) examined husband and wife income differentials and found that the majority of married households received tax bonuses and relatively few received tax penalties, suggesting that tax laws may affect marriage decisions.

Badgett (2010), using 2005-2007 ACS data, estimated federal income tax liability in 2009 for same-sex couples in Massachusetts. He found that 66 percent of same-sex couples would pay less federal income tax if they filed as a married couple instead of as two single adults, 11 percent would face the same liability regardless of how they filed, and 23 percent would pay more if they filed as a married couple. Those facing a marriage bonus would save $2,325 on average, and those facing a marriage penalty would pay an additional $502 on average.

Alm, Leguizamon, and Leguizamon (2014), using 2010 ACS data, estimated the federal and state income revenue effect of legal same-sex marriage. Assuming that all same-sex couples living together in

the ACS married (526,452 couples), they found very small changes in state and federal revenues from allowing same-sex marriage. They estimated that legal recognition of same-sex marriage would reduce federal income tax revenue in 2010 by $187 million to $580 million, an average reduction per same-sex couple of about $316. They also found that it would increase state income tax revenue in 23 states, lower revenue in 21 states, and leave revenue unchanged in the remaining 7 states. For example, they found that California state income tax revenue would decrease by $29 million but New York state income tax revenue would increase by $16 million. The average change in annual tax liabilities per married same-sex couple differed across states, ranging from a decline of $381 to an increase of $323. They provided some sensitivity analysis using a 50 percent marriage rate, but noted that changes in legal status could also result in more same-sex marriages beyond the same-sex couples currently living together. Their high estimate assumed that 1 million same-sex couples married. Even with this high marriage rate, their results did not change much.

Stevenson (2012), using 2003-2004 ACS data, also estimated how federal income taxes would change following the large expansion of same-sex marriage. He found that marriage penalties would roughly offset marriage bonuses. His preferred specification showed that tax revenues increasing by a paltry $34 million.

Fisher, Gee, and Looney (2016) use Internal Revenue Service (IRS) tax data to examine the number of same-sex married couples who filed joint tax returns. The number of same-sex couples filing joint income tax returns increased from 131,080 in 2013 to 183.280 in 2014 and these filers were generally younger, had higher income and fewer children than opposite-sex joint tax filers. They were also disproportionately located in metropolitan and coastal areas. The highest same-sex joint filer rates were in states that legalized same-sex marriage prior to 2013.

Chapter 3: Number and Characteristics of Same-Sex Cohabiting and Married Couples

We use ACS data to examine the number and characteristics of same-sex household couples in the United States. The ACS is a large ongoing nationally representative survey of American households that began in 2000. It collects demographic and income information for all household members from nearly 2 million households per year.

Household couples refer to two adults living together who are either married or cohabiting. While married couples are easy to identify, the ACS identifies cohabiters as households with two primary adults in which the second person in the household lists his or her relationship to the household head as an "unmarried partner;" this category does not include people living apart who are dating. If the sexes of the two primary adults are the same, then this is a same-sex marriage or same-sex cohabiting couple. This method may overstate the number of same-sex marriages because of misreported sex on the ACS (Gates and Brown 2015). We make no adjustments to the ACS for potential misreports.

Before the 2013 *Windsor* ruling, the Census Bureau recoded same-sex couples that reported being married to unmarried. The Census Bureau stopped this practice in 2013 and coded same-sex couples who said they were married as married. In 2012, the ACS identified the same-sex married couples that Census Bureau converted into non-married cohabiters. We use this recode flag to identify married same-sex couples in 2012. Thus, for 2012, 2013, and 2014, we can identify same-sex married couples in the ACS.

Beginning in 2008, the ACS asked respondents if they got married, got divorced, or became widowed in the past year. Even before 2013, the ACS included positive new marriage responses among same-sex partners, even though the Census Bureau recoded their marital status to unmarried partners. We will use this information in estimating same-sex marriage hazards and for validating the cohabitation transitions that are modeled in Chapter 5.

Number of Married and Cohabiting Same-Sex Household Couples

The estimated number of same-sex household couples increased fairly sharply (nearly 40 percent) between 2008 and 2014 (figure 1). The victories in the *Windsor* and *Obergefell* Supreme Court cases were a clear sign that gays and lesbians could lead their lives more openly and partner without fear of negative consequences. Some of the increase in reported same-sex household couples likely results from a rising willingness of same-sex individuals to report their partner status given changing social attitudes. Despite the increase in the number of same-sex household couples, in 2014, same-sex household couples still account for only 1.2 percent of all household couples.

FIGURE 1

Weighted Number of Same-Sex Household Couples by Year

Regardless of Marital Status
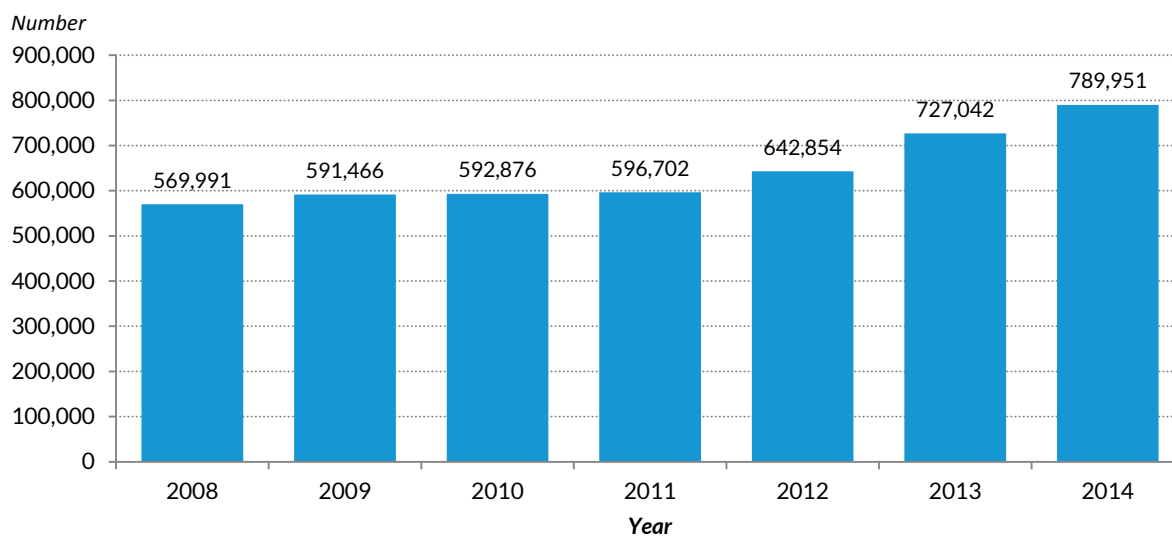
Source: Authors' tabulations from the American Community Survey.
Notes: The figure includes all households with a same-sex married or cohabiting partner.

We will start our computations of the effects of legalizing same-sex marriage with the nearly 800,000 cohabiting same-sex couples estimated from the 2014 ACS. Our goal is to estimate the number of *married* same-sex couples, which we will determine by estimating the number of lesbians and gays that marry among those in same-sex household couples. We posit that the cohabiting same-sex couples reflect the size and characteristics of same-sex couples that are likely to marry after the Obergefell

decision. Because of the uncertainty surrounding this statistic, we will present estimates based on low, medium, and high marriage rates.

Same-Sex Marriage

The share of household couples who are married is sharply lower for same-sex couples than for opposite sex couples. In 2014, 89 percent of opposite-sex household couples were married (table A2), but only 36 percent of same-sex household couples were (table A3). Marriage has been historically constrained for same-sex couples living in states that did not have legal same-sex marriage.

Among same-sex household couples, the number reporting having gotten married in the past 12 months rose sharply in 2013 and 2014 as more states legalized same-sex marriage and the DOMA decision changed the financial incentives for marriage (figure 2). For example, 4,744 same-sex household couples reported getting married in the past 12 month in 2008 when same-sex marriage was legal only in Massachusetts and Connecticut, compared with 84,829 in 2014 when same-sex marriage was legal in 36 states.

FIGURE 2

Number of Same-Sex Couples that Married in the Past 12 Months by Year
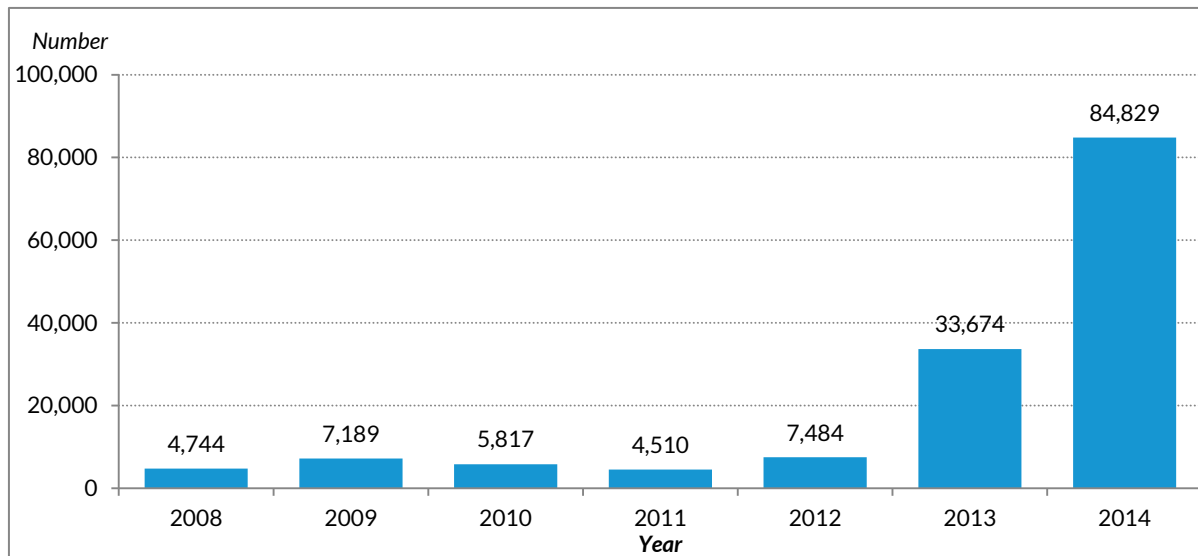
Source: Authors' tabulations from the 2008-2014 American Community Survey.
Notes: The figure includes all households with a same-sex married or cohabiting partner that report a new marriage in the past 12 months.

The share of same-sex household couples that are married is much higher in states that were early adopters of legal same-sex marriage than in states that were late-adopters. Same-sex marriage shares were low in states before they legalized same-sex marriage, but not necessarily zero. Some couples could have married in a state with legal same-sex marriage. [2]

We grouped ACS respondents by the year in which their state legalized same-sex marriage and compared same-sex married shares in 2012, 2013, and 2014 (figure 3). Because state-specific sample sizes are relatively small, random variation can cause substantial swings in the share of same-sex couples that are married each year. Nonetheless, in states that legalized same-sex marriage before 2011, the share of same-sex household couples legally married reached at least 60 percent in at least one of the years we observed—2012, 2013, or 2014, and those states exhibit no particular trend in married shared from 2012 to 2014. By contrast, same-sex married shares are lower in states that legalized same-sex marriage in 2011 or later, and those married shares increased from 2012 to 2014. We will use the observed same-sex married shares in the early adopter states to generate a national estimate of the long-run share of same-sex household couples that will likely marry.

FIGURE 3

Share of Same-Sex household Couples that are Married in 2012, 2013, and 2014 by Year of State Legalization
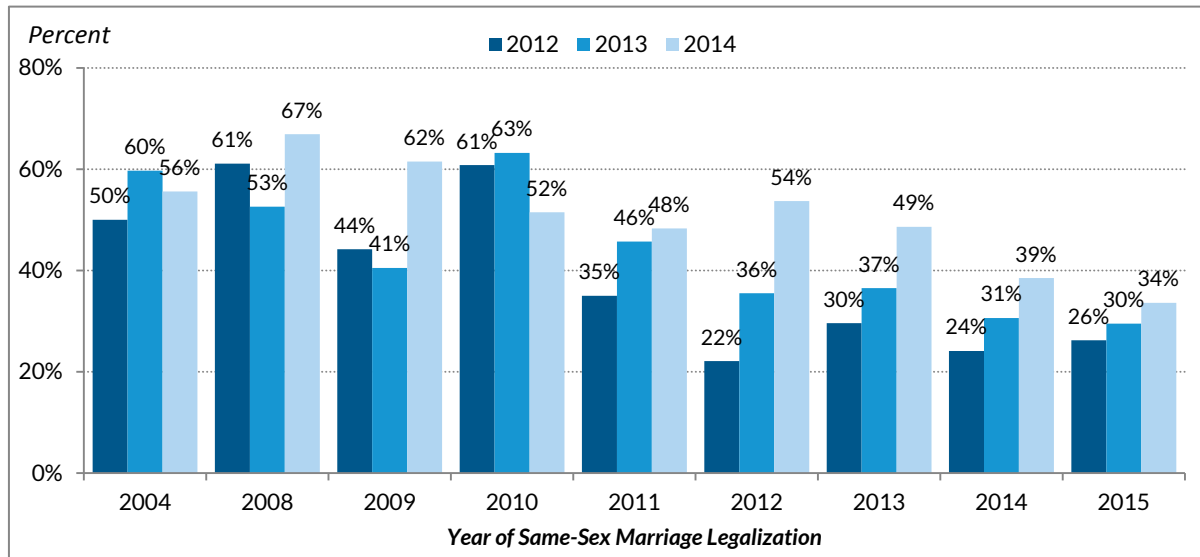
Source: Authors' tabulations from the 2004-2014 American Community Survey.
Notes: The figure includes all households with a same-sex married or cohabiting partner.

Another way to look at the data is to examine the shares of the population that are married, cohabiting, or unpartnered. Identifying the sexuality of ACS respondents is fairly straightforward for

coupled people, because the survey identifies the sex of the partner. However, it is more difficult for unpartnered people. Box 1 describes our method for assigning sexuality to these respondents.

Assigning Sexuality to Unpartnered People

Using population estimates from the 2014 U.S. Religious Landscape Study and 2002 National Survey of Family Growth, we classified 1.8 percent of the ACS sample as gay or lesbian. We estimated the number of unpartnered gays and lesbians by subtracting the observed number of married and cohabiting gays and lesbians from the calculated total number of gays and lesbian. We classified the remaining unpartnered people as heterosexual.

While there is uncertainty surrounding this calculation, the important information for this study is the number of gays and lesbians who choose to marry or cohabit, which we observe on the ACS. We use the 1.8 percent lesbian and gay share to calculate lesbian and gay marriage and cohabitation rates at each age using the following relationships.

LG population = 1.8*total population

Unpartnered LG = LG population – married LG population – cohabiting LG population

Unpartnered heterosexual = total population – LG population – married heterosexual population – cohabiting heterosexual population.

In chapters 5 and 6 we present estimates of the effect of legal same-sex marriage using both higher and lower gay and lesbian marriage rates based on the 1.8 percent lesbian and gay share assumption. In each of these simulations, the number of lesbians and gays remain unchanged. We simply increase or decrease the simulated number of same-sex married couples.

Figures 4 and 5 show these three statuses (married, cohabiting, unpartnered) by age for heterosexual men and women and for gays and lesbians, respectively based on pooled 2012-2014 ACS data. Before age 20, few people are living in household couples. This pattern changes dramatically as people age through their 20s, with some heterosexuals cohabiting and many marrying (figure 4). By age 34, more than half of heterosexuals are married and another 9 percent are cohabiting. By age 50, 59 percent are married and another 4 percent are cohabiting. The share married edges up 2 percentage points by age 65 and the share cohabitating edges down 2 percentage points.

FIGURE 4

Share of Heterosexuals that Are Married, Cohabitating, or Unpartnered by Age, 2012-2014
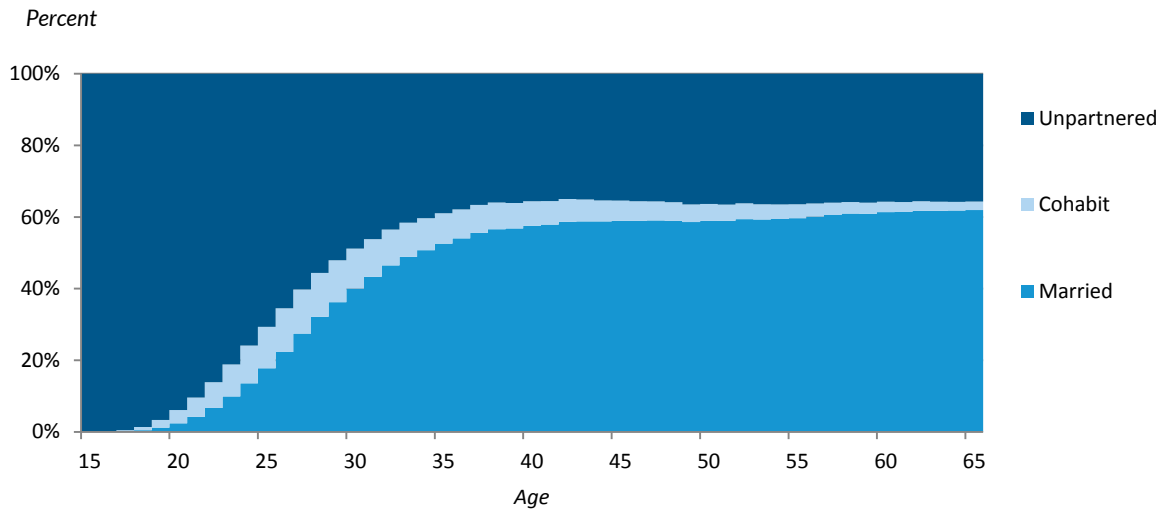
Percent

Source: Authors' tabulations from the 2012-2014 American Community Survey.
Notes: The figure includes all people ages 15 to 65 whom we classify as heterosexual.

FIGURE 5

Share of Gays and Lesbians that Are Married, Cohabitating, or Unpartnered by Age, 2012-2014
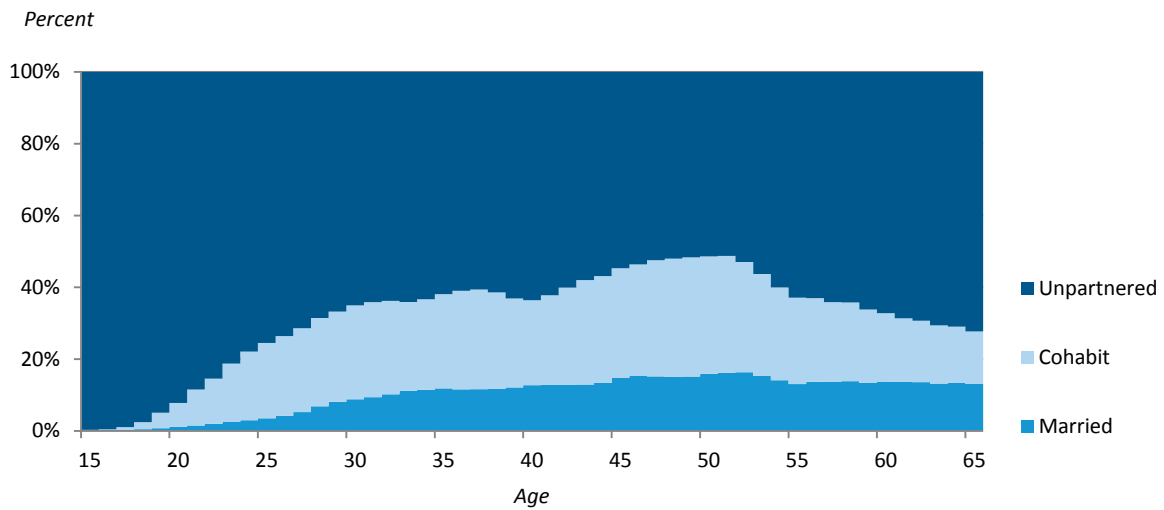
Percent

Source: Authors' tabulations from the 2012-2014 American Community Survey.
Notes: The figure includes all people ages 15 to 65 whom we classify as gay or lesbian.

Coupling status differs in four important ways between heterosexuals and gays and lesbians. First, many fewer gays and lesbians marry; the married share of that population peaks at 16 percent, compared with 62 percent for heterosexuals. Second, gays and lesbians tend to form household couples relatively late in life. Whereas the share of heterosexuals in household couples plateaus by about age 40, the share of gays and lesbians in household couples rises sharply in their 40s and does not peak until age 50. Third, gays and lesbians are much less likely to form household couples than heterosexuals; at age 50, 64 percent of heterosexuals are in household couples, compared with only 49 percent of gays and lesbians. Fourth, the share of adults in household couples—married or unmarried—declines after age 50 declines for gays and lesbians but remains steady for heterosexuals. This difference may reflect the much more hostile environment that older gays and lesbians experienced when young, compared with gays and lesbians born a decade or more earlier.

The relatively low share of same-sex household couples that are married in 2012-2014 partly reflects legal limitations on same-sex marriage. Figure 6 compares data on same-sex coupling in 2012-2014, comparing outcomes in Massachusetts, which legalized same-sex marriage in 2004 and Texas, which only legalized same-sex marriage after the Supreme Court's 2015 *Obergefell* decision. Marriage rates among gays and lesbians are considerably higher in Massachusetts than in Texas.

Although gay men marry and form unmarried cohabiting households at about the same rate as lesbians, gays and lesbians tend to enter into these relationships at different ages (figure 7). Lesbians enter a household partnership (couple) and marry at younger ages than do gay men. While gay men couple at later ages than lesbians, gay men are more likely to enter or remain in a same-sex partnership after age 40 than lesbians.

FIGURE 6

Share of Gays and Lesbians in Household Couples and Married by Age, 2012-2014

Massachusetts and Texas
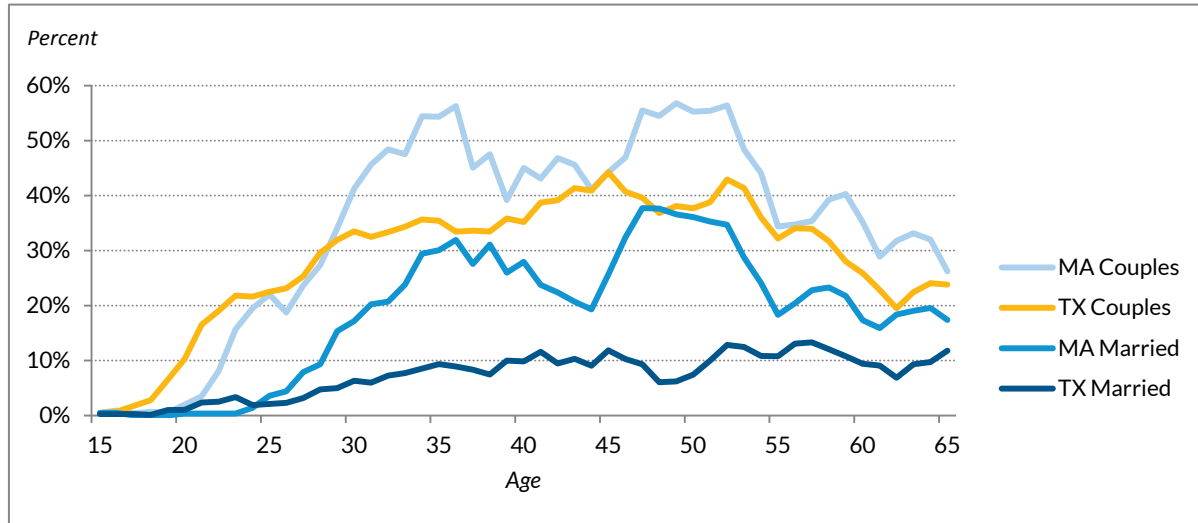
Source: Authors' calculations from the 2012-2014 American Community Survey.
Notes: Estimates are restricted to gays and lesbians ages 15 to 65 in Massachusetts and Texas. Couples include both cohabiting and married individuals in 2012-2014.

FIGURE 7

Share of Gays and Lesbians that are Coupled and Married by Age
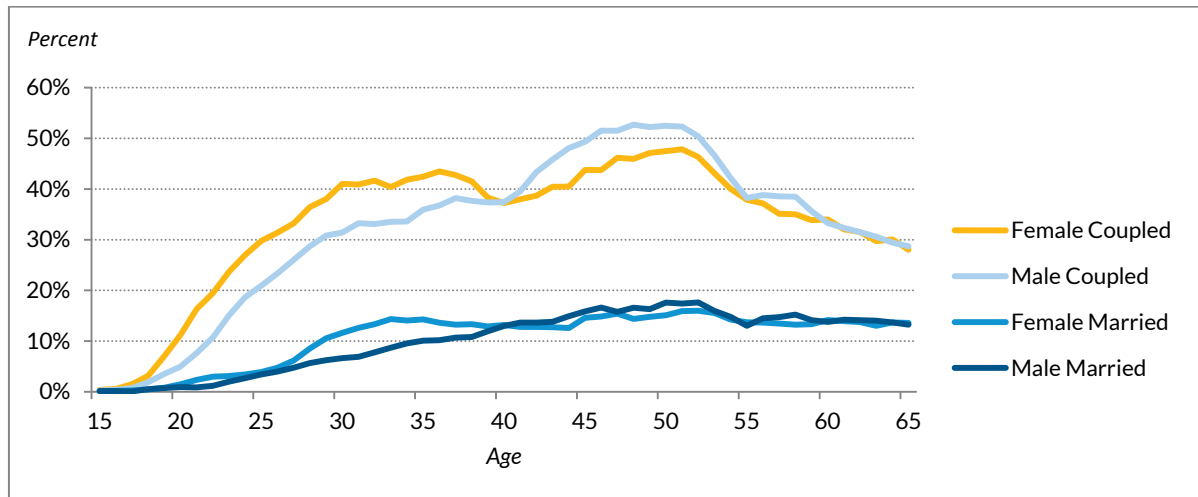
Source: Authors' calculations from the 2012-2014 American Community Survey.
Notes: Estimates are restricted to gays and lesbians ages 15 to 65. The data are smoothed by including three observations per person: one at their reported age, one at their age minus one, and one at their age plus one. See text for details.

Chapter 4: Demographic Characteristics of Same-Sex Cohabiting and Married Couples

This chapter looks at the age, educational attainment, race and ethnicity, and personal earnings of heterosexual and homosexual men and women in household couples. Along each of these four dimensions, we make three comparisons: gays and lesbians versus heterosexuals, men versus women, and married versus cohabiting couples. We also examine how age, education, race and ethnicity, and earnings differ between partners within same-sex and opposite-sex couples. These differences help determine the long-term stability of partnerships and the importance of Social Security spouse and survivor benefits to married couples. The expected duration of survivor benefits increases as the age difference between partners widens. The larger the earnings difference, the larger is the amount of Social Security spouse and survivor benefit to the lower-earner partner.

The data presented below come from the ACS. When examining differences by marital status, we used 2014 data. We limited the data for same-sex couples to those living in states that had legalized marriage before January 1, 2013, allowing same-sex couples at least two years to legally marry within their state.[3] This restriction means that the demographic characteristics of married same-sex people were more likely to be closer to their long-run averages than if all states were included. When examining differences within couples, we used pooled 2012-2014 ACS data with no state restrictions. We limit the samples to adults ages 20 and older when most adults have completed high school and are beginning to couple.

The main findings from this section are that same-sex household couples are more likely to remain unmarried at older ages while cohabitation is largely a transitional state for opposite-sex couples who quickly move into marriage as they age. Same-sex household couples are more highly educated, more non-Hispanic white, and have higher earnings than opposite-sex household couples. Same-sex household couples are also more likely to be partnered with someone in a different race and age group than opposite-sex couples but are more likely to be partnered with someone with equal earnings. Despite lower rates of marriage among same-sex household couples compared to opposite-sex household couples, cohabiting same-sex households own homes at rates similar to married couples, suggesting that these cohabiting partners are in committed relationships.

Age

The age pattern of cohabitation is different for same-sex household couples than for opposite-sex household couples. Figure 8 shows the age distribution in 2014 of eight population groups of household couples based on gender, sexual orientation, and marriage/cohabiting status. The most striking difference is the high share of people younger than age 35—the bottom two categories—among cohabiting opposite-sex couples. Because heterosexuals marry in such high numbers, opposite-sex cohabitation is generally confined to the young. Among same-sex couples, by contrast, people younger than 35 make only a slightly larger share of unmarried couples than married couples.

Opposite-sex couples are more likely to be partnered with someone in the same age group than are same-sex couples. Figure 9 shows the percentage of household heads that live with a partner in the same age categories among same-sex and opposite-sex household couples. For example, among 35 to 44 year olds, 63 percent of heads of opposite-sex couples have a partner who is in the same age range; the comparable share for same-sex couples is 47 percent. At all ages, head and partner ages are more similar for opposite-sex couples than for same-sex couples.

Age Distribution of Married and Cohabiting Couples by Sexual Orientation and Sex, 2014
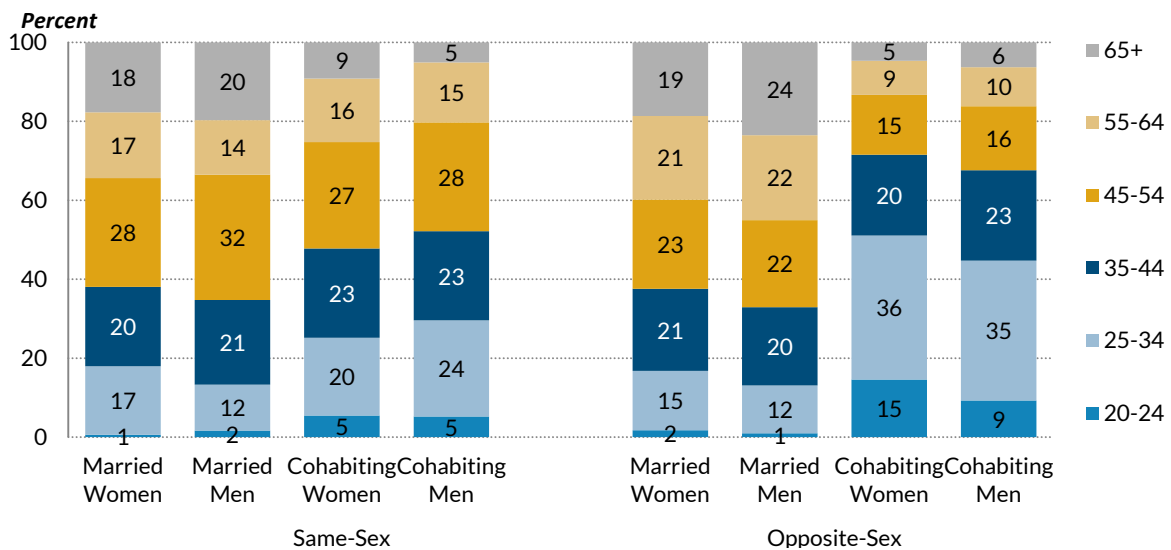
Source: Authors' calculations from the 2014 American Community Survey.
Notes: Estimates are based on cohabiting or married individuals ages 20 and older in 2014. The same-sex sample is limited to married or cohabiting same-sex individuals living in states that legalized same-sex marriage by 2012.

FIGURE 9

Percentage of Married and Cohabiting Couples Ages 20 and Older within the Same Age Group by Sexual Orientation, 2012-2014

Source: Authors' calculations from the 2012-2014 American Community Survey.
Notes: Estimates are based on cohabiting or married adults ages 20 and older in 2012-2014.

Education

For those in household couples, married and cohabiting gays and lesbians have much higher rates of college attainment than married and cohabiting heterosexuals (figure 10). While at least 50 percent of married and cohabitating gays and lesbians have a college degree, the shares for heterosexuals range from 35 percent for married heterosexual women to 20 percent for cohabiting heterosexual men. Heterosexual cohabiters have much lower rates of college completion than married heterosexual people (partly because they are younger). Among gays and lesbians, the rates of college completion do not vary much, with women cohabiters having the lowest rate (50 percent).

The higher educational attainment of same-sex couples is likely due to several factors, but the actual causes cannot be determined from our data. The observed differences may arise because gays and lesbians seek advanced education at higher rates than heterosexuals; more-educated gays and lesbians are more likely to partner than less-educated gays and lesbians; and more-educated individuals are more likely to report living with a same-sex partner than less-educated individuals.

FIGURE 10

Educational Distribution of Married and Cohabiting Couples by Sexual Orientation and Sex, 2014

Percent

Source: Authors' calculations from the 2014 American Community Survey.
Notes: Estimates refer to cohabiting or married adults ages 20 and older in 2014. The same-sex sample is limited to married or cohabiting same-sex individuals living in states that legalized same-sex marriage by 2012.

Figure 11 looks at the similarity of partners within same-sex and opposite-sex household couples. At lower education levels, same-sex couples are much less likely have a partner with the same education. This is partly driven by the high rate of college attainment among gays and lesbians. Yet another consequence of this high rate of college completion is that same-sex household heads are more likely to be partnered with another college graduate than heads of opposite-sex households.

FIGURE 11

Percentage of Married and Cohabiting Couples Ages 20 and Older with the Same Education by Sexual Orientation, 2012-2014
2012-2014
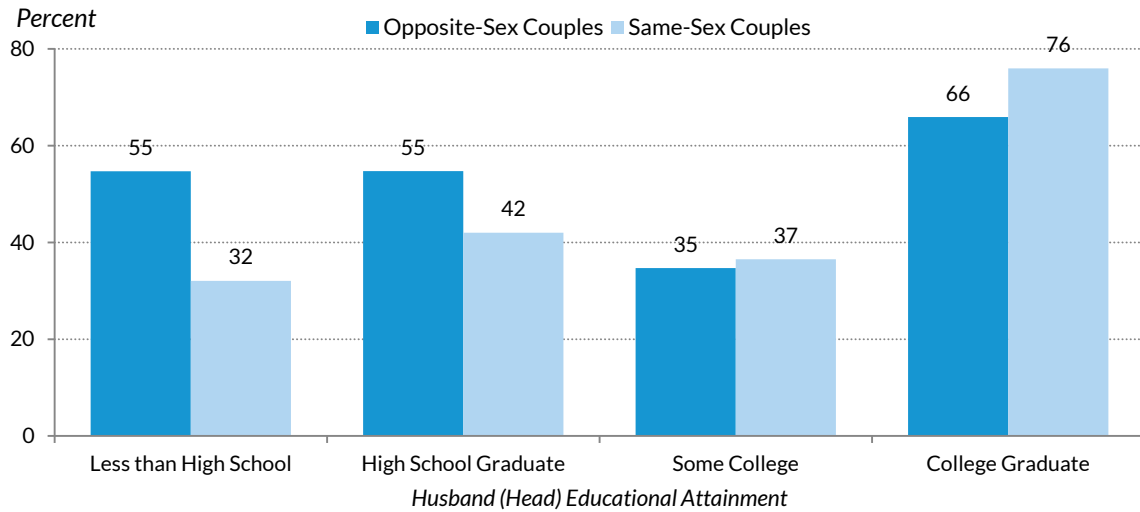
Source: Authors' calculations from the 2012-2014 American Community Survey.
Notes: Estimates refer to cohabiting or married heads ages 20 and older in 2012-2014.

Race and Ethnicity

Among married and cohabiting adults in 2014, the non-Hispanic white share among same-sex couples is much higher than the comparable share among opposite-sex couples (figure 12). Polling data indicates that sexual orientation does not differ much by race and ethnicity (Pew 2013), so this difference is driven by racial and ethnic disparities in the transition from unpartnered status to cohabitation and marriage.

Cohabiters are also slightly more likely than married people to be non-white: among heterosexual cohabiters, 62 to 65 percent are white, compared with 73 percent of heterosexual married people. Among same-sex couples, the white share is higher and the racial and ethnic difference between cohabiters and married is smaller: 81 to 82 percent of same-sex cohabiters are white versus 84 to 86 percent of married gays and lesbians.

Figure 12 also shows that there are no large gender differences and only one small one: gay men are more likely to be white if they are married than cohabiting (86 versus 81 percent), whereas the racial

and ethnic differences between married and cohabitating adults somewhat smaller among lesbians (84 versus 82 percent white).

Interestingly, Hispanics are more prevalent than blacks among married and cohabiting couples, even though the overall adult population shares are very similar, reflecting blacks' low marriage and cohabitation rates. Heterosexual Hispanics are also more prevalent among cohabiters (about 20 percent) than married couples (13 percent).

Educational Distribution of Married and Cohabiting Couples by Sexual Orientation and Sex, 2014
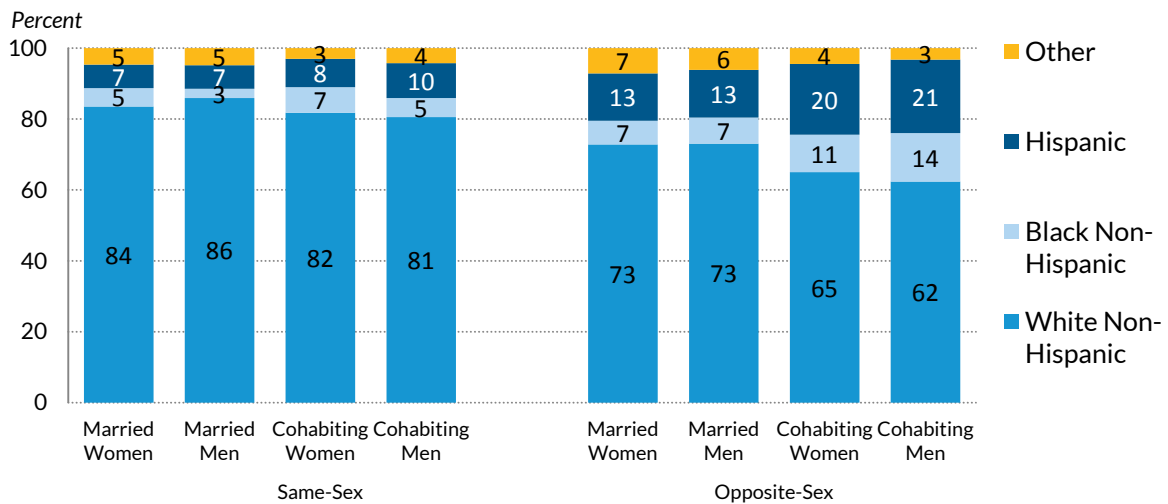
Source: Authors' calculations from the 2014 American Community Survey.
Notes: Estimates refer to cohabiting or married individuals ages 20 and older in 2014. The same-sex sample is limited to married or cohabiting same-sex individuals living in states that legalized same-sex marriage by 2012.

Same-sex household couples are less likely to be with a partner of the same race and ethnicity than opposite-sex household couples (figure 13). This difference partly reflects the relative dearth of non-whites among same-sex household couples, making it difficult for gays and lesbians of color to find partners of color, and partly reflects the openness of gays and lesbians to relating to someone different from themselves. Among white household heads, there is only a small gap in the share with white partners between opposite-sex and same-sex couples.

FIGURE 13

Percent of Married and Cohabiting Couples Ages 20 and Older in which Both Partners Belong to the Same Racial and Ethnic Group by Sexual Orientation, 2012-2014
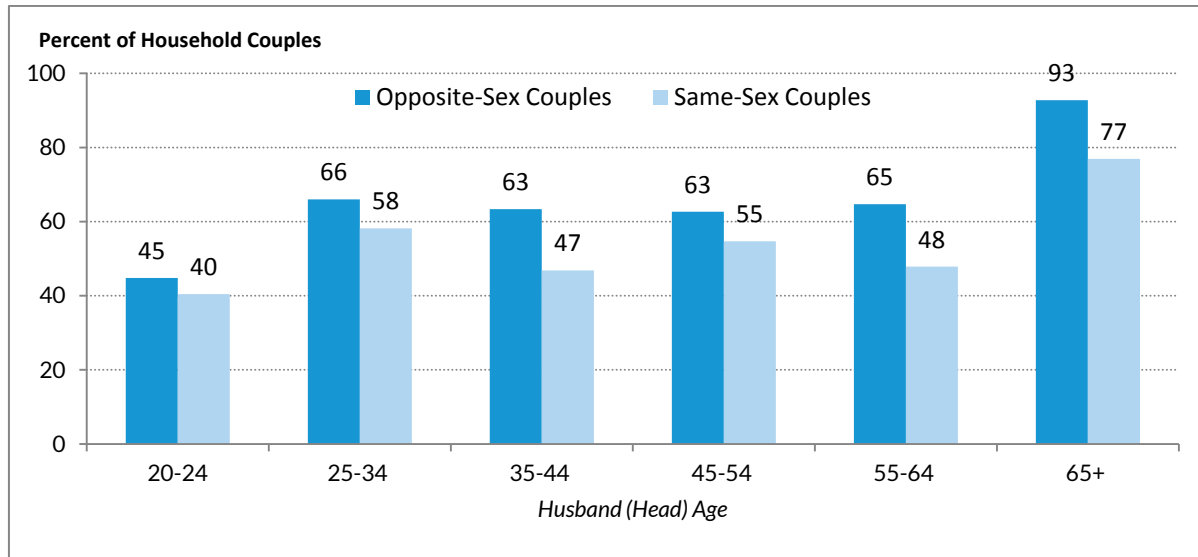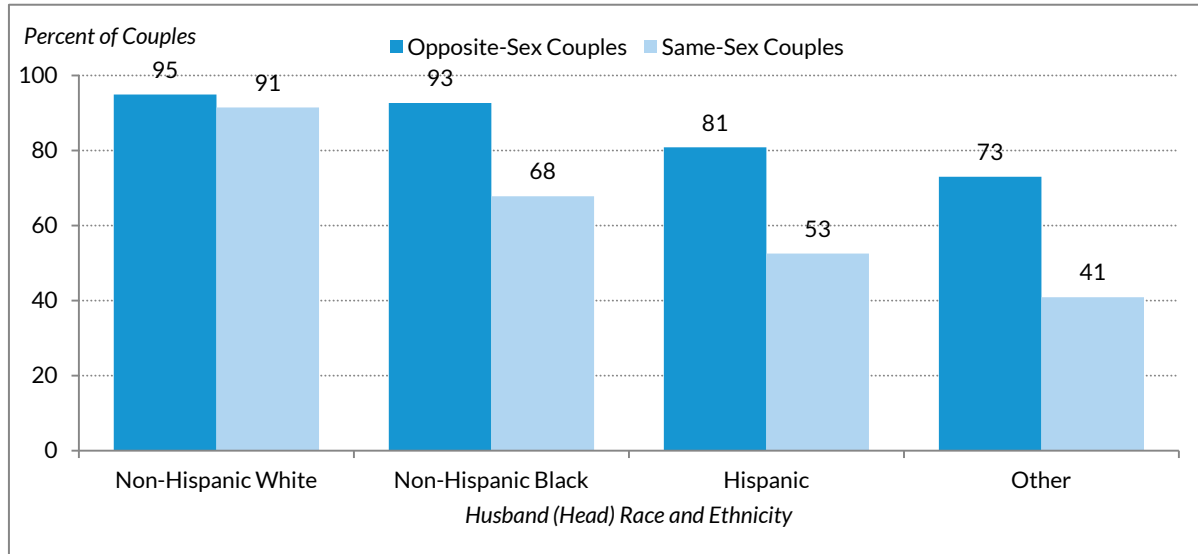

Source: Authors' calculations from the 2012-2014 American Community Survey.
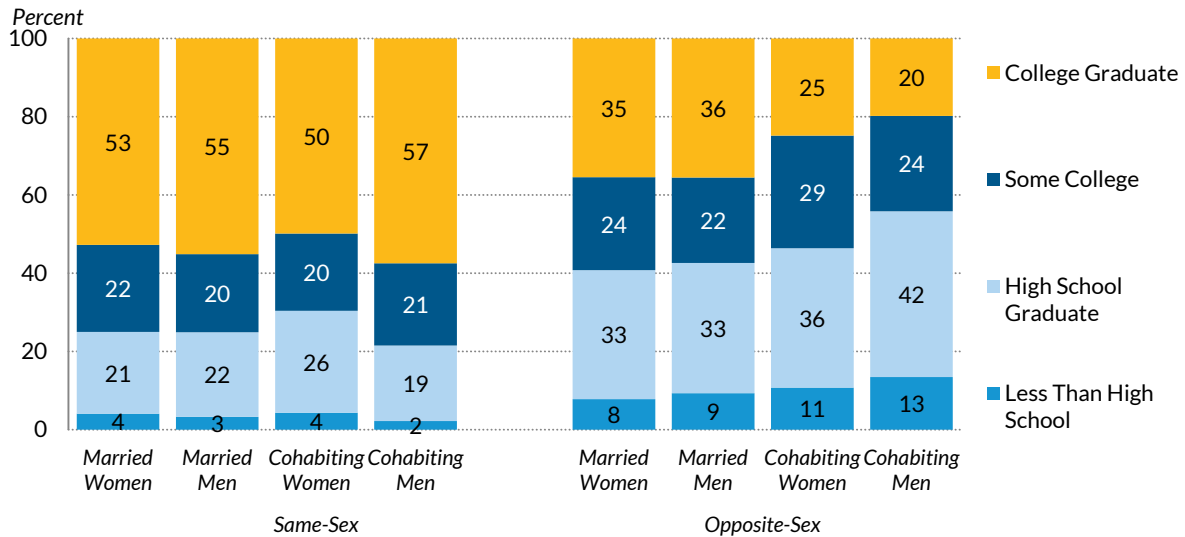**Notes:** Estimates refer to cohabiting or married couple heads ages 20 and older in 2012-2014.

Individual Earnings

Figure 14 shows the distribution of real earnings ($2015 price-adjusted dollars) across our eight population groups. First, with just one exception, women are more likely to be out of the labor force (have no earnings) than men. The exception is among married same-sex couples in which 23 percent of women and 22 percent of men have zero earnings. In contrast, 38 of women and 25 percent of men in opposite-sex marriages have no earnings. Among opposite-sex cohabiters, 23 percent of women and 15 percent of men have no earnings, while the comparable figures among same-sex cohabiters are 19 percent for women and 14 percent for men.

Second, the prevalence of high earnings (greater than $75,000 per year) varies quite a bit by gender and sexual orientation. Because gays and lesbians tend to have more education than heterosexuals, they are more likely to have high earnings. Consequently, the groups with the highest shares of high earners are gay men (36 percent for cohabiters and 34 percent for those who are married). By contrast, the share of high earners among heterosexual men is just 24 percent for those who are married and 10 percent for those cohabiting (who tend to be relatively young).

FIGURE 14

Real Earnings Distribution of Married and Cohabiting Couples by Sexual Orientation and Sex, 2014
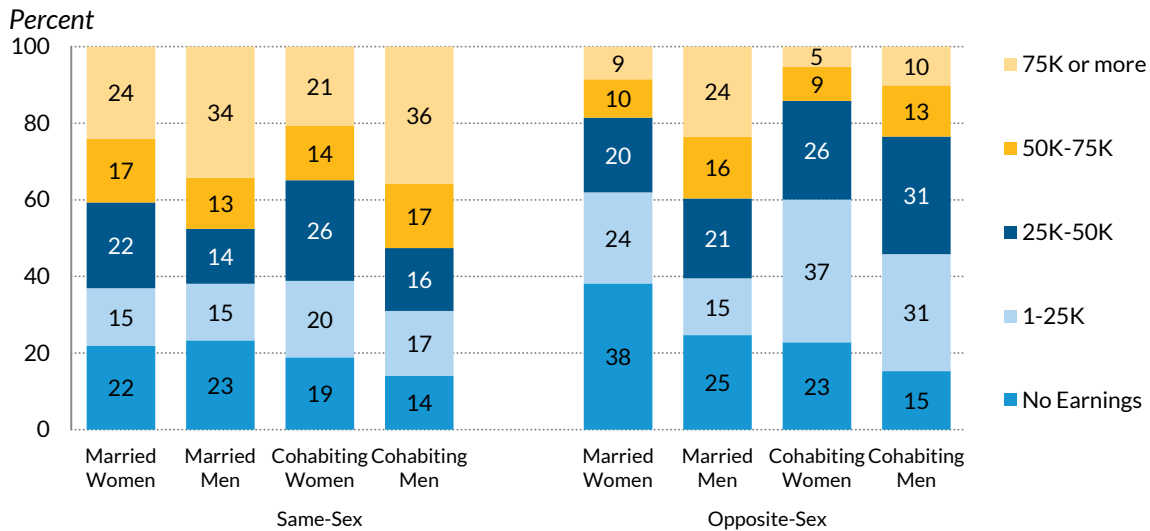
Percent

Legend:
- 75K or more
- 50K-75K
- 25K-50K
- 1-25K
- No Earnings

Same-Sex:
Category	Married Women	Married Men	Cohabiting Women	Cohabiting Men
75K or more	24	34	21	36
50K-75K	17	13	14	17
25K-50K	22	14	26	16
1-25K	15	15	20	17
No Earnings	22	23	19	14

Opposite-Sex:
| Category	Married Women	Married Men	Cohabiting Women	Cohabiting Men
75K or more	9	24	5	10
50K-75K	10	16	9	13
25K-50K	20	21	26	31
1-25K	24	15	37	31
No Earnings	38	25	23	15

Source: Authors' calculations from the 2014 American Community Survey.
Notes: Estimates refer to cohabiting or married individuals ages 20 and older in 2014. The same-sex sample is limited to married or cohabiting same-sex individuals living in states that legalized same-sex marriage by 2012.

Third, many lesbians have high earnings, including 24 percent of those who are married—the same share as for men in opposite-sex marriages—and 21 percent of those cohabiting—more than twice the rate as for men in opposite-sex cohabiting couples. A much lower share of heterosexual women are high earners—9 percent of those married and 5 percent of those cohabiting.

Despite strong differences by sexual orientation and marriage in earnings distributions among people in household couples, partners in same-sex couples are only somewhat more likely than partners in opposite sex couples to have similar earnings. In the middle of the earnings scale (between $25,000 and $75,000), the share of couples in which partners have similar earnings is nearly identical in same-sex and opposite-sex couples (figure 15). For household heads at the top and bottom of the earnings scale (those with less than $25,000 in earnings and those earning at least $75,000), same-sex couples are slightly more likely than opposite couples to be with someone with the same earnings level.

Whether married adults receive Social Security spouse and survivor benefits and how much they gain depends on how much their lifetime earnings differed from their spouse's lifetime earnings. The relatively low share of same-sex household couples in which both partners have similar cross-sectional earnings suggests that many married gays and lesbians could eventually receive Social Security spouse

and survivor benefits and that the legalization of same-sex marriage could boost their future retirement incomes.

FIGURE 15

Percentage of Married and Cohabiting Couples Ages 20 and Older in which Both Partners Have Similar Earnings, 2012-2014

By Sexual Orientation and Household Head's Earnings
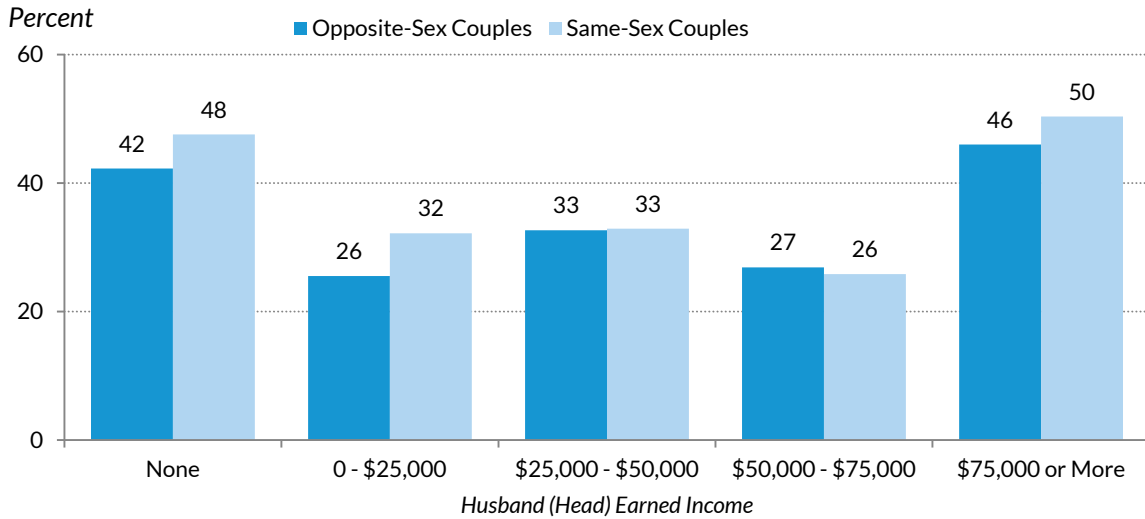
Percent

Legend: ■ Opposite-Sex Couples ■ Same-Sex Couples

Husband (Head) Earned Income	Opposite-Sex Couples	Same-Sex Couples
None	42	48
0 - $25,000	26	32
$25,000 - $50,000	33	33
$50,000 - $75,000	27	26
$75,000 or More	46	50

Source: Authors' calculations from the 2012-2014 American Community Survey.
Notes: Estimates refer to cohabiting or married heads ages 20 and older in 2012-2014.

Housing Wealth of Same-Sex and Opposite-Sex Couples

Among heterosexual household couples, married couples are much more likely to own their homes at all ages under 65 than unmarried couples (figure 16). By contrast, among same-sex couples, the home ownership rate is only slightly lower for cohabiters than for married couples (figure 17). This suggests that many unmarried same-sex couples are in committed relationships and willing to pool resources and purchase a home together.

FIGURE 16

Opposite-Sex Home Ownership, Married versus Cohabiting, 2012-2014
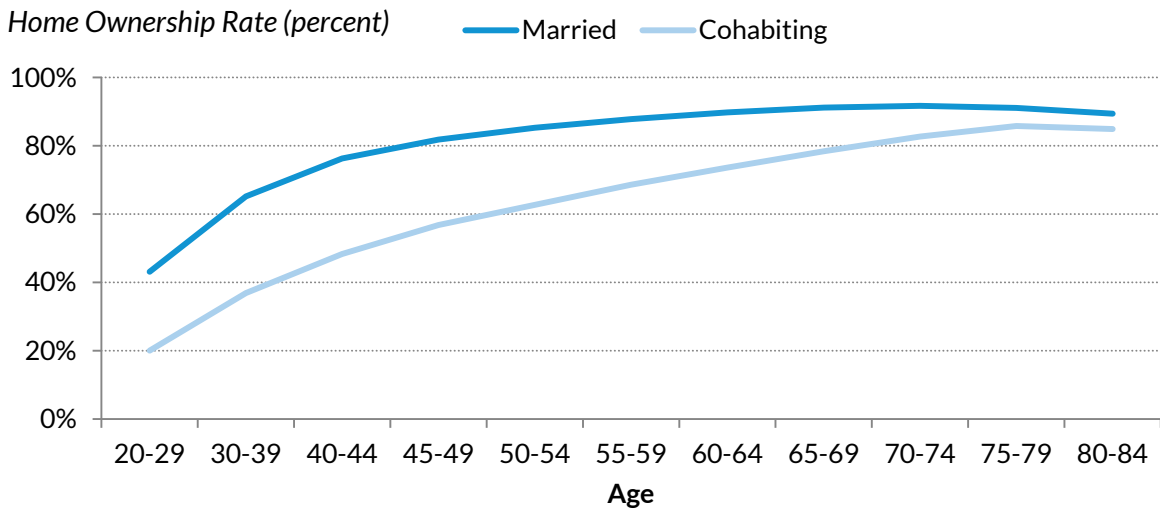
Home Ownership Rate (percent)

Source: Authors' tabulations of 2012-2014 American Community Survey.
Notes: Estimates refer to opposite-sex married and cohabiting household heads ages 20 and older in 2012-2014.

FIGURE 17

Same-Sex Home Ownership, Married versus Cohabiting, 2012-2014
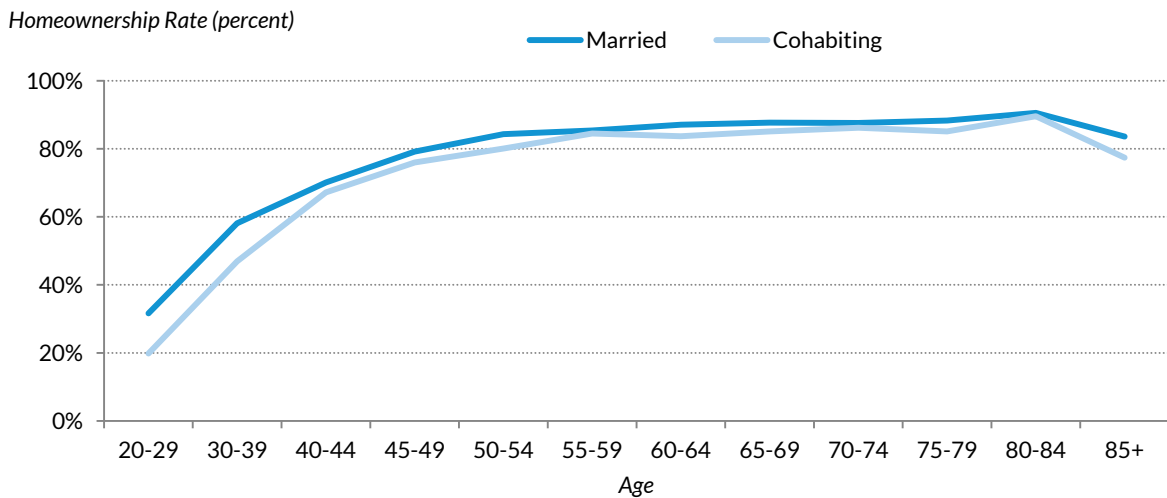
Homeownership Rate (percent)

Source: Authors' tabulations of 2012-2014 American Community Survey.
Notes: The figure includes same-sex married and cohabiting household heads ages 20 and older in 2012-2014.

Home ownership rates of married couples are almost identical across all ages for opposite-sex and same-sex couples (figure 18). This underscores the similarity of decision-making about this major purchase for same-sex couples with opposite-sex couples. In fact, same-sex married and same-sex cohabiters tend to own homes of greater value than opposite-sex married couples, while home values are lowest for opposite-sex cohabiters (figure 19). Higher home values among same-sex couples reflect their tendency to live in high-cost urban areas and to be college educated. The high homeownership rates and home values of cohabiting same-sex couples show that same-sex commitments are common and comparable to married opposite-sex couples.

Married Opposite-Sex and Same-Sex Couples, Home Ownership Rate, 2012-2014
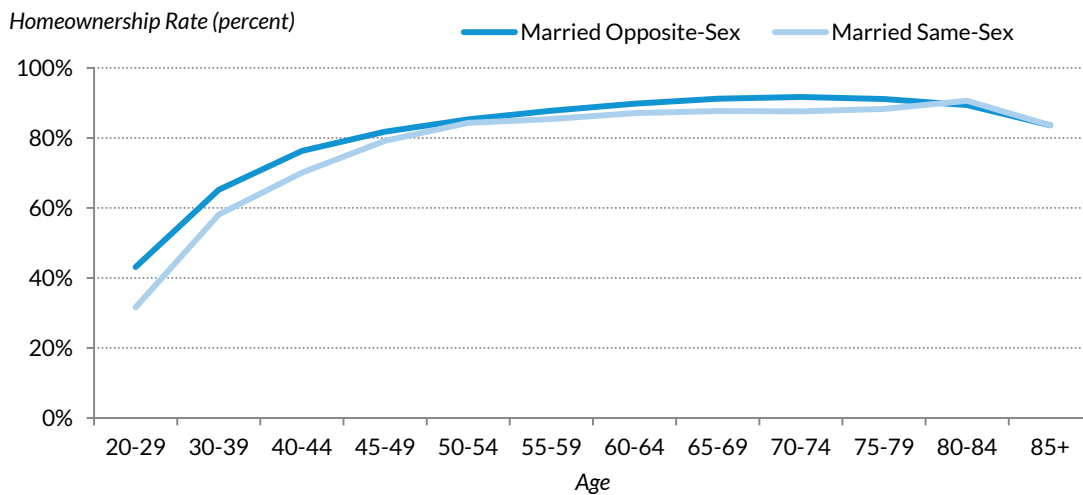
Source: Authors' tabulations of 2012-2014 American Community Survey.
Notes: Figure includes married opposite-sex and married same-sex household heads ages 20 and older in 2012-2014.

FIGURE 19

Average Home Values among Homeowners among Opposite-Sex Married and Same-Sex Married and Cohabiting, by Age, 2012-2014
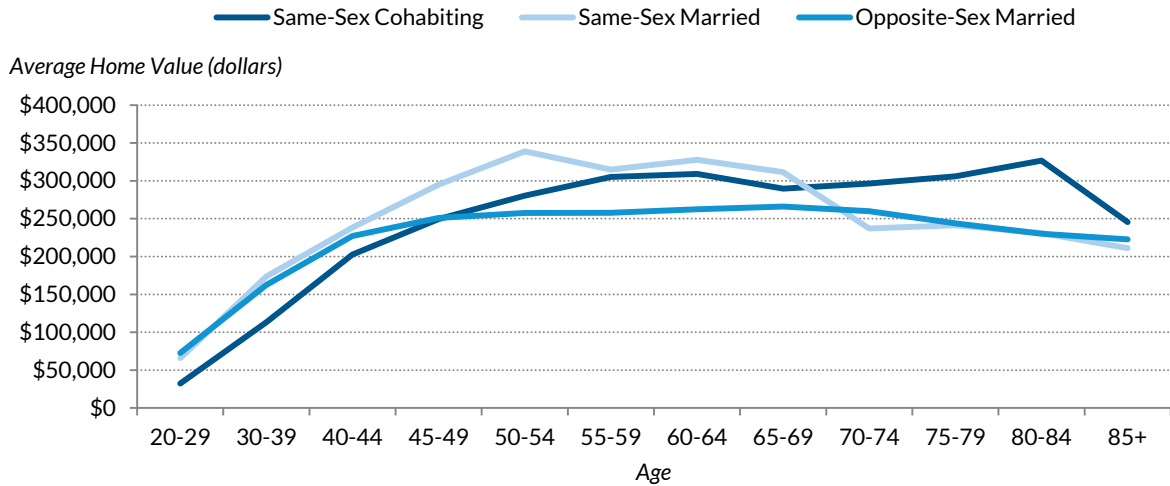
Source: Authors' tabulations of 2012-2014 American Community Survey.

Notes: Figure includes opposite-sex married, same-sex married, and same-sex cohabiting household heads ages 20 and older in 2012-2014 who own their home (with or without a mortgage). Home values are in nominal dollars.

Chapter 5: Estimation Models

As people move through life, their marital status and living arrangements often change. In this chapter, we show the parameter estimates for hazard models describing these decisions. We estimated hazard models for individual transitions from 1) unpartnered to cohabitating, 2) from cohabitating to married or separated (i.e., leave the cohabitating relationship before marriage), 3) from married to separated, and 4) from separated to divorced. Some household couples transition directly from unpartnered to married—that is, the duration of their cohabitation spell when the marriage begins is zero years. These transitions are shown in figure 20. Individuals are subject to an annual mortality hazard. Widows enter the unpartnered pool the year after their spouse dies.

Same-Sex Cohabitation

No longitudinal data exists for same-sex couples with sufficient sample size for estimating cohabitation, marriage, divorce, and separation hazards. We used cross-sectional ACS data to estimate cohabitation and marriage hazards for same-sex individuals. We used hazard models estimated with data on opposite-sex couples to generate divorce and separation probabilities for same-sex couples.

We calculated annual same-sex cohabitation rates by measuring the change in the share of the gay and lesbian population that transition from an unpartnered state to a partnered state at each age in pooled 2012-2014 ACS data. We calculated these hazards separately for men and women by single year of age and race using the following equations:

1. cohab(t+1) = cohab(t) - die(t+1) - marry(t+1) -sep(t+1) + newcohab(t+1)

2. newcohab(t+1) = cohab(t+1) - cohab(t) + die(t+1)+marry(t+1)+sep(t+1)

3. cohabitation rate = newcohab(t+1)/unpartnered(t)

where *cohab* is the number of gays and lesbians cohabiting, *die* is the number estimated to die using age- and gender-specific mortality probabilities, *marry* is the number who marry, *sep* is the number who separate using age- and gender-specific divorce probabilities from opposite-sex couples, and *newcohab* is the number who enter a cohabiting union.

FIGURE 20

Flowchart of Demographic Hazards
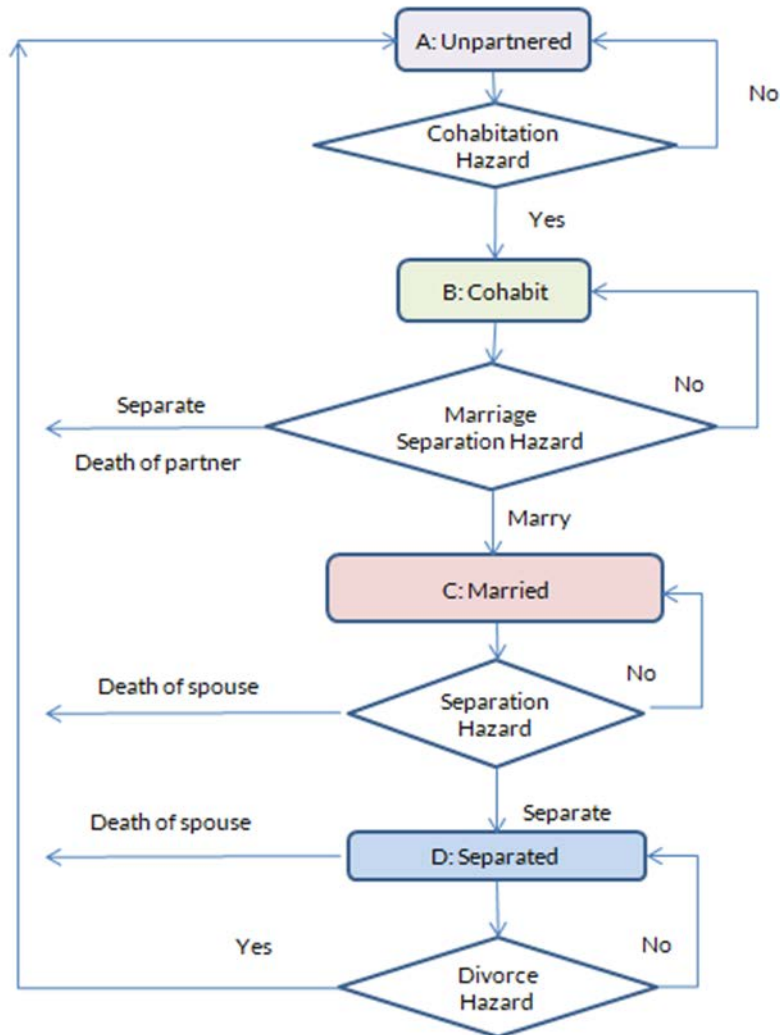
Source: Updated DYNASIM4 demographic hazard models.

Appendix B shows our estimated same-sex cohabitation hazards by sex, age, and race and ethnicity. Figures 21 and 22 show the cohabitation hazards for same-sex women and men respectively. Non-Hispanic whites cohabit at higher rates than same-sex individuals of color. Lesbians enter cohabitation at younger ages than gay men.

FIGURE 21

Cohabitation Hazard Rate by Age and Race for Lesbian Women
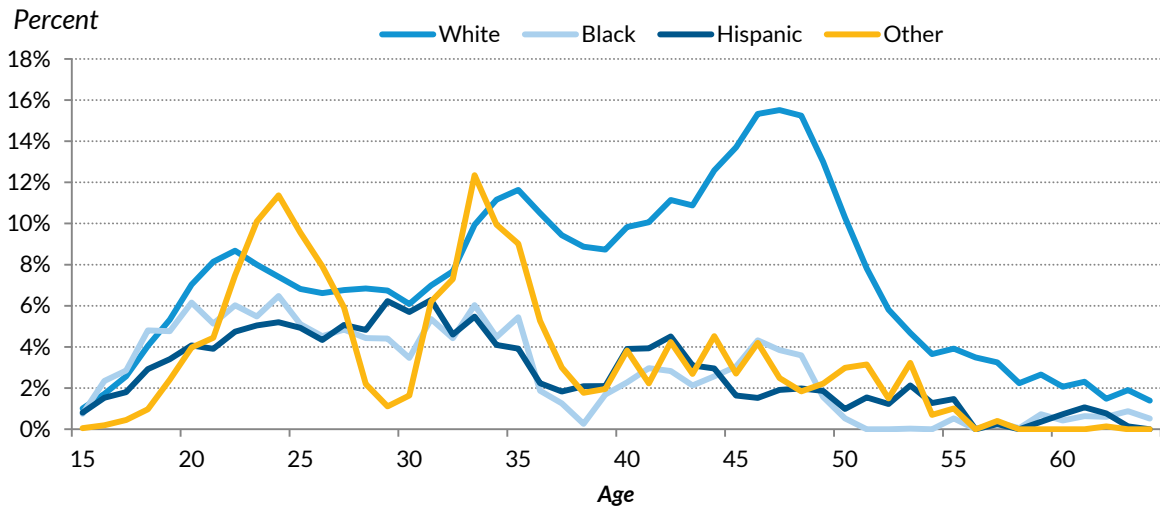
Source: Authors' calculations from 2012-2014 American Community Survey.

FIGURE 22

Cohabitation Hazard Rate by Age and Race for Gay Men
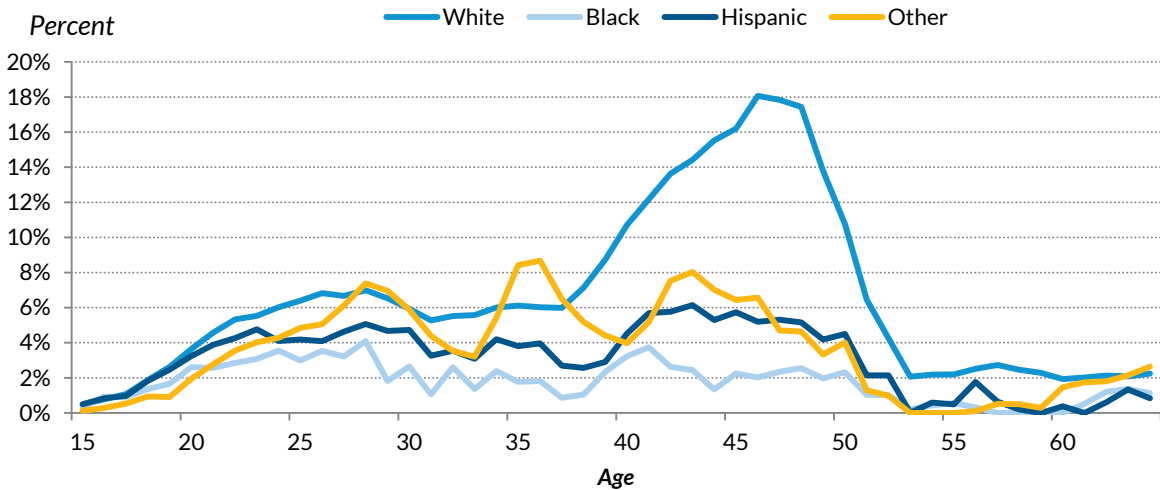
Source: Authors' calculations from 2012-2014 American Community Survey.

Mate-Matching

For each individual selected to transition from an unpartnered state to a partnered state, we imputed the characteristics of the desired partner using the distribution of observed characteristics of newly married couples in 2010-2014 ACS data. We did this separately for same-sex male couples, same-sex female couples, and opposite-sex couples. Ideally, we would have used the characteristics of new cohabitants to define the characteristics of newly coresiding couples, but we could not observe new cohabitation on the ACS. Instead we used the characteristics of couples that were *married* within the last 12 months.

Unlike the characteristics of all household couples described in Chapter 4, these partner characteristics are limited to newly married couples. This limitation is important mainly because the age difference between new partners tends to be larger for relationships that occur at older ages than at younger ages. Table 2 shows the distribution of the household head's age by partner's age for newly married same-sex female couples, same-sex male couples, and opposite-sex couples. Table 3 shows the distribution of the household head's education by partner's education for newly married female couples, same-sex male couples, and opposite-sex couples. Table 4 shows the distribution of the household head's race and ethnicity by the partner's race and ethnicity for newly married same-sex women, same-sex men, and heterosexual couples.

TABLE 2

Distribution of Household Head's Age by Partner's Age and Couple Type

	Row Percent					
	15-24	25-34	35-44	45-54	55-64	65+
Partner Age	Same-Sex Female Head Age					
15-24	46	31	11	8	4	1
25-34	9	59	23	6	2	1
35-44	1	17	49	28	4	1
45-54	0	2	17	56	20	4
55-64	0	1	4	30	47	18
65+	0	0	1	6	27	66
	Same-Sex Male Head Age					
15-24	36	37	15	9	3	1
25-34	5	55	25	11	3	1
35-44	1	13	43	33	8	2
45-54	0	2	18	51	22	6
55-64	0	1	6	28	45	20
65+	0	0	1	10	30	58
	Opposite-Sex Male Age					
15-24	51	44	4	1	0	0
25-34	6	67	22	3	0	0
35-44	1	16	53	25	4	1
45-54	0	3	19	52	22	4
55-64	0	1	4	23	49	22
65+	0	0	1	5	20	73

Source: Authors' calculations from the 2010-2014 American Community Survey.

Notes: Estimates includes all opposite-sex couples ages 18 to 80 that were married in the past 12 months and same-sex couples ages 18 to 80 that were cohabiting or married in the past 12 months. Row percents may not add to 100 due to rounding.

TABLE 3

Distribution of Household Head's Education by Partner's Education and Couple Type

Partner Education	Row Percent				
	Less than High School	High School Graduate	Some College	College Graduate	Post Graduate
	Same-Sex Female Head Education				
Less than High School	26	43	21	6	4
High School Graduate	7	43	29	14	8
Some College	3	22	37	25	14
College Graduate	1	10	19	40	30
Post Graduate	0	5	11	28	56
	Same-Sex Male Head Education				
Less than High School	30	35	20	10	5
High School Graduate	6	34	27	21	12
Some College	2	18	34	28	18
College Graduate	1	9	19	41	31
Post Graduate	0	6	14	31	49
	Opposite-Sex Male Education				
Less than High School	50	37	10	2	1
High School Graduate	15	57	20	6	2
Some College	7	41	36	12	3
College Graduate	2	22	26	39	12
Post Graduate	2	15	19	34	31

Source: Authors' calculations from the 2010-2014 American Community Survey.
Notes: Estimates include all opposite-sex couples ages 18 to 80 that were married in the past 12 months and same-sex couples ages 18 to 80 that were cohabiting or married in the past 12 months. Row percents may not add to 100 due to rounding.

TABLE 4

Distribution of Household Head's Race and Ethnicity by Partner's Race and Ethnicity and Couple Type

Partner Race	Row Percent			
	White Non-Hispanic	Black Non-Hispanic	Hispanic	Other
	Same-Sex Female Head Race			
White Non-Hispanic	92	2	5	1
Black Non-Hispanic	21	72	6	2
Hispanic	36	4	58	2
Other	46	4	7	43
	Same-Sex Male Head Race			
White Non-Hispanic	89	2	6	3
Black Non-Hispanic	39	54	5	1
Hispanic	53	3	42	1
Other	67	1	8	24
	Opposite-Sex Male Head Race			
White Non-Hispanic	89	4	5	1
Black Non-Hispanic	7	90	3	1
Hispanic	16	4	78	1
Other	36	5	8	51

Source: Authors' calculations from the 2010-2014 American Community Survey.
Notes: Estimates include all opposite-sex couples age 18 to 80 that were married in the past 12 months and same-sex couples ages 18 to 80 that were cohabiting or married in the past 12 months. Row percents may not add to 100 due to rounding.

For each individual projected to transition from an unpartnered state to a partnered state, DYNASIM used these distributions to impute the age, race, and education of the partner. For all heterosexual individuals seeking a partner, DYNASIM compared the woman's characteristics with the man's characteristics and found the best match using a minimum distance function. For gays and lesbians, men were matched with other men and women were matched with other women. In all cases, matched household couples were incrementally removed from the mate market until the market cleared (i.e., there were no partners left to choose). Anyone left in the mate market without a valid

match remained unmatched. The minimum distance function selected the best match among all valid choices, but the selected partner did not necessarily match on all desired characteristics.

Same-Sex Marriage

We estimated a same-sex marriage hazard model using the 2012-2014 ACS data. We restricted the sample to individuals ages 15 and older living with a same-sex partner in states that legalized marriage before 2014. The sample includes all unmarried respondents and those married in the past 12 months. We estimated separate logistic hazard models for men and women (Appendix C includes summary statistics for the estimation samples and logistic parameter estimates).

We include age as a series of piece-wise linear splines with kinks at ages 20, 25, 30, 40, 50, and 55 (Barron and Kastberg 2016).The age splines include more inflection points at younger ages when the marriage rates change more quickly and fewer inflection points at older ages when marriage rates flatten out. We estimated the probability of marriage relative to the year that same-sex marriage was legalized in each couples' state of residence. We also examined marriage probabilities by race (omitting the non-Hispanic whites as the reference group) and education (omitting high school graduates as the reference group). We included the absolute value of the difference in partner ages and education and, for the female marriage model, the presence of children.

Figures 23 and 24 compare actual (report getting married in the last 12 months) and predicted marriage rates by age for same-sex female and male household couples, respectively. Marriage patterns differed substantially for men and women. Female same-sex marriage probabilities increased from ages 20 to 40 and then remained fairly level. Male same-sex marriage probabilities were lower than female probabilities at younger ages, but increased steadily with age through age 80.

FIGURE 23

Actual and Predicted Probability of Marriage by Age among Female Same-Sex Household Couples
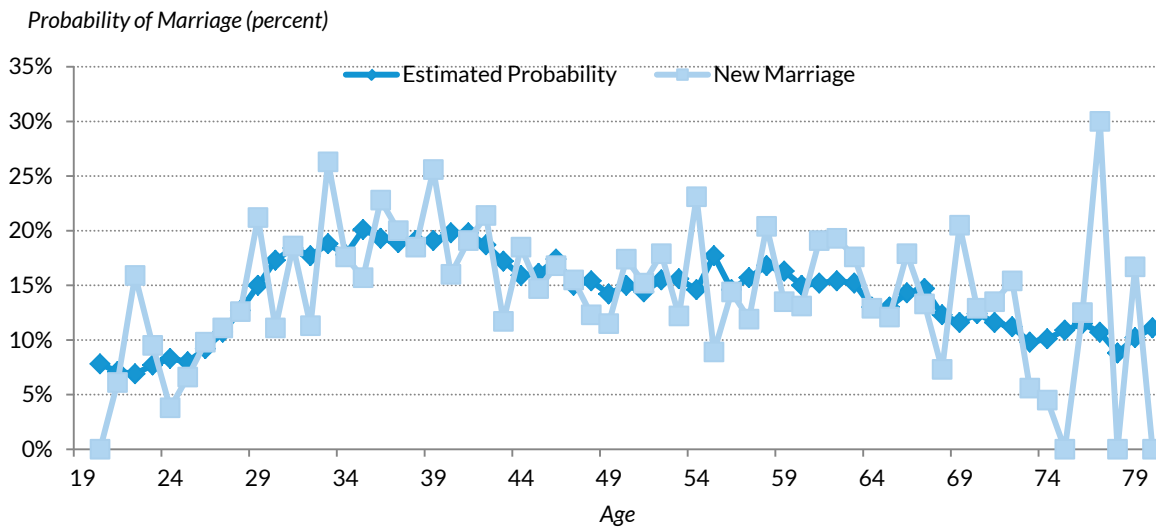
Probability of Marriage (percent)

Source: Authors estimates from the 2012-2014 American Community Survey.
Notes: Estimates were based on a sample of women ages 20 and older living with a same-sex partner in a state that legalized same-sex marriage before 2014. The sample included all unmarried women and women married in the prior 12 months. .

FIGURE 25

Actual and Predicted Probability of Marriage by Age among Male Same-Sex Household Couples
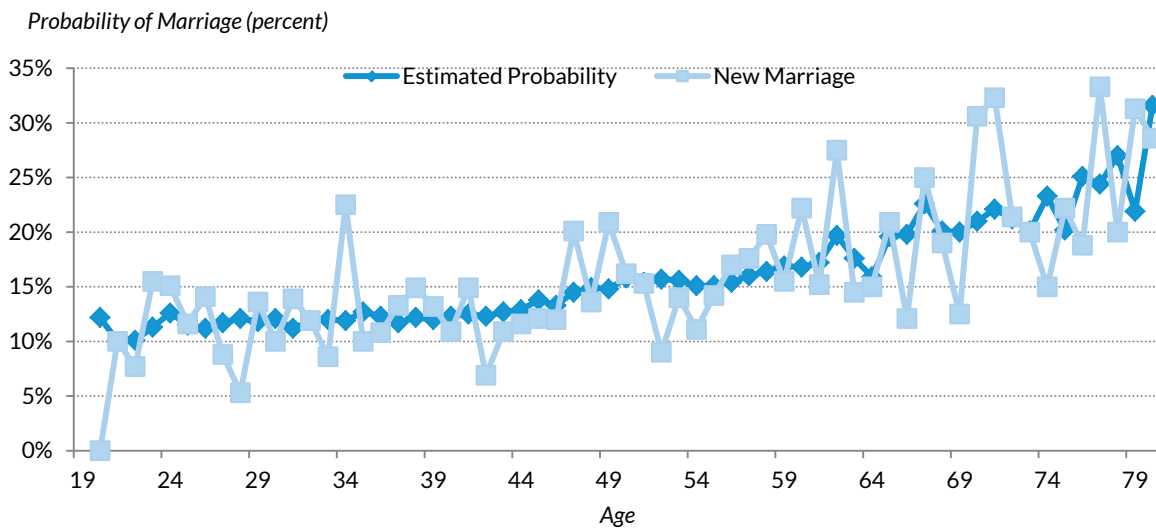
Probability of Marriage (percent)

Source: Authors estimates from the 2012-2014 American Community Survey.
Notes: Estimates were based on a sample of men ages 20 and older living with a same-sex partner in a state that legalized same-sex marriage before 2014. The sample included all unmarried men and men married in the prior 12 months.

Opposite-Sex Marriage

For heterosexuals, we estimated demographic hazard probabilities using detailed information on changes in marital status and living arrangements available in the 1979 National Longitudinal Survey of Youth (NLYS79) and the 1997 National Longitudinal Survey of Youth (NLSY97).

The NLSY79 is a nationally representative sample of 12,686 young men and women who were ages 14 to 22 when they were first surveyed in 1979. These individuals were interviewed annually through 2002 and biennially thereafter. Currently, the NLSY79 includes data from ages 15 to 55 for years 1979 to 2012. The NLSY97 consists of a nationally representative sample of approximately 9,000 youths who were ages 12 to 16 on December 31, 1996. Round 1 of the survey took place in 1997. These individuals were interviewed annually from 1997 to 2011 and again in 2013. Currently, the NLSY97 includes data from ages 13 to 33 for years 1997 to 2013. During the biennial survey periods, the survey collects annual retrospective data on coresidency, marriage, divorce, and separation.

Both NLSY79 and NLSY97 include basic demographic information including age, sex, education, marital status, and number and duration of marriages. They also include information on labor force participation and earnings, number and ages of children, relationship to all members of the family, and some parental information. In addition, they collect data on the current partner's age, race, education, and labor force participation.

Appendix D shows estimated logistic cohabitation hazard models for heterosexual men and women by race and ethnicity. Appendix E shows estimated logistic marriage and separation hazard models for opposite-sex cohabiting couples. Appendix F shows estimated logistic separation hazard models for married couples. Appendix G shows estimated logistic divorce models for separated married couples.

Chapter 6: Projection Results

This chapter describes our DYNASIM simulation results showing how legal recognition of same-sex marriage will affect government spending and revenues and family incomes. Same-sex marriage will provide some gays and lesbians with spouse and survivor Social Security benefits, raising retirement incomes and Social Security outlays. It will also affect federal income tax payments, as same-sex spouses pool their incomes and file tax returns jointly. In addition, same-sex marriage will change eligibility for SSI and affect take-up of Medicare Part B and Part D coverage, as some married gays and lesbians gain access to their spouse's employer-sponsored health plans.

We benchmarked DYNASIM's starting number of same-sex couples (married or cohabiting) to data from the 2013 and 2014 ACS by age, sex, and state. We assigned lesbian and gay status to all cohabiting same-sex couples and imputed lesbian and gay status to unpartnered, never married individuals such that the lesbian and gay share was 1.8 percent at each age.

Because of the uncertainty of how high same-sex marriage rates will be, we simulated low, medium, and high estimates of number of same-sex marriages using benchmarks derived from current data. Nationally, 89 percent of opposite-sex household couples are now married, compared with only 59 percent of same-sex household couples in Massachusetts, the state that first legalized same-sex marriage in 2004. We used the 89 percent figure for the high estimate of the share of same-sex household couples that will be married. We used the 59 percent figure for the moderate estimate of the married share among same-sex household couples. Finally, we used a 45 percent target for our low estimate based on the average same-sex married share among all states that legalized same-sex marriage before 2015.

We used the Urban Institute's DYNASIM microsimulation model to simulate four scenarios: one that assumed that neither the federal government nor any of the states recognized same-sex marriage, and three that assumed complete recognition of same-sex marriage by the federal government and all of the states, but which differed in the prevalence of same-sex marriage, corresponding to our low, medium, and high same-sex marriage prevalence rates. In all four scenarios, DYNASIM projected outcomes from 2007 to 2065. We used the difference in the simulated outcomes compared to the no-same-sex marriage baseline to estimate the distributional impact of legal recognition of same-sex marriage under the low, medium, and high prevalence scenarios.

For each simulation, DYNASIM projects annual demographic transitions for all individuals including cohabitation, marriage, separation, divorce, birth, death, disability, retirement, and benefit claiming. It

also projects major sources of income and wealth, including pensions from employer-sponsored defined benefit (DB) plans, cash balance plans, and retirement accounts—defined contribution (DC) plans, individual retirement accounts (IRAs), and Keoghs. Using information about marital status, living arrangements, and partner characteristics, DYNASIM calculates Social Security benefits, payroll taxes, federal and state income taxes, and health insurance coverage and premiums. For more information about DYNASIM see Favreault, Smith, and Johnson (2016).

Many modeled outcomes in DYNASIM use marital status and spousal characteristics to predict demographic transitions and income and asset levels including fertility, death, employment, wealth, pensions, health insurance, Social Security benefit claiming, and joint and survivor pension selection. Adding same-sex marriage to DYNASIM alters these behaviors for same-sex couples who marry. For our four simulations, however, we retained the medium-marriage rate simulation for fertility, mortality, employment, and earnings projections and allowed only wealth and pension accumulations and calculated taxes and benefits associated with legal marriage to vary across the different scenarios.

We compare before- and after-tax retirement incomes in 2015, 2025, 2035, 2045, 2055, and 2065 for gays and lesbians ages 62 and older for the four scenarios by age, sex, marital status, education, number of work years, lifetime earnings quintile, and retirement income quintile and compare them to the baseline scenario that excludes same-sex marriage. Differences in the low, medium, and high scenarios compared with the baseline provide information on the size and direction of the impact of the Supreme Court's recent same-sex marriage decisions on retirement income.

Our output also includes annual Social Security trust fund balances, federal income tax revenue, Medicare surtax, and SSI benefits for the baseline and three scenarios. For each year, we estimate the impact of federal recognition of same-sex marriages on government budgets for the three prevalence scenarios compared with the no same-sex marriage scenario.

Projections of Share of Same-Sex Marriages

DYNASIM starts with an initial sample based on data from the 2004 and 2008 panels of the Survey of Income and Program Participation aligned to start in 2006. It then mimics what happens in the real world: People get older, cohabit and marry, and, if they are cohabiting or married, they may separate and divorce. Children are born and people die. Figure 25 shows the evolution of the share of same-sex adults in household couples who are married for the low, medium, and high marriage simulations. Many states did not legalize same-sex marriage until 2015, although some same-sex couples in all states were

married before 2015 because they were married in other states which already recognized same-sex marriage.

Share of Same-Sex Household Couples that are Married by Simulation, 2006-2065
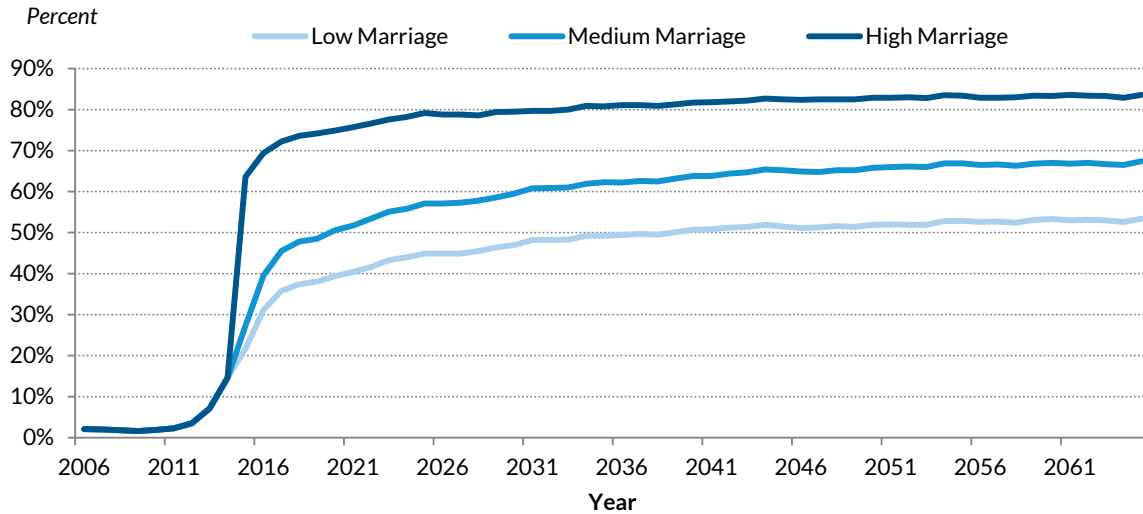
Figure 25 reflects the reality that it takes time for same-sex people to take full advantage of their legal right to marry, partially because some gays and lesbians start out unpartnered and have to find someone whom they might marry. Our medium marriage rate simulation moves towards an equilibrium marriage rate of about 65 percent, slightly higher than the same-sex marriage rate observed in Massachusetts in 2012-2104 because the population is aging and marriage is becoming more stable. The alternative marriage rate simulations generate marriage shares among same-sex couples that are about 10 percentage points higher and 10 percentage points lower than in the medium scenario.

To project future outcomes, DYNASIM simulates what happens to people as they age. As a result, some people move from being single to cohabiting to married, while others separate, divorce, or become widowed, sometimes followed by recoupling and remarriage. Figure 26 compares the share of gays and lesbians who are in household couples (married and cohabiting) by age in 2012-2014 (from the ACS) and as projected by DYNASIM over the period 2031 to 2036.

FIGURE 26

Share of Gays and Lesbians in Household Couples by Age and Year

Percent

Legend: 2012-2014 — 2031-2036

Age
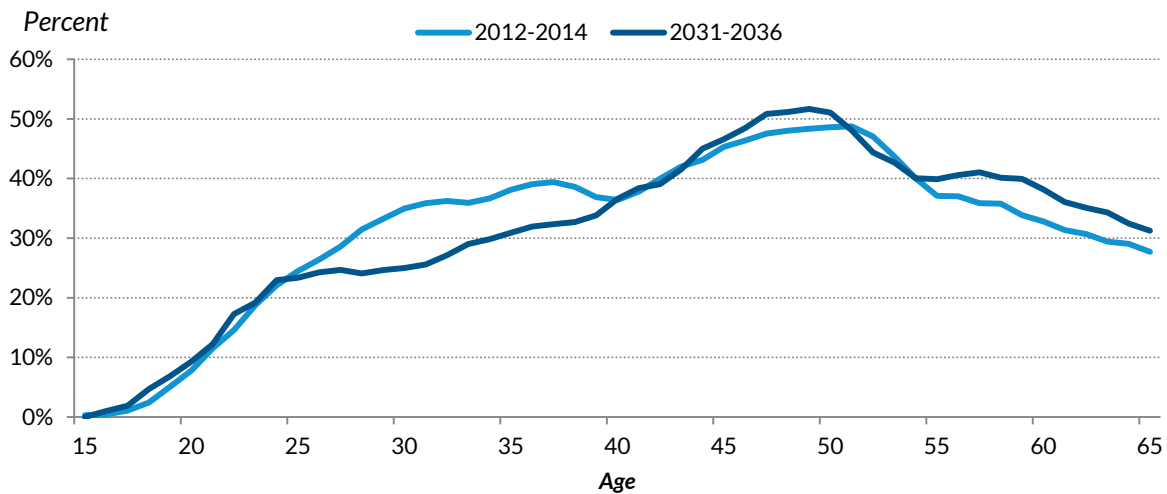
Source: American Community Survey 2012-2014 and DYNASIM4 ID 938 medium same-sex marriage simulation.
Notes: The sample includes all cohabiting gays and lesbians ages 15 to 65. Individuals are coupled if they live with a same-sex partner.

The two lines in figure 26 substantially overlap but differ in a couple of age ranges. From about ages 25 to 40, the share of gays and lesbians in household couples is slightly higher in 2012-2014 than in the simulations for 2031-2036. Although the difference is not large, this discrepancy is driven by a long-term trend away from marriage and cohabitation, regardless of sexual orientation. For ages 40 to 55, the 2031-2036 projections track closely with 2012-2014 ACS values. After age 58, however, the 2031-2036 projections show a slightly higher rate of coupling than the 2012-2014 ACS. The simulations account for a number of factors, including lower separation rates as people age and lower death rates for people in couples than those who are unattached.

Figure 27 shows the shares of gays and lesbians, by age, who are married in the low, medium, and high marriage rate simulations. The high marriage rate simulation has the largest impact on the married share for those under 55, while the low rate trails substantially below the medium rate after age 30.

FIGURE 27

Share of Gays and Lesbians Who Are Married by Age and Marriage Rate Option, 2031-2035
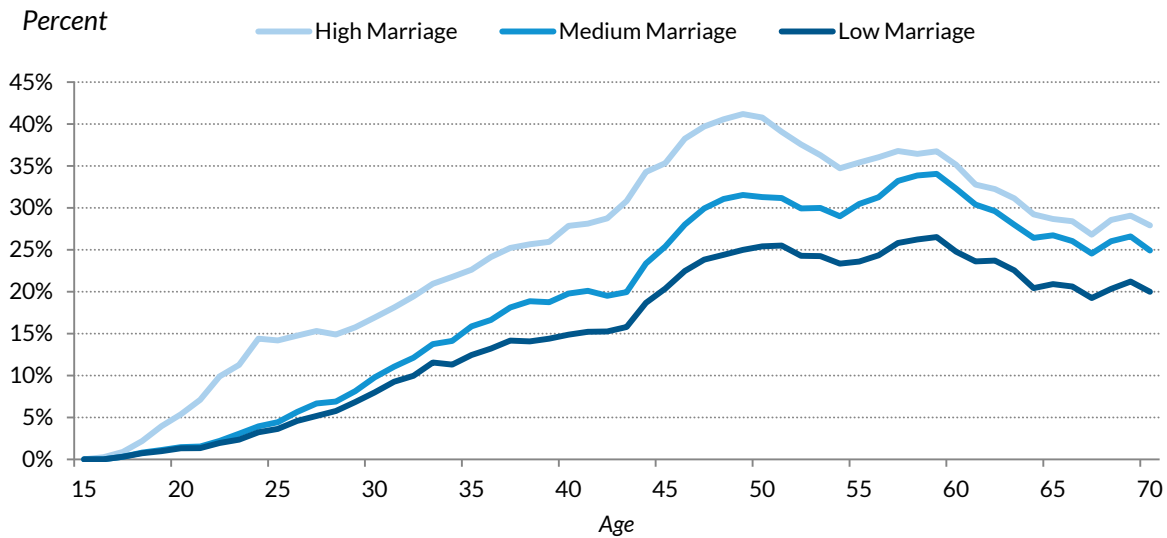
Source: DYNASIM4 ID 938.
Notes: The sample includes all gays and lesbians ages 15 to 70 regardless of living arrangement or marital status.

Changes in Government Programs and Federal Revenues and Expenditures

A major goal of this project is to show how the legalization of same-sex marriage affects participation in various government programs and the costs and revenues of those programs. We used the projection capacities of the DYNASIM model to examine these impacts through 2065 under three alternative same-sex marriage rates. All of our comparisons are made relative to the situation in which legal same-sex marriage did not exist (which itself is a simulation).

As table 5 shows, legalizing same-sex marriage is projected to slightly raise the number of OASI beneficiaries. Some gays and lesbians who marry in our projections would not qualify for Social Security benefits on their own because they lack 40 quarters of covered employment. Once they marry, they become entitled to spousal and survivor benefits. Divorced individuals are eligible for spouse and survivor benefits if their marriage lasted at least 10 year. However, this population is so small that the difference between the three marriage rates is not large.

TABLE 5

Baseline Number and Change in the Number of OASI and SSI Beneficiaries by Marriage Rate Simulation, 2015-2065

Thousands of people

Year	Baseline OASI Beneficiaries (thousands)	Change in OASI Beneficiaries (thousands) Marriage Rate			Baseline SSI Beneficiaries (thousands)	Change in SSI Beneficiaries (thousands) Marriage Rate		
		Medium	Low	High		Medium	Low	High
2015	44,971	13	13	13	5,680	-7	-6	-18
2020	53,626	16	15	17	5,519	-10	-8	-17
2025	61,947	16	16	17	5,662	-13	-10	-18
2030	69,401	15	14	16	5,244	-16	-11	-20
2035	74,731	16	14	17	4,970	-16	-12	-26
2040	77,621	16	14	17	4,636	-9	-5	-21
2045	79,864	19	15	21	4,346	5	10	-16
2050	82,431	16	14	18	4,108	15	20	-1
2055	85,783	18	15	20	3,905	-2	2	-7
2060	89,424	17	15	19	3,790	11	14	-19
2065	93,615	16	15	18	3,684	3	0	-38

Source: Authors' calculations from DYNASIM4 ID 938, comparing the no same-sex marriage and low, medium, and high same-sex marriage simulations.
Notes: Table includes all individuals. Changes are in thousands of people compared with the no same-sex marriage simulation.

In contrast, the number eligible for SSI benefits is projected to mostly decrease because the legalization of same-sex marriage will make some gays and lesbians who would otherwise qualify for SSI ineligible, namely those with little income and assets in their own name who marry partners with higher income and assets, or who gain access to spousal Social Security or pension benefits. On the other hand, the legalization of same-sex marriage may make someone eligible for SSI, if their individual income and assets exceed the single-person eligibility threshold but their resources combined with the resources of their spouse fall below the higher eligibility threshold that applies to married couples. As the last three columns of Table 5 show, the number of people affected is small, but the higher marriage rate simulations generally generate the larger declines in SSI participation.

Table 6 shows the change in benefits, measured in inflation-adjusted dollars, provided by OASDI and SSI. As marriage opens up opportunities for Social Security spousal and survivor benefits that did

not exist before same-sex marriage was recognized by the federal government, OASDI payments increase. However, the overall impact is small, because married gays and lesbians will represent only a sliver of the total population and spousal and survivor benefits are less significant than worker benefits. The growth in OASDI benefits attributable to the legalization of same-sex marriage will account for no more than 0.04 percent of all OASDI spending. SSI payments will generally fall as a result of the legalization of same-sex marriage, but again the overall impact will be insignificant, equal to just a couple of tenths of one percent of overall SSI spending.

TABLE 6

Baseline OASDI Benefits and SSI Benefits and Change in OASDI and SSI Benefits by Marriage Rate Simulation, 2015-2065

Billions of dollars

Year	Baseline OASDI Benefits ($billions)	Change in OASDI Benefits ($billions)			Baseline SSI Benefits ($billion)	Change in SSI Benefits ($billions)		
		Marriage Rate				Marriage Rate		
		Medium	Low	High		Medium	Low	High
2015	914	0.15	0.16	0.14	39	-0.07	-0.07	-0.15
2020	1,186	0.22	0.22	0.23	40	-0.10	-0.08	-0.16
2025	1,580	0.35	0.34	0.37	44	-0.13	-0.10	-0.17
2030	2,074	0.53	0.48	0.55	46	-0.15	-0.10	-0.19
2035	2,630	0.76	0.68	0.80	50	-0.17	-0.13	-0.27
2040	3,254	1.10	0.94	1.18	54	-0.11	-0.06	-0.23
2045	3,982	1.44	1.24	1.54	58	0.14	0.23	-0.21
2050	4,933	1.94	1.67	2.11	63	0.38	0.45	-0.02
2055	6,164	2.64	2.24	2.96	70	-0.05	0.04	-0.11
2060	7,735	3.41	2.84	3.81	78	0.23	0.31	-0.53
2065	9,717	4.12	3.50	4.64	87	0.24	0.16	-0.89

Source: Authors' calculations from DYNASIM4 ID 938, comparing the no same-sex marriage and low, medium, and high same-sex marriage simulations.
Notes: Table includes all individuals. Changes are in $billions nominal compared with the no same-sex marriage simulation.

Another important set of programs are Medicare Parts B and D. Married adults may have access to the private medical insurance of their spouse, thus allowing them to "opt out" of Parts B and D coverage. As more gays and lesbians marry, more people will have the opportunity to take advantage of their spouse's coverage (table 7).

TABLE 7

Baseline Medicare Part B and Part D Participants and Change in Number Receiving Medicare Parts B and D by Marriage Rate Simulation, 2015-2065

Thousands of adults

Year	Baseline Medicare Part B Participant (thousands)	Change in Medicare Part B (thousands) Marriage Rate			Baseline Medicare Part D Participant (thousands)	Change in Medicare Part D (thousands) Marriage Rate		
		Medium	Low	High		Medium	Low	High
2015	50,122	-9	-7	-14	39,666	-7	-6	-13
2020	58,027	-11	-8	-15	45,957	-10	-7	-13
2025	66,822	-15	-11	-18	52,891	-11	-7	-13
2030	74,252	-18	-14	-24	58,818	-12	-10	-17
2035	79,520	-12	-12	-15	62,971	-9	-9	-12
2040	83,037	-17	-13	-21	65,751	-14	-11	-18
2045	85,505	-21	-15	-23	67,669	-15	-11	-17
2050	88,289	-23	-19	-26	69,861	-18	-16	-21
2055	91,368	-18	-14	-21	72,255	-13	-11	-16
2060	95,318	-27	-22	-31	75,446	-20	-17	-24
2065	98,839	-22	-18	-26	78,252	-17	-13	-19

Source: Authors' calculations from DYNASIM4 ID 938, comparing the no same-sex marriage and low, medium, and high same-sex marriage simulations.

Notes: Table includes all individuals. Changes are in thousands of people compared with the no same-sex marriage simulation.

Same-sex marriage and the income pooling that results will reduce revenues collected by the Medicare surtax, which applies to earnings and investment income in excess of $200,000 if single and $250,000 if married. The added income pooling generated by same-sex marriage leads more people to pay the surtax, while the $50,000 higher threshold for married couples than single individuals reduces surtax payments. Overall, our projections show that same-sex marriage reduces revenue for the Medicare surtax (table 8). While the loss of this tax revenue is less than $1 billion a year, the total surtax collected is also small, so the share of the loss reaches several tenths of a percentage point.

TABLE 8

Baseline Medicare Surtax and Net Medicare Cost and Change in Medicare Surtax and Net Medicare Spending by Marriage Rate Simulation, 2015-2065

Billions of dollars

Year	Baseline Medicare Surtax ($billions)	Change in Medicare Surtax ($billions) Marriage Rate			Baseline Net Medicare Cost ($billions)	Change in Net Medicare Spending ($billions) Marriage Rate		
		Medium	Low	High		Medium	Low	High
2015	21	-0.04	-0.03	-0.06	258	-0.05	-0.04	-0.08
2020	32	-0.05	-0.06	-0.05	375	-0.07	-0.05	-0.10
2025	44	-0.18	-0.15	-0.17	553	-0.10	-0.07	-0.13
2030	66	-0.58	-0.57	-0.55	786	-0.11	-0.09	-0.19
2035	91	-0.31	-0.27	-0.30	1071	-0.03	-0.05	-0.08
2040	129	-0.39	-0.43	-0.43	1425	-0.14	-0.11	-0.23
2045	180	-0.37	-0.43	-0.30	1875	-0.30	-0.21	-0.39
2050	258	-0.58	-0.52	-0.59	2459	-0.39	-0.33	-0.50
2055	357	-0.87	-0.88	-0.70	3204	-0.40	-0.32	-0.60
2060	486	-0.69	-0.72	-0.37	4177	-0.69	-0.58	-0.96
2065	637	-0.53	-0.37	-0.86	5387	-0.56	-0.36	-0.82

Source: Authors' calculations from DYNASIM4 ID 938, comparing the no same-sex marriage and low, medium, and high same-sex marriage simulations.
Notes: Table includes all individuals. Changes are in $billions nominal compared with the no same-sex marriage simulation. Net Medicare spending is Medicare spending less Medicare premiums.

Same-sex marriage causes net Medicare spending, defined as Medicare expenditures minus premiums paid, to fall slightly over time. Gross spending falls because some gays and lesbians gain access to workplace health benefits through their same-sex spouses and thus do not receive Medicare benefits. Revenues from Part B and Part D premiums also fall because the number of enrollees drops, but premiums fall less than expenditures because Part B and Part D are subsidized by the federal government. In 2045, for example, premiums are projected to be down by about $34 million, while gross spending on the programs declines by $64 million. Of course, the relative size of these savings are very tiny—the cost savings from the medium marriage simulation never exceed two one-hundredths of one percent, and will not have an appreciable effect on Medicare's trust fund.

A potential drawback of marrying and combining spousal incomes is that it could raise household income enough to require a married couple to pay federal income taxes on Social Security payments. As Table 9 shows, more people will pay federal taxes on Social Security as the same-sex marriage rate rises. However, as the last three columns show, the extra taxes are not particularly high because only a

portion of Social Security benefits are included in taxable income. Because the income thresholds for paying taxes on Social Security are not indexed, the impact grows over time under all three simulations, as inflation and wage growth raise nominal incomes.

Baseline Number of People Who Pay Federal Income Tax on Social Security Benefits and Baseline Tax on Social Security Benefits and Change in the Number of People Paying Federal Income Tax on Social Security Benefits and Amount of Tax Paid by Marriage Rate Simulation, 2015-2065

Year	Baseline Number Pay Tax (thousands)	Change in Tax Payers (thousands) Marriage Rate			Baseline Tax on Social Security ($billions)	Change in Taxes Paid ($billions) Marriage Rate		
		Medium	Low	High		Medium	Low	High
2015	27,031	40	35	80	52	0.04	0.05	0.08
2020	34,084	80	64	100	79	0.11	0.12	0.15
2025	40,124	112	91	136	113	0.17	0.19	0.22
2030	44,385	129	110	172	157	0.27	0.29	0.39
2035	46,500	143	117	177	203	0.39	0.39	0.52
2040	47,288	151	114	183	253	0.53	0.50	0.71
2045	47,804	175	137	213	307	0.70	0.65	0.93
2050	48,983	181	138	218	387	0.94	0.81	1.19
2055	51,121	169	127	194	497	1.16	0.93	1.48
2060	53,434	187	144	228	646	1.49	1.21	1.81
2065	55,871	186	147	214	827	2.06	1.71	2.55

Source: Authors' calculations from DYNASIM4 ID 938, comparing the no same-sex marriage and low, medium, and high same-sex marriage simulations.
Notes: Table includes all individuals. Changes are in thousands of people and billions of dollars compared with the no same-sex marriage simulation.

Federal recognition of same-sex marriage also affects federal income tax payments. Married people filing jointly face a different tax schedule than single people. For example, a married couple can automatically exempt more income from taxes than a single person, and a couple is entitled to more standard deductions. In addition, the federal income tax is progressive, with marginal taxes that increase with income, and the income thresholds that set steeper marginal tax rates are higher for married joint filers than single filers. Marrying someone with very little income can reduce income tax payments, because the couple can claim more deductions and exemptions and is unlikely to be pushed into a higher tax bracket. However, marrying someone with similar income can push the couple into a higher tax bracket, raising tax payments. The impact of marriage on federal income tax payments, then,

depends on how the incomes of the two spouses differ. Our DYNASIM projections show that legalizing same-sex marriage slightly reduces federal income tax revenue in most years, although it slightly raises revenue in 2065 (table 10). However, the impact is quite small. The annual loss, through 2065, never amounts to as much as a tenth of a percent of tax revenues.

TABLE 10

Baseline Federal Income Tax and Change in Federal Income Tax Receipts by Marriage Rate Simulation, 2015-2065

Year	Baseline Federal Income Tax ($billions)	Change in Federal Income Tax Receipts ($billions) Marriage Rate			Percentage Change in Federal Income Tax (%) Marriage Rate		
		Medium	Low	High	Medium	Low	High
2015	1,098	0.00	0.00	-0.08	0.000%	0.000%	-0.008%
2020	1,530	0.07	0.09	0.10	0.004	0.006	0.006
2025	2,007	-0.80	-0.56	-0.63	-0.040	-0.028	-0.031
2030	2,627	-2.26	-2.19	-1.81	-0.086	-0.084	-0.069
2035	3,314	-0.82	-0.68	-0.12	-0.025	-0.021	-0.003
2040	4,210	-1.63	-1.61	-1.56	-0.039	-0.038	-0.037
2045	5,328	-0.83	-1.20	-0.08	-0.015	-0.022	-0.002
2050	6,761	-1.72	-1.63	-0.02	-0.026	-0.024	0.000
2055	8,604	-2.47	-2.93	-3.64	-0.029	-0.034	-0.042
2060	10,911	-2.00	-2.19	-2.31	-0.018	-0.020	-0.021
2065	13,993	0.85	1.04	0.66	0.006	0.007	0.005

Source: Authors' calculations from DYNASIM4 ID 938, comparing the no same-sex marriage and low, medium, and high same-sex marriage simulations.
Notes: Table includes all individuals. Changes are in billions of nominal dollars compared with the no same-sex marriage simulation.

Combining these fiscal effects, our projections show that the overall impact of legalizing same-sex marriage is to slightly raise federal spending net of revenues (table 11). Under our medium same-sex marriage rate assumption, the net position of the federal budget will be about $3.6 billion lower in 2065 than it would have been if same-sex marriage had not been legalized, a trivial difference in a multi-trillion dollar budget. Figure 28 summarizes each of the fiscal impacts in 2065. The change in OASDI benefits is the biggest impact of same-sex marriage, which is partially offset by increased income tax revenue.

TABLE 11

Baseline Net Federal Budget Balance and Change in the Net Balance of the Federal Budget (Revenues-Expenditures) by Marriage Rate Simulation, 2015-2065

Billions of dollars

Year	Baseline Net Federal Budget ($billions)	Change in Net Federal Budget ($billions)			Percentage Change in Net Federal Budget (%)		
		Marriage Rate			Marriage Rate		
		Medium	Low	High	Medium	Low	High
2015	981	-0.07	-0.09	-0.06	-0.007%	-0.009%	-0.006%
2016	983	-0.42	-0.45	-0.38	-0.043	-0.046	-0.039
2017	1,096	-0.20	-0.31	0.08	-0.019	-0.029	0.007
2018	1,167	-0.20	-0.15	0.06	-0.017	-0.013	0.005
2019	1,250	-0.23	-0.31	-0.06	-0.018	-0.025	-0.005
2020	1,320	-0.03	-0.05	0.08	-0.002	-0.004	0.006
2025	1,560	-1.10	-0.88	-0.87	-0.070	-0.057	-0.056
2030	1,860	-3.12	-3.06	-2.52	-0.168	-0.164	-0.136
2035	2,186	-1.70	-1.46	-0.87	-0.078	-0.067	-0.040
2040	2,723	-2.86	-2.82	-2.71	-0.105	-0.104	-0.100
2045	3,438	-2.49	-2.87	-1.33	-0.072	-0.084	-0.039
2050	4,298	-4.23	-3.94	-2.20	-0.098	-0.092	-0.051
2055	5,344	-5.53	-5.76	-6.59	-0.103	-0.108	-0.123
2060	6,538	-5.63	-5.48	-5.00	-0.086	-0.084	-0.076
2065	8,182	-3.48	-2.63	-3.13	-0.042	-0.032	-0.038

Source: Authors' calculations from DYNASIM4 ID 938, comparing the no same-sex marriage and low, medium, and high same-sex marriage simulations.

Notes: Table includes all individuals. Changes are in billions of nominal dollars compared with the no same-sex marriage simulation.

FIGURE 28

Fiscal Impact of Legal Recognition of Same-Sex Marriage by Marriage Rate Simulation, 2065
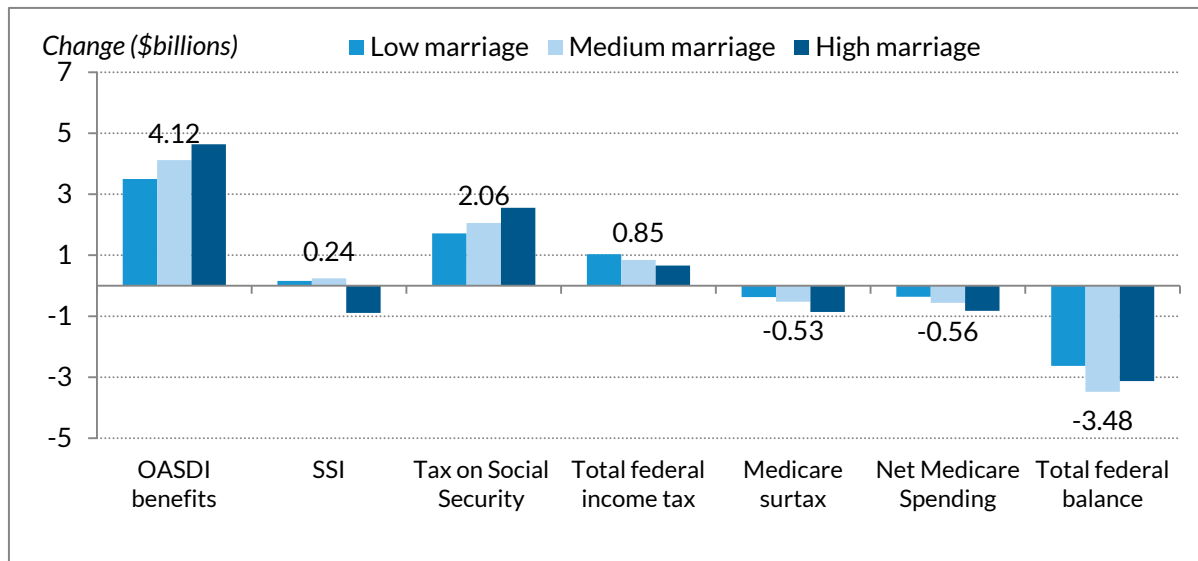
Source: Authors' calculations from DYNASIM4 ID 938, comparing the no same-sex marriage and low, medium, and high same-sex marriage simulations.

Notes: Table includes all individuals. Changes are in billions of dollars compared with the no same-sex marriage simulation.

Projected Retirement Income of Gays and Lesbians Ages 62 and Older

Federal recognition of same-sex marriage will also affect the retirement security of same-sex couples, as they gain access to Social Security spouse and survivor benefits and become subject to different federal income tax rules. We assume that married couples pool their finances and unmarried household couples do not. To assess the impact of same-sex marriage on income, then, our analysis splits the combined individual incomes from each married spouse equally between the spouses, and compares that per capita household income to each spouse's individual income, representing their resources if same-sex marriage were not legalized. Net per capita income is computed as per capita income minus the federal income tax, state income tax, OASDI tax, HI tax, Medicare Surtax, and Medicare Part B and Part D premiums. All income amounts are reported in inflation-adjusted 2015 dollars.

By 2045, average per capita income including Social Security, SSI, earnings, and other benefits for gays and lesbians ages 62 and older will be about $1,200 higher because of access to legal same-sex marriage than it would have been had same-sex marriage not been legalized (figure 29 and table 12).

Same-sex marriage raises Social Security benefits, as gays and lesbians gain access to spouse and survivor benefits. But, much of the increase stems from higher per capita earnings, which results primarily because some gays and lesbians ages 62 and older who are no longer working are married to a younger partner with earnings, raising per capita shared earnings for the nonworkers. We see an analogous reduction in asset income primarily from retirement account withdrawals that are now shared with a younger spouse.

Some of the income gains from same-sex marriage are offset by a decline in defined benefit (DB) pension income resulting from a shift from single life annuities to joint and survivor annuities. The total wealth in DB pensions is unchanged by marriage.

Same-sex marriage also reduces per capita tax payments and Medicare premiums on average for gays and lesbians ages 62 and older, further improving their financial well-being (figure 30). The effects are largely driven by a drop in average federal income tax payments, which are only slightly offset by an increase in OASDI payroll taxes.

Change in Average Per Capita Income by Income Source among Gays and Lesbians Ages 62 and Older in Selected Years
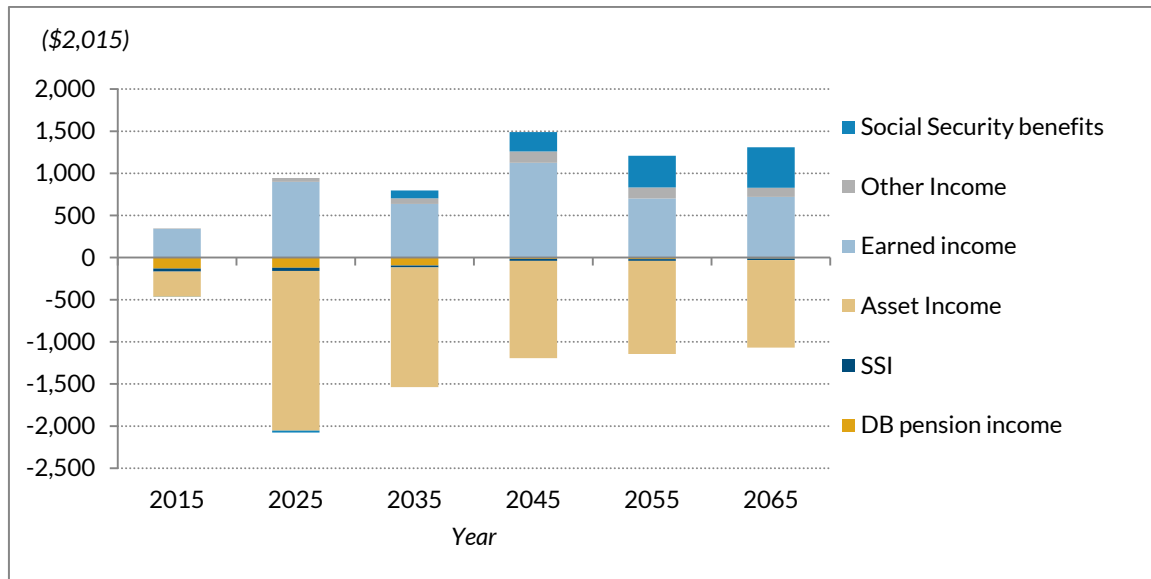
Source: Author's tabulations from DYNASIM4 ID 938, comparing the no same-sex marriage and medium same-sex marriage simulations.

FIGURE 30

Change in Average Per Capita Tax and Medicare Premiums among Gays and Lesbians Ages 62 and Older for Selected Years
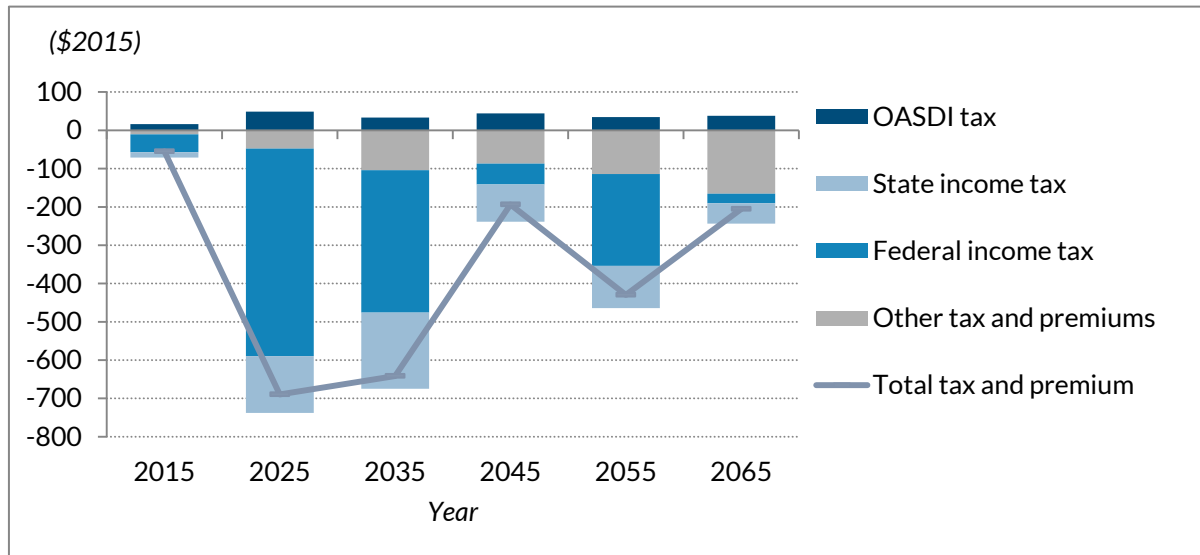
Source: Author's tabulations from DYNASIM4 ID 938, comparing the no same-sex marriage and medium same-sex marriage simulations.

In generating our per capita measure, we split income and taxes of both partners. When one partner has more income than the other, marriage lowers the per capita income of the higher-income partner and increases the per capita income of the lower-income partner. In these cases, family formation reduces both income inequality and family poverty.

Net per capita income for gays and lesbians ages 62 and older will rise throughout most of the income distribution because of access to same-sex marriage (figure 31). Compared with projections that assume same-sex marriage was not legalized, projected 2065 net per capita income with legalized same-sex marriage show an annual gain for older gays and lesbians of about $1,350 at the 10th percentile of the income distribution, $1,990 at the 25th percentile, and $2,180 at the median. Net per capita incomes would be lower, however, for older gays and lesbians in the top 10 percent of the income distribution.

TABLE 12

Average Per Capita Income and Taxes and Average Charge under Medium Same-sex Marriage Simulation among Lesbian and Gay Individuals Age 62 and Older by Income and Tax Type and Year

	Year					
	2015	2025	2035	2045	2055	2065
	Baseline (No Same-Sex Marriage)					
Total cash income	39,434	50,540	55,794	53,651	54,909	58,801
Social Security benefits	11,488	12,875	15,675	17,041	18,713	21,247
Earned income	12,831	18,224	19,303	17,419	18,228	19,606
SSI	384	325	184	117	71	66
DB pension income	8,600	7,236	5,855	3,719	2,339	1,706
Asset income	5,486	11,189	13,994	14,536	14,512	15,122
Other income	646	691	783	820	1,048	1,054
Total Taxes and Premiums	7,299	11,810	13,719	13,192	14,435	15,933
Federal income tax	3,960	6,934	7,731	6,791	7,044	7,282
State income tax	783	1,394	1,617	1,258	1,134	1,048
OASDI tax	674	904	935	878	982	1,078
HI tax	173	248	236	229	256	279
Medicare surtax	36	130	190	194	251	298
Medicare Part B premium	1,303	1,671	2,290	2,915	3,617	4,510
Medicare Part D premium	370	529	721	927	1,152	1,439
Net cash income	32,135	38,731	42,074	40,459	40,474	42,868
	Average Change (medium marriage rate)					
Total cash income	-119	-1,132	-741	296	65	241
Social Security benefits	-2	-23	92	230	375	480
Earned income	340	899	638	1,124	702	722
SSI	-37	-38	-23	-23	-20	-18
DB pension income	-129	-121	-93	-16	-18	-11
Asset income	-297	-1,896	-1,421	-1,154	-1,105	-1,039
Other income	6	45	67	135	131	108
Total Taxes and Premiums	-55	-689	-641	-194	-430	-205
Federal income tax	-47	-542	-372	-54	-240	-25
State income tax	-14	-149	-199	-98	-110	-53
OASDI tax	16	49	33	44	34	38
HI tax	4	13	10	16	9	10
Medicare surtax	-2	-26	-24	-19	-33	-24
Medicare Part B premium	-10	-25	-69	-67	-71	-116
Medicare Part D premium	-3	-9	-22	-17	-19	-36
Net cash income	-64	-443	-99	490	494	446

Source: Authors' calculations from DYNASIM4 ID 938 no same-sex marriage and medium same-sex marriage simulations.

Notes: Table includes all lesbian and gay individuals ages 62 and older in selected years. Dollar amounts are per capita values in $2015 price-adjusted dollars. Married couples split incomes and taxes in years they are married and own amounts in years individuals are unmarried. Net cash income is the sum of Social Security, earnings, SSI, DB pension income, asset income, and other income, less federal income tax, state income tax, OASDI tax, HI tax, Medicare Surtax, Medicare Part B and Part D premiums.

Distribution of Change in Per Capita Net Income among Gays and Lesbians Ages 62 and Older in Selected Years
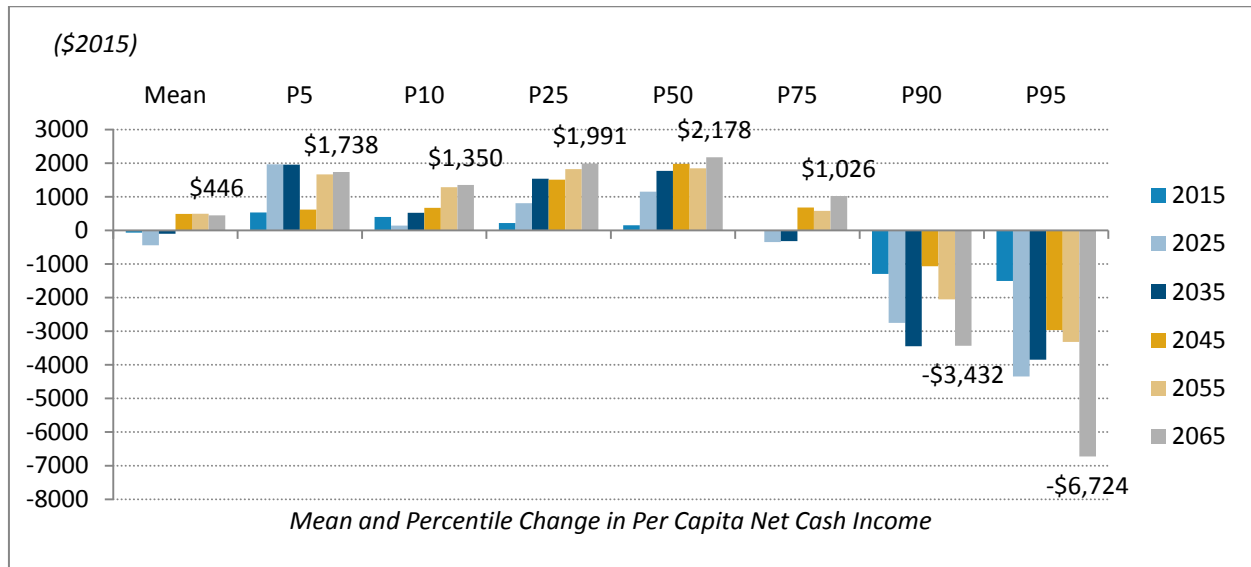
Source: Author's tabulations from DYNASIM4 ID 938 and medium same-sex marriage simulations.

As figure 32 shows, the effect of same-sex marriage on incomes varies considerably with an individual's shared lifetime earnings. The shared lifetime earnings measure splits couple earnings in years they are married and uses individual earnings in years they are single. We then calculate the average shared earnings from age 22 to age 62. For adults ages 62 and older in the bottom three shared lifetime earnings quintiles, the gains from same-sex marriage are substantial, reaching about $2,000 per person by 2065. While those in the fourth income quintile have small gains in most years after 2025, these gains disappear in 2065. However, same-sex marriage significantly reduces net per capita income for lesbian and gay adults ages 62 and older in top shared lifetime earnings quintile, primarily because of income sharing. When same-sex marriage is available, some gay men and lesbians with high incomes marry people with less income, so the average per person income of the couple is lower than the high-income partner's income alone. Income tax penalties associated with marriage also reduce the incomes for couples in the top shared lifetime earnings quintile.

FIGURE 32

Change in Average Per Capita Net Cash Income among Gays and Lesbians Ages 62 and Older by Shared Lifetime Earnings in Selected Years
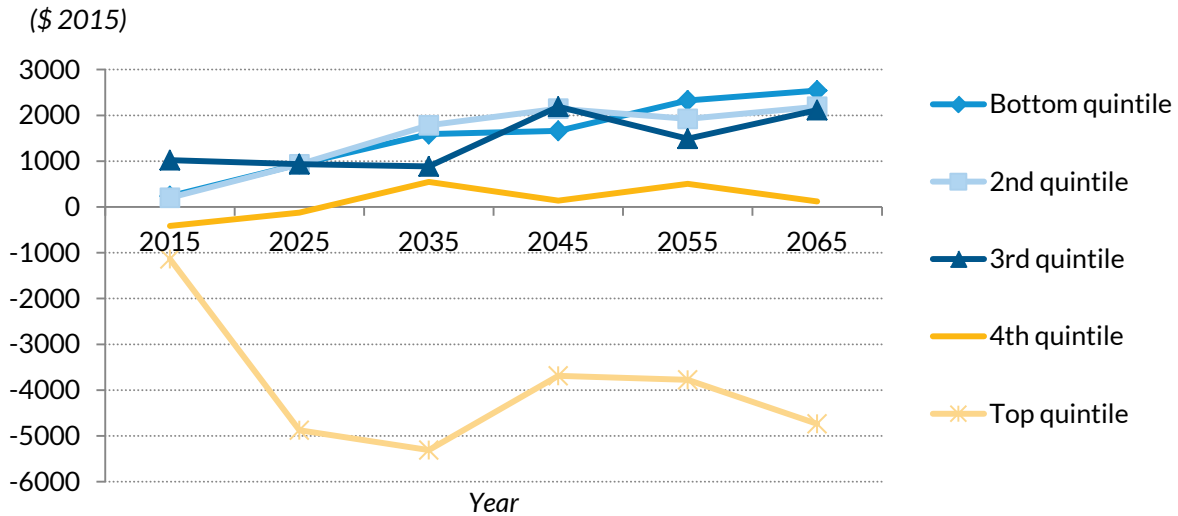
($ 2015)

Source: Author's tabulations from DYNASIM4 ID 938, comparing the no same-sex marriage and medium same-sex marriage simulations.

Our projections show that these income shifts will lead to a dramatic decline in the poverty rate for older gays and lesbians. As figure 33 shows, there are two persistent trends. First, the poverty rate declines over time for everyone ages 62 and older, as productivity growth raises earnings and Social Security benefits. Second, the decline is much greater for older gays and lesbians than for the overall older population. In 2015, the poverty rate was 8 percent for all adults ages 62 and older, compared with just under 18 percent for older gays and lesbians under the medium marriage simulation and just over 18 percent under the no same-sex marriage simulation. DYNASIM projects that by 2065, the poverty rates of lesbians and gays ages 62 and older will fall sharply. The poverty rate declines by 13 percentage points for older gays and lesbians with legal same-sex marriage and by 3 percentage points for all older adults. Compare to our no same-sex marriage simulation, legal same-sex marriage reduces the share of lesbians and gays ages 62 and older in poverty by one to two percentage points each year. The gains are larger for lesbian women than for gay men.

FIGURE 33

Poverty Rate among Adults Ages 62 and Older, by Sexual Orientation and Year

Percent with Family Income Below Poverty

Legend: ■ All 62+ ■ 62+ gays and lesbians ■ No LG marriage

X-axis: Year (2015, 2025, 2035, 2045, 2055, 2065)

- 2015: 8%, 18%, 18%
- 2025: 8%, 14%, 15%
- 2035: 7%, 11%, 13%
- 2045: 7%, 9%, 11%
- 2055: 6%, 7%, 9%
- 2065: 5%, 5%, 7%
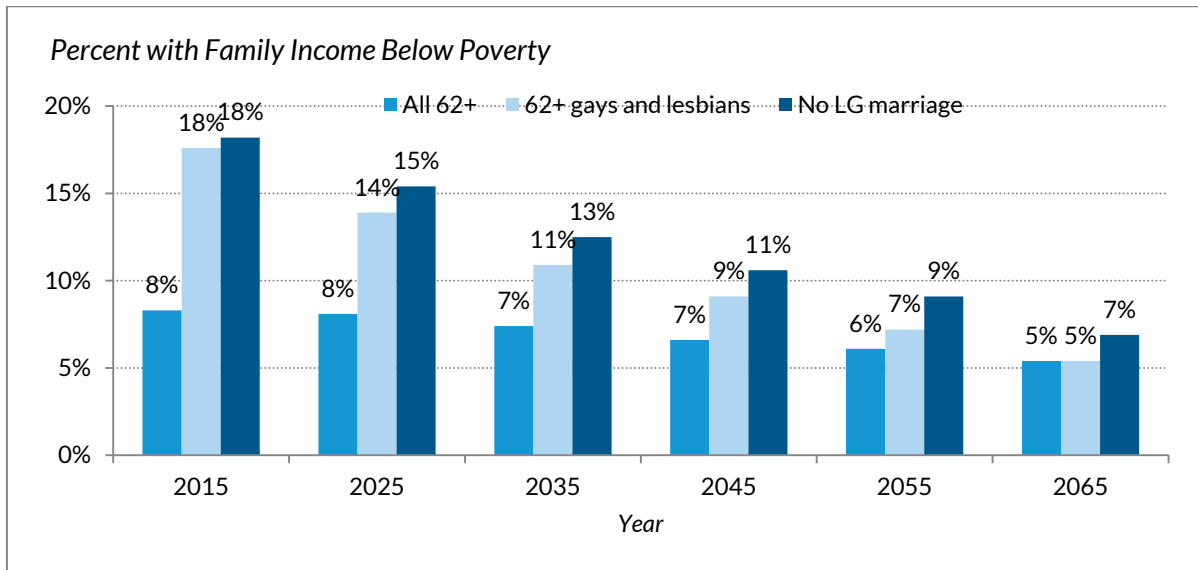
Source: Author's tabulations from DYNASIM4 ID 938.

Notes: All 62 plus category includes all individuals age 62 and older

Chapter 7: Conclusions

In two landmark Supreme Court decisions in 2013 (*Windsor*) and 2015 (*Obergefell*), same-sex marriage went from being unrecognized by the federal government and most states to legal in every state and recognized by the federal government. One consequence of legalizing same-sex marriage is that it provides gay and lesbian couples access to spouse and survivor benefits from Social Security and family fringe benefits from employers.

Legalized same-sex marriage creates various pluses and minuses for individuals and for the federal government. For example, marriage has tax consequences that cause some couples to pay higher taxes and other couples to pay lower taxes. Some spouses will get more Social Security benefits and other couples will pay higher taxes on their Social Security benefits because their joint income will now surpass the cutoff for tax payments. Other spouses will choose to forgo Medicare Parts B and D to join the private health insurance plan of their working partner.

All of these changes affect the retirement incomes of older gays and lesbians in unpredictable ways. Similarly, the variety of added costs, saved costs, lower premiums, and changes in federal revenues makes the net effect on federal revenues and expenditures uncertain. This study used the Urban Institute's state-of-the-art DYNASIM microsimulation model to estimate each of these impacts. The baseline for our comparisons simulated outcomes as if same-sex marriages were not recognized by the federal government or any of the states.

While there is some uncertainty about the size of the gay and lesbian populations, survey results suggest that between 1.3 and 2.5 percent of Americans (about 4 to 8 million people) identify as lesbian or gay. Among those, about 1.6 million are living with a same-sex partner.

Survey data suggest that about 75 percent of gays and lesbians report wanting to marry someday, but the number of married-same-sex couples has been historically constrained for couples living in states that do not recognize same-sex marriage. Of the nearly 800,000 couples living with a same-sex partner in 2014, 42 percent were married, but the share of same-sex couples that are married is markedly higher in states that legalized same-sex marriage relatively early.

While about the same share of lesbians and gays partner and marry, lesbian women typically do so at slightly younger ages than gay men. Nonmarital cohabitation is typically a transitory status for opposite-sex couples, with many transitioning to marriage. The absence of legal marriage for many

same-sex couples means that nonmarital cohabitation is common among same-sex couples even at older ages.

Same-sex couples are more likely to be white and well-educated than opposite-sex couples and tend to have higher earnings. However, same-sex couples are more likely than opposite-sex couples to partner with someone of a different age and racial group. A substantially higher share of women in heterosexual couples have no market earnings than same-sex women, as more heterosexual woman remain at home to raise children. Family heads in the majority of working-age same-sex and opposite-sex couples have earnings that differ substantially from their partners, suggesting that Social Security spouse and survivor benefits will be an important financial resource for both same-sex and opposite-sex couples in the future.

The opportunity to marry will improve, on average, the financial security of older gays and lesbians. The average per capita annual income of lesbians and gays in the middle income quintile was approximately $2,000 higher when same-sex marriage was legal than under the baseline case in which same-sex marriage was not legal. For couples, then, the gain in this middle income range was $4,000. Poverty rates for gays and lesbians ages 62 and older are sharply higher than for all seniors. Poverty rates for gays and lesbians ages 62 and older are projected to decline from 18 percent in 2015 to 5 percent in 2065. While poverty rates are projected to fall in general due to rising earnings (especially for women), gays and lesbians will also benefit from the many advantages of combining incomes and access to additional retirement benefits. Legal same-sex marriage reduces poverty rates for gays and lesbians ages 62 and older by one to two percentage points per year.

The rise of middle quintile incomes for older gays and lesbians and decline in poverty rate are due to several factors. First, pooling of income reduces the number of gays and lesbians with low family income and provides certain economies of scale (a slimmed down version of the old saying that "two can live as cheaply as one"). Second, married couples tend to have higher per capita incomes because people with responsibilities to other people tend to have higher earnings and are more likely to accumulate savings and become home owners. Third, couples can survive layoffs or other problems more easily than single people, because a spouse's resources can provide a financial cushion. Fourth, they gain access to private and public spouse benefits, such as coverage by a spouse's employer-sponsored health insurance, higher Social Security payments that are based on the employment history of a higher-earning spouse, and Social Security survivor benefits.

Using our simulation model, we examined the impact of same-sex marriage on federal programs and tax revenues, and family incomes. Our projections showed the following:

- A small increase in the number of people receiving OASDI benefits (0.03 percent in 2015);

- An increase in the net cost of OASDI benefits of several billions of dollars per year (0.02 to 0.04 percent increase) due to the increase in the number of beneficiaries and an increase in the number receiving spouse and survivor benefits that exceed their own worker benefits. This change is too small, however, to materially affect the Social Security Trust Fund;

- A small decrease in the number receiving SSI benefits (0.12 percent in 2015) that dissipates over time;

- A small decrease (0.02 percent) in the number of people receiving Medicare Part B and Part D benefits which slightly reduced Medicare costs, net of premiums (0.018 percent decline), because these programs are subsidized by the federal government;

- A small decrease in the amount of the Medicare surtax (0.17 to 0.9 percent);

- More older people paying income taxes on their Social Security benefits (0.15 percent in 2015 rising to 0.33 percent in 2065);

- Small changes in federal income taxes paid that are not uniformly higher or lower as some couples get marriage bonuses and others get marriage penalties; and

- The combined effect of these changes is a reduction in the net federal budget (increase deficit) of between $3 billion to $6 billion dollars a year after 2030 (which represents about four one-hundredths of one percent).

Appendix A. Effective Date of Legal Same-Sex Marriage by State

Effective Date of Legal Same-Sex Marriage by State

State	Effective Date	LGBT Share
Massachusetts	5/17/2004	4.4
Connecticut	11/12/2008	3.4
Iowa	4/3/2009	2.8
Vermont	9/1/2009	4.9
District of Columbia	12/18/2009	10
New Hampshire	1/1/2010	3.7
New York	7/24/2011	3.8
Washington	12/6/2012	4
Maine	12/29/2012	4.8
Maryland	1/1/2013	3.3
California	6/28/2013	4
Delaware	7/1/2013	3.4
Minnesota	8/1/2013	2.9
Rhode Island	8/1/2013	4.5
New Jersey	10/21/2013	3.7
Hawaii	12/2/2013	5.1
New Mexico	12/19/2013	2.9
Utah	12/20/2013	2.7
Oregon	5/19/2014	4.9
Pennsylvania	5/20/2014	2.7
Illinois	6/1/2014	3.8
Indiana	10/6/2014	3.3
Oklahoma	10/6/2014	3.4
Virginia	10/6/2014	2.9
Wisconsin	10/6/2014	2.8
Colorado	10/7/2014	3.2
Nevada	10/9/2014	4.2
West Virginia	10/9/2014	3.1
North Carolina	10/10/2014	3.3
Alaska	10/12/2014	3.4
Idaho	10/15/2014	2.7

Arizona	10/17/2014	3.9
Wyoming	10/21/2014	2.9
Kansas	11/4/2014	3.7
Montana	11/19/2014	2.6
South Carolina	11/20/2014	2.9
Alabama	1/1/2015	2.8
Florida	1/6/2015	3.5
Arkansas	6/26/2015	3.5
Georgia	6/26/2015	3.5
Kentucky	6/26/2015	3.9
Louisiana	6/26/2015	3.2
Michigan	6/26/2015	3.8
Mississippi	6/26/2015	2.6
Missouri	6/26/2015	3.3
Nebraska	6/26/2015	2.7
North Dakota	6/26/2015	1.7
Ohio	6/26/2015	3.6
South Dakota	6/26/2015	4.4
Tennessee	6/26/2015	2.6
Texas	6/26/2015	3.6

Source: National Conference of State Legislatures (2015); Pew Research Center (2015a); Wikipedia. LGBT shares from Gates and Newport (2012).

Number and Percent of Married or Cohabiting Opposite-Sex Men and Women by Individual Characteristics among Adults Ages 20 and Older in 2014

	Number (thousands)			Column Percent			Row Percent		
	ALL	Married	Cohabit	ALL	Married	Cohabit	ALL	Married	Cohabit
All	126,013	112,499	13,515	100	100	100	100	89	11
Age									
20-24	3,130	1,524	1,606	2	1	12	100	49	51
25-34	20,131	15,273	4,858	16	14	36	100	76	24
35-44	25,763	22,830	2,933	20	20	22	100	89	11
45-54	27,239	25,116	2,123	22	22	16	100	92	8
55-64	25,287	24,035	1,251	20	21	9	100	95	5
65+	24,464	23,721	743	19	21	5	100	97	3
Education									
Less than high school	11,306	9,665	1,642	9	9	12	100	85	15
High school graduate	42,545	37,267	5,278	34	33	39	100	88	12
Some college	29,246	25,658	3,588	23	23	27	100	88	12
College graduate	42,916	39,909	3,007	34	35	22	100	93	7
Race Ethnicity									
White non-Hispanic	90,685	82,083	8,602	72	73	64	100	91	9
Black non-Hispanic	9,505	7,863	1,642	8	7	12	100	83	17
Hispanic	17,839	15,089	2,750	14	13	20	100	85	15
Other	7,985	7,465	520	6	7	4	100	93	7
Real Earnings									
No earnings	37,865	35,299	2,566	30	31	19	100	93	7
1-25K	26,249	21,677	4,572	21	19	34	100	83	17
25K-50K	26,520	22,700	3,820	21	20	28	100	86	14
50K-75K	16,238	14,726	1,512	13	13	11	100	91	9

	Number (thousands)			Column Percent			Row Percent		
	ALL	Married	Cohabit	ALL	Married	Cohabit	ALL	Married	Cohabit
75K or more	19,141	18,097	1,044	15	16	8	100	95	5

Source: Authors' tabulations from the 2014 American Community Survey.

Notes: Table includes all opposite-sex men and women ages 20 and older cohabiting with or married to a same-sex partner in 2014. Earnings are in 2015 price-adjusted dollars.

TABLE A3

Number and Percent of Married or Cohabiting Same-Sex Men and Women by Individual Characteristics among Adults Ages 20 and Older in 2012-2014

	Number (thousands)			Column Percent			Row Percent		
	ALL	Married	Cohabit	ALL	Married	Cohabit	ALL	Married	Cohabit
All	4313	1535	2778	100	100	100	100	36	64
Sex									
Men	2085	721	1364	48	47	49	100	35	65
Women	2227	813	1414	52	53	51	100	37	63
Age									
20-24	188	25	164	4	2	6	100	13	87
25-34	779	190	589	18	12	21	100	24	76
35-44	899	284	616	21	18	22	100	32	68
45-54	1143	379	764	26	25	28	100	33	67
55-64	731	295	437	17	19	16	100	40	60
65+	572	363	209	13	24	8	100	63	37
Education									
Less than high School	227	122	105	5	8	4	100	54	46
High school graduate	1099	435	664	25	28	24	100	40	60
Some college	1047	307	739	24	20	27	100	29	71

	Number (thousands)			Column Percent			Row Percent		
	ALL	Married	Cohabit	ALL	Married	Cohabit	ALL	Married	Cohabit
College graduate	1940	670	1269	45	44	46	100	35	65
Race Ethnicity									
White non-Hispanic	3288	1162	2125	76	76	77	100	35	65
Black non-Hispanic	328	116	211	8	8	8	100	35	65
Hispanic	526	179	347	12	12	12	100	34	66
Other	171	77	95	4	5	3	100	45	55
Real Earnings									
No earnings	969	478	491	22	31	18	100	49	51
1-25K	904	275	628	21	18	23	100	30	70
25K-50K	968	273	695	22	18	25	100	28	72
50K-75K	623	200	423	14	13	15	100	32	68
75K or more	849	309	540	20	20	19	100	36	64
Year State Legalized Same-Sex Marriage									
2004	142	78	64	3	5	2	100	55	45
2008	49	29	20	1	2	1	100	59	41
2009	82	42	41	2	3	1	100	51	49
2010	22	13	9	1	1	0	100	58	42
2011	327	142	184	8	9	7	100	44	56
2012	158	60	98	4	4	4	100	38	62
2013	1022	398	625	24	26	22	100	39	61
2014	1158	367	791	27	24	28	100	32	68
2015	1352	407	945	31	27	34	100	30	70

Source: Authors' tabulations from the 2012-2014 American Community Survey.

Notes: Table includes all same-sex men and women ages 20 and older cohabiting with or married to a same-sex partner in 2012-2014. Earnings are in 2015 price-adjusted dollars.

Appendix B. Same-Sex Cohabitation Hazard

Same-Sex Cohabitation Hazard Rate by Sex, Race, and Age

	Female Same-Sex					Male Same-Sex				
Age	ALL	White	Black	Hispanic	Other	ALL	White	Black	Hispanic	Other
15	0.0096	0.0101	0.0075	0.0081	0.0005	0.0047	0.0047	0.0033	0.0050	0.0013
16	0.0181	0.0172	0.0235	0.0153	0.0019	0.0082	0.0078	0.0093	0.0084	0.0029
17	0.0241	0.0257	0.0285	0.0180	0.0045	0.0100	0.0107	0.0092	0.0097	0.0054
18	0.0371	0.0405	0.0480	0.0292	0.0097	0.0170	0.0187	0.0136	0.0183	0.0093
19	0.0456	0.0533	0.0477	0.0341	0.0241	0.0235	0.0262	0.0167	0.0247	0.0091
20	0.0579	0.0703	0.0616	0.0407	0.0398	0.0322	0.0365	0.0261	0.0325	0.0195
21	0.0637	0.0814	0.0513	0.0391	0.0444	0.0395	0.0457	0.0257	0.0389	0.0277
22	0.0681	0.0868	0.0602	0.0474	0.0748	0.0447	0.0533	0.0285	0.0426	0.0355
23	0.0649	0.0800	0.0548	0.0505	0.1010	0.0477	0.0553	0.0308	0.0477	0.0403
24	0.0633	0.0741	0.0647	0.0520	0.1137	0.0506	0.0603	0.0355	0.0410	0.0428
25	0.0583	0.0682	0.0511	0.0493	0.0955	0.0519	0.0640	0.0299	0.0419	0.0485
26	0.0550	0.0662	0.0453	0.0433	0.0792	0.0551	0.0683	0.0353	0.0409	0.0506
27	0.0589	0.0676	0.0484	0.0507	0.0591	0.0557	0.0667	0.0322	0.0463	0.0612
28	0.0591	0.0684	0.0443	0.0483	0.0220	0.0603	0.0698	0.0410	0.0507	0.0739
29	0.0599	0.0674	0.0441	0.0623	0.0111	0.0544	0.0653	0.0182	0.0467	0.0697
30	0.0548	0.0609	0.0347	0.0570	0.0164	0.0492	0.0593	0.0266	0.0472	0.0588
31	0.0639	0.0699	0.0536	0.0628	0.0621	0.0419	0.0528	0.0106	0.0326	0.0439
32	0.0613	0.0767	0.0442	0.0460	0.0730	0.0450	0.0552	0.0262	0.0354	0.0354
33	0.0706	0.0993	0.0604	0.0547	0.1234	0.0414	0.0557	0.0137	0.0308	0.0321

	Female Same-Sex					Male Same-Sex				
Age	ALL	White	Black	Hispanic	Other	ALL	White	Black	Hispanic	Other
34	0.0716	0.1116	0.0447	0.0410	0.0994	0.0478	0.0600	0.0238	0.0420	0.0542
35	0.0747	0.1163	0.0544	0.0392	0.0902	0.0494	0.0611	0.0178	0.0380	0.0842
36	0.0607	0.1050	0.0188	0.0224	0.0527	0.0496	0.0602	0.0182	0.0396	0.0867
37	0.0529	0.0943	0.0126	0.0184	0.0300	0.0436	0.0599	0.0086	0.0270	0.0650
38	0.0498	0.0887	0.0026	0.0209	0.0177	0.0486	0.0713	0.0105	0.0257	0.0519
39	0.0515	0.0873	0.0168	0.0210	0.0196	0.0598	0.0874	0.0235	0.0291	0.0441
40	0.0594	0.0983	0.0228	0.0390	0.0383	0.0720	0.1072	0.0323	0.0453	0.0397
41	0.0638	0.1006	0.0297	0.0394	0.0223	0.0822	0.1217	0.0374	0.0568	0.0517
42	0.0695	0.1114	0.0283	0.0451	0.0423	0.0908	0.1363	0.0262	0.0576	0.0753
43	0.0659	0.1088	0.0213	0.0310	0.0269	0.0971	0.1442	0.0244	0.0614	0.0803
44	0.0745	0.1258	0.0257	0.0295	0.0453	0.0982	0.1553	0.0134	0.0529	0.0701
45	0.0780	0.1370	0.0304	0.0164	0.0271	0.1000	0.1620	0.0225	0.0574	0.0643
46	0.0869	0.1533	0.0432	0.0152	0.0420	0.1071	0.1807	0.0202	0.0519	0.0657
47	0.0885	0.1552	0.0385	0.0191	0.0248	0.1052	0.1783	0.0235	0.0532	0.0470
48	0.0881	0.1524	0.0359	0.0199	0.0184	0.1020	0.1744	0.0255	0.0516	0.0464
49	0.0732	0.1300	0.0157	0.0187	0.0222	0.0829	0.1379	0.0197	0.0418	0.0332
50	0.0558	0.1029	0.0053	0.0099	0.0299	0.0667	0.1075	0.0233	0.0450	0.0401
51	0.0432	0.0781	0.0000	0.0154	0.0315	0.0409	0.0645	0.0103	0.0214	0.0129
52	0.0337	0.0581	0.0000	0.0123	0.0150	0.0289	0.0426	0.0102	0.0214	0.0098
53	0.0282	0.0468	0.0003	0.0213	0.0322	0.0139	0.0207	0.0021	0.0002	0.0000
54	0.0220	0.0365	0.0000	0.0128	0.0070	0.0151	0.0219	0.0044	0.0059	0.0000
55	0.0256	0.0392	0.0053	0.0147	0.0101	0.0143	0.0220	0.0057	0.0049	0.0000
56	0.0213	0.0349	0.0000	0.0000	0.0000	0.0182	0.0251	0.0032	0.0177	0.0011

	Female Same-Sex					Male Same-Sex				
Age	ALL	White	Black	Hispanic	Other	ALL	White	Black	Hispanic	Other
57	0.0198	0.0325	0.0032	0.0025	0.0040	0.0178	0.0273	0.0000	0.0064	0.0051
58	0.0139	0.0224	0.0006	0.0000	0.0000	0.0160	0.0246	0.0000	0.0020	0.0050
59	0.0188	0.0266	0.0073	0.0036	0.0000	0.0145	0.0229	0.0000	0.0000	0.0029
60	0.0163	0.0207	0.0043	0.0073	0.0000	0.0134	0.0193	0.0000	0.0038	0.0147
61	0.0178	0.0231	0.0063	0.0107	0.0000	0.0148	0.0203	0.0053	0.0000	0.0175
62	0.0120	0.0149	0.0060	0.0077	0.0014	0.0178	0.0213	0.0120	0.0061	0.0180
63	0.0134	0.0191	0.0088	0.0014	0.0000	0.0192	0.0209	0.0137	0.0134	0.0214
64	0.0099	0.0139	0.0052	0.0000	0.0000	0.0192	0.0224	0.0112	0.0083	0.0264

Source: Authors' calculations from 2012-2014 American Community Survey data.

Appendix C. Same-Sex Marriage Hazard Model

Tables C1 and C2 show summary statistics for male and female same-sex marriage estimation samples respectively. Age spline 15 is the maximum of 0 and age-15. Age spline 20 is the maximum of 0 and age-20, and so on.

Summary Statistics for Male Same-Sex Marriage Hazard Model Estimation

Variable	Mean	Standard Deviation	Minimum	Maximum
New Marriage	0.14712	0.3543	0	1
Spline age - 15	31.83287	13.4984	4	79
Spline age - 20	26.83435	13.4954	0	74
Spline age - 25	21.90143	13.3789	0	69
Spline age - 30	17.28998	12.8113	0	64
Spline age - 40	9.57439	10.2987	0	54
Spline age - 50	4.02020	7.0579	0	44
Spline age - 55	2.34964	5.4038	0	39
Year-Legal Year=0	0.30350	0.4598	0	1
Year-Legal Year=1	0.36854	0.4825	0	1
Year-Legal Year=2	0.10080	0.3011	0	1
Year-Legal Year=3	0.09264	0.2900	0	1
Less than HS	0.02298	0.1498	0	1
High Grade=12	0.18640	0.3895	0	1
Some College	0.21883	0.4135	0	1
College Graduate	0.57180	0.4949	0	1
Non-Hispanic Black	0.04262	0.2020	0	1
Hispanic	0.13174	0.3382	0	1
Other Race	0.06374	0.2443	0	1

Source: Authors tabulations from the 2012-2014 American Community Survey.
Notes: Estimates were based on a sample of 5,402 men age 19 and older living with a same-sex partner in a state that legalized same-sex marriage before 2014. The sample included all unmarried men and men married in the prior 12 months.

Summary Statistics for Female Same-Sex Marriage Hazard Model Estimation Sample

Variable	Mean	Standard Deviation	Minimum	Maximum
New marriage	0.15194	0.359	0	1
Spline age - 15	31.40958	14.346	4	81
Spline age - 20	26.41206	14.342	0	76
Spline age - 25	21.54604	14.124	0	71
Spline age - 30	17.08960	13.374	0	66
Spline age - 40	9.68435	10.617	0	56
Spline age - 50	4.27973	7.221	0	46
Spline age - 55	2.52787	5.528	0	41
Year-legal year=0	0.29975	0.458	0	1
Year-legal year=1	0.35900	0.480	0	1
Year-legal year=2	0.11045	0.313	0	1
Year-legal Year=3	0.08154	0.274	0	1
Less than high school	0.03282	0.178	0	1
High grade=12	0.21305	0.410	0	1
Some college	0.22130	0.415	0	1
College graduate	0.53282	0.499	0	1
No children	0.86829	0.338	0	1
|Head age - partner age|	5.87221	6.112	0	49
Same education dummy	0.57370	0.495	0	1
Black	0.05615	0.230	0	1
Hispanic	0.11437	0.318	0	1
Other race	0.05244	0.223	0	1

Source: Authors tabulations from the 2012-2014 American Community Survey.
Notes: Estimates were based on a sample of 4,844 women ages 19 and older living with a same-sex partner in a state that legalized same-sex marriage before 2014. The sample includes all unmarried women and women married in the prior 12 months.

Table C3 shows logistic model parameter estimates, with standard errors, of marriage probabilities for unmarried men and women in same-sex household couples. Age splines for men are statistically significant as a group, but not significant separately. Age splines for women are more precisely estimated. College graduates were more likely to marry than people with less education. Marriage probabilities increased sharply in the first and second year after a state legalized same-sex marriage, suggesting some pent up demand for marriage among same-sex household couples. The marriage probability was higher for same-sex women with children, and when a female partner was of similar age and education level as the household head. These variables were not statistically significant for men.

Male and Female Same-Sex Marriage Logistic Model Parameter Estimates and Standard Errors

	Male			Female		
	Parameter Estimate		Standard Error	Parameter Estimate		Standard Error
Intercept	2.5479		4.8155	6.1311		3.9503
Spline age - 15	-1.0264		1.0257	-1.6903	**	0.8388
Spline age - 20	1.0315		1.1083	1.6561	*	0.9046
Spline age - 25	-0.0140		0.1783	0.2186		0.1560
Spline age - 30	0.0073		0.0726	-0.1787	**	0.0704
Spline age - 40	0.0349		0.0358	-0.0445		0.0352
Spline age - 50	-0.0298		0.0441	0.0865	*	0.0485
Spline age - 55	0.0203		0.0359	-0.0683	*	0.0412
Year-legal year=0	-0.2525		0.1550	-0.4994	***	0.1499
Year-legal year=1	0.8912	***	0.1372	0.6129	***	0.1292
Year-legal year=2	0.5688	***	0.1707	0.7355	***	0.1545
Year-legal year=3	0.4016	**	0.1800	-0.0039		0.1917
Less than high school	-0.3284		0.3241	-0.3496		0.3126
Some college	0.0779		0.1292	0.2639	*	0.1353
College graduate	0.2651	**	0.1100	0.3890	***	0.1190
Black	-0.1736		0.2106	-0.0949		0.1933
Hispanic	0.0245		0.1236	-0.2104		0.1436
Other race	-0.0573		0.1683	0.1411		0.1792
No children				-0.6142	***	0.1101
|Head age - partner age|				-0.0086		0.0074
Same education dummy				0.2253	**	0.0915
Number of observations	5397			4844		

Source: Authors tabulations from the 2012-2014 American Community Survey.

Notes: Estimates were based on a sample of 5,397 men and 4,844 women ages 19 and older living with a same-sex partner in a state that legalized same-sex marriage before 2014. The sample includes all unmarried individuals and individuals married in the prior 12 months.

***p < 0.01, **p < 0.05, *p < 0.1.

Appendix D. Heterosexual Cohabitation Hazard Model

Summary Statistics of the NLSY Cohabitation Estimation Dataset

Statistic	Mean	Standard Deviation	Min	Max
Outcome	0.09355	0.29120	0	1
Female	0.46942	0.49907	0	1
Age-16	12.02239	9.67292	0	39
Age-19	9.29020	9.38333	0	36
Age-22	7.03827	8.72149	0	33
Age-30	3.25155	6.01431	0	25
School enrollment	0.27056	0.44425	0	1
Employment status	0.63779	0.48064	0	1
Live w/ parents	0.50998	0.49990	0	1
Children younger than 1 year	0.03543	0.18871	0	3
Children older than 1 year	0.56968	1.07602	0	11
Unemployment rate	6.40530	1.67345	4	9.7
NLSY79	0.70967	0.45392	0	1
First cohabitation	0.68650	0.46392	0	1
Log-real earnings	6.57213	4.58268	0	13
Earnings missing	0.21517	0.41094	0	1
White	0.68684	0.46378	0	1
Black	0.18991	0.39223	0	1
Hispanic	0.08229	0.27481	0	1
Asian	0.00866	0.09264	0	1
Other	0.03230	0.17678	0	1
Less than high school	0.35950	0.47985	0	1
High school	0.25831	0.43770	0	1
Some college	0.23346	0.42303	0	1
College diploma	0.09433	0.29228	0	1
Graduate school	0.05441	0.22683	0	1
Observations	272,809			

Source: Authors' tabulations from the 1979 and 1997 National Longitudinal Survey of Youth.
Notes: Table includes person-month data for individuals at risk of entering a cohabiting relationship.

Cohabitation Model Logistic Parameter Estimated and Standard Errors for White, Black, and Hispanic Men and Women.

	Women			Men		
	White	Black	Hispanic	White	Black	Hispanic
Intercept	-3.0880***	-3.8677***	-2.2226***	-4.434***	-4.250***	-4.116***
	(0.146)	(0.253)	(0.190)	(0.212)	(0.291)	(0.289)
NLSY79	1.6394***	-0.9206	0.7395**	0.375	-2.812*	0.387
	(0.239)	(0.636)	(0.350)	(0.483)	(1.504)	(0.699)
Age splines						
Age-16	0.5295***	0.6555***	0.3082***	0.614***	0.553***	0.647***
	(0.049)	(0.087)	(0.062)	(0.074)	(0.103)	(0.100)
Age-19	-0.5119***	-0.6956***	-0.4115***	-0.423***	-0.370***	-0.547***
	(0.065)	(0.110)	(0.088)	(0.090)	(0.129)	(0.124)
Age-22	-0.0388	-0.0173	0.0869*	-0.194***	-0.235***	-0.156***
	(0.033)	(0.050)	(0.052)	(0.037)	(0.054)	(0.055)
Age-30	-0.0713***	0.0092	-0.0574**	-0.090***	-0.092***	-0.060**
	(0.016)	(0.022)	(0.027)	(0.015)	(0.020)	(0.027)
Age-38	0.0484**	0.0072	0.0387	0.060***	0.055**	0.062**
	(0.019)	(0.024)	(0.029)	(0.018)	(0.022)	(0.029)
NLSY79* Age-16	-0.3419***	0.2088	-0.119	-0.073	0.476	-0.137
	(0.083)	(0.220)	(0.125)	(0.165)	(0.511)	(0.238)
NLSY79* Age-19	0.4301***	-0.0205	0.2561	0.251	-0.076	0.244
	(0.102)	(0.244)	(0.158)	(0.182)	(0.535)	(0.266)
NLSY79* Age-22	-0.1210***	-0.2214***	-0.1833**	-0.203***	-0.352***	-0.09
	(0.043)	(0.070)	(0.071)	(0.049)	(0.088)	(0.078)
Education (omit high school graduate)						
Some college	-0.0448	0.0963*	0.0588	-0.114***	-0.086	-0.146**
	(0.038)	(0.051)	(0.061)	(0.038)	(0.053)	(0.063)
College diploma	-0.0192	0.2321***	0.3793***	-0.158***	0.170**	-0.332***

	Women			Men		
	White	Black	Hispanic	White	Black	Hispanic
	(0.047)	(0.084)	(0.102)	(0.047)	(0.084)	(0.126)
Graduate school	0.1853***	0.1553	0.3532***	0.145**	0.250*	0.035
	(0.061)	(0.118)	(0.135)	(0.059)	(0.132)	(0.146)
School enrollment						
Enrolled	-0.9659***	-0.7273***	-0.8518***	-0.800***	-0.659***	-0.567***
	(0.059)	(0.094)	(0.094)	(0.071)	(0.116)	(0.111)
NLSY79* enrolled	-0.3437***	-0.1206	-0.3647**	-0.198**	-0.12	-0.592***
	(0.084)	(0.138)	(0.145)	(0.094)	(0.176)	(0.175)
Unemployment rate	-0.0596***	-0.0442**	-0.0894***	-0.038***	-0.014	-0.026
	(0.012)	(0.017)	(0.020)	(0.011)	(0.017)	(0.020)
First cohabitation	0.0737*	-0.2145***	0.0293	-0.153***	-0.360***	-0.321***
	(0.039)	(0.051)	(0.063)	(0.037)	(0.048)	(0.060)
Number of children						
Younger than 1 year	1.0753***	0.7166***	1.3261***			
	(0.089)	(0.091)	(0.101)			
Older than 1 year	-0.0843**	-0.0356	0.0394			
	(0.037)	(0.037)	(0.048)			
NLSY79* younger than 1 year	0.7615***	0.2057*	0.2081			
	(0.108)	(0.117)	(0.131)			
NLSY79* older than 1 year	0.2779***	0.1146***	0.1529***			
	(0.041)	(0.041)	(0.051)			
Earnings						
Log wage-adjust earnings	0.064***	0.056***	0.061***	0.064***	0.056***	0.061***
	(0.009)	(0.009)	(0.012)	(0.009)	(0.009)	(0.012)
Missing	0.640***	0.118	0.417***	0.640***	0.118	0.417***
	(0.113)	(0.134)	(0.150)	(0.113)	(0.134)	(0.150)
NLSY79*log wage-adjusted earnings	-0.029**	0.019	0.003	-0.029**	0.019	0.003
	(0.012)	(0.016)	(0.021)	(0.012)	(0.016)	(0.021)

	Women			Men		
	White	**Black**	**Hispanic**	**White**	**Black**	**Hispanic**
NLSY79* missing	-1.432***	-0.288	-0.971***	-1.432***	-0.288	-0.971***
	(0.148)	(0.193)	(0.241)	(0.148)	(0.193)	(0.241)
Asian	-0.5026***			-0.631***		
	(0.149)			(0.146)		
Number of observations	58551	45369	22708	71121	42658	24889

Source: Authors' estimates from the 1979 and 1997 National Longitudinal Survey of Youth.

Notes: ***p < 0.01, **p < 0.05, *p < 0.1. Standard errors are in parenthesis. Table includes person-month data for individuals at risk of entering a cohabiting relationship.

Appendix E. Heterosexual Marriage and Separation Hazard Model, Cohabiting Couples

Marriage and Separation Logistic Model Parameter Estimates and Standard Errors for Cohabiting Couples by Race

	White Women		Black Women		Hispanic Women	
	Marriage	Separation	Marriage	Separation	Marriage	Separation
Intercept	-0.664***	2.151***	-2.600***	2.356***	-0.938***	1.532***
	(0.012)	(0.020)	(0.024)	(0.032)	(0.030)	(0.047)
NLSY79	-2.497***	-0.293***	-0.641***	0.839***	-2.849***	-0.431**
	(0.051)	(0.096)	(0.067)	(0.125)	(0.089)	(0.183)
Length of cohabitation						
Year 1	0.278***	0.087*	1.714***	0.058	1.313***	-0.288***
	(0.042)	(0.051)	(0.086)	(0.080)	(0.083)	(0.095)
Year 2	-0.410***	0.05	0.581***	0.157*	0.184*	-0.300***
	(0.053)	(0.057)	(0.117)	(0.086)	(0.108)	(0.102)
Year 3	-0.430***	-0.087	0.344***	-0.313***	0.12	-0.301***
	(0.063)	(0.068)	(0.119)	(0.104)	(0.129)	(0.113)
Year 4	-0.364***	0.013	0.332***	-0.382***	-0.143	-0.344***
	(0.074)	(0.077)	(0.099)	(0.116)	(0.153)	(0.128)
Year>4	-0.163***	-0.097***	0.056**	-0.101***	-0.068***	-0.158***
	(0.015)	(0.015)	(0.024)	(0.019)	(0.023)	(0.022)
NLSY79*Year 1	0.386***	0.563***	-1.325***	-0.595***	-1.394***	0.726***
	(0.077)	(0.083)	(0.137)	(0.108)	(0.165)	(0.148)
NLSY79*Year 2	1.435***	1.152***	0.263	-0.182	0.219	0.997***

	White Women		Black Women		Hispanic Women	
	Marriage	Separation	Marriage	Separation	Marriage	Separation
	(0.095)	(0.094)	(0.170)	(0.119)	(0.189)	(0.167)
NLSY79*Year 3	0.354***	0.033	-0.197	-0.724***	-1.016***	0.568***
	(0.128)	(0.137)	(0.155)	(0.163)	(0.265)	(0.203)
NLSY79*Year 4	0.875***	0.902***	0.058	-0.079	0.176	0.612***
	(0.134)	(0.135)	(0.080)	(0.175)	(0.265)	(0.234)
NLSY79*Year>4	0.133***	0.064***	-0.068**	-0.049**	0.005	0.121***
	(0.019)	(0.020)	(0.030)	(0.024)	(0.032)	(0.028)
Woman's age						
Age	0.009	-0.204***	0.022*	-0.200***	-0.015	-0.133***
	(0.006)	(0.006)	(0.012)	(0.010)	(0.013)	(0.014)
Age squared	-0.001***	0.002***	-0.001***	0.002***	-0.001**	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Man's age - Woman's age						
Less than 0	0.104*	0.454***	-0.032	0.455***	0.051	0.039
	(0.055)	(0.060)	(0.102)	(0.079)	(0.099)	(0.102)
Greater than 6	-0.150**	-0.173**	-0.609***	-0.126	-0.470***	-0.260**
	(0.069)	(0.077)	(0.132)	(0.093)	(0.146)	(0.132)
Woman's education						
Less than HS	-0.465***	-0.05	-0.562***	0.105	-0.602***	-0.138
	(0.071)	(0.068)	(0.130)	(0.088)	(0.111)	(0.104)
Some college	0.249***	-0.136**	0.464***	0.232***	0.241**	-0.300**
	(0.059)	(0.066)	(0.103)	(0.083)	(0.109)	(0.118)
College diploma	0.617***	-0.444***	1.103***	-0.028	0.598***	-0.572**
	(0.070)	(0.093)	(0.146)	(0.150)	(0.166)	(0.228)
Graduate school	1.018***	-0.554***	1.543***	-0.144	0.716***	-0.634**

	White Women		Black Women		Hispanic Women	
	Marriage	Separation	Marriage	Separation	Marriage	Separation
	(0.092)	(0.138)	(0.192)	(0.139)	(0.215)	(0.317)
Education delta: man's - woman's						
-2 or less	-0.324***	0.244**	-0.550***	-0.024	-0.263	0.148
	(0.087)	(0.109)	(0.170)	(0.142)	(0.185)	(0.223)
-1	-0.225***	0.128**	-0.294***	0.041	-0.190*	0.073
	(0.057)	(0.063)	(0.104)	(0.081)	(0.107)	(0.110)
1	0.150**	0.029	0.443***	0.143	0.206*	-0.048
	(0.060)	(0.067)	(0.115)	(0.091)	(0.109)	(0.109)
2 or more	0.09	0.006	0.610***	0.182	0.149	-0.267
	(0.106)	(0.114)	(0.209)	(0.166)	(0.201)	(0.219)
Asian	-0.035	-0.594***			0	0
	(0.145)	(0.178)			0	
NLSY79*Asian	0.093***	0.593***			0	0
	(0.031)	(0.055)			0	0
Different races	-0.345***	0.314***	0.111	0.017	-0.201*	0.536***
	(0.076)	(0.075)	(0.135)	(0.136)	(0.104)	(0.109)
NLSY79*different races	0.106	-0.232*	-0.233**	-0.2	0.748***	-0.281
	(0.131)	(0.123)	(0.092)	(0.251)	(0.193)	(0.178)
First cohabitation	0.133**	-0.149**	-0.145	-0.157*	-0.044	-0.396***
	(0.059)	(0.063)	(0.110)	(0.092)	(0.114)	(0.114)
NLSY79*first cohabitation	2.327***	0.067	1.467***	-0.02	3.067***	0.086
	(0.069)	(0.122)	(0.099)	(0.144)	(0.117)	(0.209)
Previous marriage	2.876***	0.083	2.269***	-0.013	3.596***	-0.027
	(0.083)	(0.111)	(0.138)	(0.137)	(0.151)	(0.181)
Number of children						
Younger than 1 year	0.021	-0.667***	0.224*	-0.497***	-0.414***	-1.165***

	White Women		Black Women		Hispanic Women	
	Marriage	Separation	Marriage	Separation	Marriage	Separation
	(0.088)	(0.110)	(0.130)	(0.127)	(0.134)	(0.188)
Older than 1 year	0.069*	-0.144***	0.057	-0.041	-0.188***	-0.165***
	(0.039)	(0.045)	(0.047)	(0.042)	(0.060)	(0.063)
NLSY79*younger than 1 year	0.244	0.348*	-0.06	0.391**	0.525*	0.958***
	(0.166)	(0.196)	(0.240)	(0.197)	(0.274)	(0.283)
NLSY79*older than 1 year	-0.430***	0.096*	-0.202***	0.024	0.094	0.066
	(0.056)	(0.057)	(0.063)	(0.051)	(0.083)	(0.079)
Number of Observations	15589	15589	7334	7334	5990	5990

Source: Authors' estimates from the 1979 and 1997 National Longitudinal Survey of Youth. Source:

Notes: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. Standard errors are in parentheses. Table includes parameter estimates from person month data for cohabiting couples at risk of marriage or separation.

Appendix F. Heterosexual Separation from Marriage Hazard Model, Married Couples

Separation Logistic Hazard Model Parameter Estimated and Standard Errors by Race/Ethnicity

	White	Black	Hispanic
Intercept	-0.614	-0.966	-0.04
	(0.503)	(0.901)	(0.748)
NLSY79	-0.392	1.082	-1.028
	(0.411)	(0.783)	(0.626)
Length of marriage			
Year 1	0.053	0.255	-0.748[*]
	(0.278)	(0.645)	(0.391)
Year 2	0.212	0.287	-0.855[**]
	(0.279)	(0.649)	(0.399)
Year 3	0.02	0.333	-0.942[**]
	(0.284)	(0.652)	(0.404)
Year 4	-0.15	0.272	-1.059[**]
	(0.291)	(0.659)	(0.413)
Year>4	-0.098[***]	-0.093	-0.200[***]
	(0.037)	(0.090)	(0.053)
NLSY79*year 1	-0.139	-0.376	1.083[**]
	(0.294)	(0.660)	(0.423)
NLSY79*year 2	-0.111	-0.056	1.061[**]
	(0.295)	(0.663)	(0.431)
NLSY79*year 3	-0.255	-0.67	0.751[*]
	(0.303)	(0.670)	(0.442)
NLSY79*year 4	0.073	-0.269	0.898[**]
	(0.308)	(0.675)	(0.451)
NLSY79*year>4	0.028	0.008	0.115[**]
	(0.037)	(0.091)	(0.053)
Woman's age			
Age	-0.052[**]	-0.049	-0.053

	(1)	(2)	(3)
	(0.026)	(0.037)	(0.041)
Age squared	0.001	0	0.001
	0.000	(0.001)	(0.001)
Man's age - Woman's age			
Less than 0	0.249***	0.19	0.304**
	(0.089)	(0.168)	(0.139)
Greater than 6	-0.092	0.288	0.188
	(0.134)	(0.233)	(0.211)
NLSY79*less than 0	-0.180*	0.115	-0.284*
	(0.106)	(0.186)	(0.168)
NLSY79*greater than 6	0.281*	-0.22	-0.234
	(0.150)	(0.256)	(0.243)
Woman's education			
Less than HS	0.603***	0.274	0.107
	(0.103)	(0.225)	(0.147)
Some college	-0.455***	-0.122	-0.503***
	(0.100)	(0.177)	(0.162)
College diploma	-1.280***	-0.478*	-1.064***
	(0.144)	(0.269)	(0.303)
Graduate school	-1.848***	-1.287***	-1.548***
	(0.203)	(0.419)	(0.449)
NLSY79*less than HS	-0.068	0.03	0.184
	(0.119)	(0.245)	(0.169)
NLSY79*some college	0.064	-0.034	0.086
	(0.117)	(0.193)	(0.196)
NLSY79*college diploma	0.259	-0.172	0.153
	(0.165)	(0.294)	(0.372)
NLSY79*graduate school	0.928***	0.48	1.144**
	(0.234)	(0.481)	(0.556)
Education delta: man's - woman's			
-2 or less	0.641***	0.292*	0.477**
	(0.100)	(0.161)	(0.192)
-1	0.396***	0.142*	0.242***
	(0.054)	(0.081)	(0.093)
1	-0.072	-0.052	-0.001
	(0.054)	(0.089)	(0.086)
2 or more	-0.355***	-0.342*	-0.239
	(0.099)	(0.177)	(0.187)
Different races	0.191***	0.058	0.182**

	(0.062)	(0.128)	(0.080)
Cohabited	-0.055	-0.390***	-0.266***
	(0.048)	(0.087)	(0.094)
Number of Children			
Younger than 1 year	-0.713***	-0.271***	-0.420***
	(0.074)	(0.102)	(0.104)
Older than 1 year	-0.005	0.037	0.109***
	(0.020)	(0.024)	(0.029)
Earnings			
Wife	-0.018	0	0.046**
	(0.012)	(0.022)	(0.019)
Wife, missing	-0.274**	-0.305	0.154
	(0.135)	(0.268)	(0.214)
Husband	-0.062***	-0.035	-0.103***
	(0.019)	(0.029)	(0.028)
Husband, missing	-0.126	0.081	-0.197
	(0.213)	(0.320)	(0.296)
NLSY79*Wife	0.014	-0.003	-0.028
	(0.017)	(0.030)	(0.028)
NLSY79*wife, missing	-0.071	0.19	-0.281
	(0.188)	(0.334)	(0.292)
NLSY79*husband	-0.001	-0.086**	0.025
	(0.025)	(0.035)	(0.039)
NLSY79*husband, missing	-0.276	-1.229***	-0.454
	(0.275)	(0.378)	(0.414)
Asian	-0.281		
	(0.285)		
NLSY79*Asian	0.071		
	(0.374)		
Number of Observations	75817	18819	21380

Source: Authors' estimates from the 1979 and 1997 National Longitudinal Survey of Youth. Source:
Notes: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. Standard errors are in parentheses
.

Appendix G. Heterosexual Divorce Hazard Model for Separated Couples

Divorce Logistic Hazard Model Parameter Estimates and Standard Errors

	Parameter Estimate	Standard Error
Intercept	-3.345	(1.659)**
NLSY79	3.916	(1.737)**
Length of separation		
Year 1	1.249	(0.623)**
Year 2	1.13	(0.627)*
Year 3	0.746	(0.635)
Year 4	0.213	(0.652)
Year>4	0.014	(0.091)
NLSY79*year 1	-0.912	(0.640)
NLSY79*year 2	0.07	(0.643)
NLSY79*year 3	-0.754	(0.655)
NLSY79*year 4	0.479	(0.671)
NLSY79*year>4	-0.031	(0.092)
Woman's race		
Black	-0.241	(0.333)
Hispanic	-0.681	(0.569)
Asian	-0.902	(0.322)***
Different races		
Different races	-0.27	(0.104)***
Black*different races	0.389	(0.227)*
Hispanic*different races	0.876	(0.167)***
Woman's age		
Age	0.18	(0.118)
Age squared	-0.005	(0.002)**
NLSY79*age	-0.279	(0.122)**
NLSY79*age squared	0.006	(0.002)**
Man's age - woman's age		
Less than 0	0.114	(0.064)*
Greater than 6	-0.219	(0.079)***

	Parameter Estimate	Standard Error
Woman's education		
Less than HS	-0.664	(0.098)***
Some college	0.282	(0.097)***
College diploma	0.2	(0.141)
Graduate school	0.287	(0.179)
Black*less than HS	-0.319	(0.364)
Black*high school	-1.058	(0.343)***
Black*some college	-0.874	(0.353)**
Black*college diploma	0.416	(0.438)
Hispanic*less than HS	0.132	(0.580)
Hispanic*high school	-0.077	(0.575)
Hispanic*some college	-0.156	(0.584)
Hispanic*college diploma	0.044	(0.675)
Education delta: man's - woman's		
-2 or less	-0.349	(0.123)***
-1	-0.25	(0.067)***
1	0.066	(0.069)
2 or more	0.139	(0.120)
Number of children		
Younger than 1 year	-0.319	(0.095)***
Older than 1 year	-0.058	(0.020)***
Earnings		
Wife	0.046	(0.012)***
Wife, missing	0.269	(0.122)**
Husband	0.063	(0.019)***
Husband, missing	0.601	(0.201)***
Observations	10,947	

Source: Authors' estimates from the 1979 and 1997 National Longitudinal Survey of Youth. Source:

Notes: ***p < 0.01, **p < 0.05, *p < 0.1. Standard errors are in parentheses. The model is estimated on all separated individuals.

Notes

1. The General Accounting Office counted 1,138 federal provisions in which marital status a factor (Crandall-Hollick, Pettit, and Sherlock 2015).
2. State-level data are subject to change from year to year because of random variation due to the relatively small number of cases in each state.
3. These states include Massachusetts, Connecticut, Iowa, Vermont, District of Columbia, New Hampshire, New York, Washington, and Maine.

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