THE EFFECT OF CHANGES IN THE LEGAL RECOGNITION OF SAME-SEX COUPLES ON GAY HOUSEHOLDS: EVIDENCE FROM THE 2006 TO 2010 AMERICAN COMMUNITY SURVEYS

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This paper explores how gay men in unmarried partner households responded to legal changes in
the recognition of their relationship. The goal of the paper is to understand if there exists a
premium to recognition that increases the wages of gay men in relationships with respect to gay
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Abstract of Thesis

This paper explores how gay men in unmarried partner households responded to legal changes in the recognition of their relationship. The goal of the paper is to understand if there exists a premium to recognition that increases the wages of gay men in relationships with respect to other gay men in identical relationships that receive no recognition. This paper finds evidence that there is a strong and significant marital premium in states that recognize same-sex couples. The effects are strongest for marriage and weakest for domestic partnerships.
Introduction

Until now the majority of the literature on the economic lives of gays and lesbians has focused on whether or not they are paid the same as their heterosexual counterparts (Badgett 1995, Allegretto and Arthur 2001, Antecol et al. 2008). The results of these papers have been consistent in their findings that gay men are paid less than their married straight counterparts and lesbians make more than their married counterparts. While the size of these differentials differs based on the sample and the year, they remain statistically significant for gay men, with more ambiguous results for lesbians.

An important factor missing in these papers was the role of marriage in the wage differential. This was driven by the lack of data on this important variable in the available data sets. The General Social Survey asked marital status, but the data sets used by researchers end at or before 2004, the first year gay marriage occurred in Massachusetts (Badgett 1995, Black et al. 2007). Unfortunately for researchers, due to restrictions put in place by the Defense of Marriage Act, the federal government cannot recognize same-sex marriages in any form. The result of this is that gay married couples or couples considering themselves to be in a relationship more like marriage than unmarried partners are reallocated into the unmarried partner category.

Between 2004 and 2010, six states (and Washington, D.C.) have legalized gay marriage. Massachusetts (2004), Connecticut (2008), Iowa (2009), Vermont (2009), the District of Columbia (2009), and New Hampshire (2010) legalized same-sex either through court cases or through legislation. Vermont, Connecticut, New Jersey, and New Hampshire all legalized civil unions by 2010 (Vermont had civil unions since 2000). Since 2004, a whole host of other states have also legalized or put in place domestic partnerships for same-sex couples.

The end result of these changes in recognition is that the United States has in place a patchwork of laws that recognize same-sex couples to varying degrees. The purpose of this
paper is to explore what effects these varying levels of recognition have on the economic lives of gays and lesbians, though the majority of the focus will be on gay men due to their ability to receive a marital premium in the work place. The goal is to analyze the different effects of the recognition regimes on gay households and to understand the potential causes of these differences.

The most relevant finding to this paper is that if gay men were able to marry that the wage differential between men in unmarried partner households and married heterosexual men would shrink as Allegretto and Arthur (2001) suggested. Allegretto and Arthur found that the marital premium received by straight men for moving from unmarried partners to married was large enough to shrink the wage differential for gay men and married men significantly. In their analysis they found that the premium for marriage to a straight man was 14%. The marital premium went a long way towards explaining differences in the wage differential. The problem for Allegretto and Arthur was that they did not know which gay household was married and which was an unmarried partner household. This led them to conclude that if gay households were more like married households, then the wage differential would be larger, but if they were more like unmarried households, it would be smaller. While in our current database it is still unclear who is married and who is not due to the Defense of Marriage Act restrictions, we still are able to create variables for whether or not there is a recognition regime present at the state level.

To understand how the effects of these different regimes are different, we will explore the different effects of these variables on the earnings of gay men and to what extent this effect is due to their decision to have children and the ratio of hours worked in the household.
Literature Review

The literature relevant to this paper falls into two types: those that focus on who is gay and the consequences of using different definitions and previous literature into the marriage premium, with a focus what this tells us about what marriage premium for gay men would look like if it existed.

The first challenge to understanding the marital premium for gay men is understanding the theory behind who is considered to be gay. The vast majority of the previous literature regarding sexual orientation can be divided into two main paradigms: essentialism and social constructionism (Laumann et al 1994). Essentialism is the most common school of thought about sexual orientation. It argues that there exists some sort of biological underpinning that separates homosexuals from heterosexuals. The biological and social consequences of this difference are separate ideas. What matters is there exists some sort of innate difference between those that are homosexual and those that are not. This difference may give rise to different social characteristics and behaviors, but it is not these social characteristics that define homosexuality.

Social constructionism arose in response to and as a critique of essentialism (Laumann et al 1994). It does not argue for a specific definition of homosexuality. It instead argues that the criteria put forth in essentialism is too limited. Where essentialism ignores the social consequences of the innate difference, social constructionism argues that these social definitions and identities are equally as important. Social constructionism points to the changes in the social connotations and definitions of homosexuality and heterosexuality to argue that these differences are what define sexual orientation, not some innate characteristic. Researchers in this field are more concerned with the why and how of the emergence of homosexuality as a separate identity than they are why people are homosexual or not.
The problem for researchers, and especially economists, is that homosexuality exists along a series of dimensions, which do not always align perfectly (Laumann et al 1994). In their study of the sexuality in modern American, Laumann et al. defines three characteristics that must exist for a person to be considered homosexual: desire, behavior, and identification. These metrics are orthogonal to each other and independent of each other. To understand if someone is homosexual or not one must first ask does he or she desire members of the same sex as sexual partners, does he or she engage in sexual acts with members of the same sex, and whether he or she identify as a homosexual or not?

The behavior category is split further into three more categories: gender of the sexual partners, specific sexual acts engaged in, and the time frame that this occurred in. The time frame of the acts is an important indicator for understanding the prevalence of the behavior for an individual and for understanding whether or not the experience has a significant effect on current behavior. Desire is also split further into appeal and attraction. This is to understand whether the idea of sex with a member of the same sex is an appealing idea and if individuals are also attracted to members of the same sex.

As it is easy to imagine, there can exist cases where an individual does not fit into all three categories, but falls into the other two. The easiest example is a homosexual that is currently “in the closet” as it were. While they desire sexual partners of their same sex and engage in sexual acts with these individuals, they do not necessarily identify as a homosexual publically.

Economists can understand the prevalence of homosexuality along these dimensions by looking at the National Health and Social Life Survey that was conducted in 1992 by Laumann and his colleagues (Laumann et al. 1994). While the data is old, it serves as a good guide to the
rough percentage of adults who engage in homosexual behaviors. They asked respondents questions to help separate and highlight the dimensions of homosexuality.

In terms of desire, men experience same-sex attraction at higher rates than women (6.2% and 4.4% respectively), but women are more likely to report that sex with a member of the same sex is appealing (4.5% for men and 5.6% for women). Despite that counterintuitive result, men are two times as more likely to identify as homosexual than women (2.4% and 1.4%). Men are also more likely to have engaged in same-sex behavior than women are at all age groups. As the time frame increases (i.e. in the last year to since the age of eighteen), the prevalence of same-sex behavior increases. In the previous year of the survey, about 2.7% men engaged in sex with other men, but since turning eighteen 4.9% of men had engaged in same-sex activities. The end result of Laumann’s analysis is that for of the individuals who reported some sort of same-sex sexuality (registering as a homosexual along one of the dimensions) only about 15% of women and 24% of men register on desire, behavior, and identity. This number is almost entirely comprised of the individuals who identify as gay, lesbian, or bisexual.

These definitions and constructs raise interesting theoretical questions for economists who seek to study homosexuals. Which of the three aspects of homosexuality are of economic significance. Economists tend to take an essentialist approach to defining homosexuality. This tends to de-emphasize desire and behavior in favor of identity. In the economist’s paradigm, everything is either an endogenous or exogenous variable. Sexuality has biological and environmental causes, but it clearly is more an exogenous variable than an endogenous one. The interest of homosexuals is that they are innately a different group; it makes more sense to use a dummy variable for sexual orientation than a percent homosexual. Being only 75% homosexual would not seem to induce any sort of behavior difference than an individual that was 100%.
Thus it seems evident that we are interested in differences that are large enough to induce observable changes that are economically significant. This leads to an essentialist definition of sexuality that uses three categories: homosexual, bisexual, and heterosexual. To understand how identity becomes the primary interest, it is best to ask oneself what does any of the aspects have to do with economics and examine each dimension on its own.

*Does desiring a member of the same sex change your economic status or behavior?* Clearly the mere act of desiring a member of the same sex does not induce any sort of change in behavior that would distinguish someone from a heterosexual. It is only when this desire leads to behavior and identity changes that we are able to identify individuals who desire members of the same sex from individuals who do not.

*Does engaging in sex with a member of the same sex change your economic status or behavior?* This seems quite evident that the actual act of sex with a member of the same sex does not induce any sort of change in economic behavior on its own.

*Does identifying as a homosexual change your economic status or behavior?* Identifying as a homosexual means that one is open about one’s sexual orientation, which induces behavior changes that are economically significant. Openly homosexual individuals date and seek to marry individuals of the same gender, which leads to different tradeoffs to maximize lifelong utility compared with a heterosexual. The act of being open about their sexual orientation also could make the individual a target for discrimination and prejudice, therefore leading them to choose their occupation and level of schooling in such a manner as to mitigate the effects of being out of the closet.

The majority of papers have focused on using identity as the factor that determines who is homosexual and who is not, and those that do not use behavior as a proxy for determining
identity. Badgett (1995) and Black et. al (2003) use behavior as a proxy for of identity using General Social Survey data, while papers using the Census have only used identity (in this case those who say they are unmarried partners with a member of the same sex). Focusing on behavior as compared to identity is important because it determines what groups of individual the research is discussing and comparing. All individuals who identify as gay or lesbian desire a partner of the same sex, but not all individuals who desire a partner of the same sex identify as gay or lesbian. Thus when researchers talk about unmarried partner households in the Census, all the individuals in the data set identify as a gay or lesbian, but in the General Social Survey, not all individuals in the data set of individuals who have slept with individuals of the same sex in the past year identify as gay or lesbian.

The problem of using identity versus behavior for determining who is gay or not does not affect all types of research into gays and lesbians the same way. Researchers investigating discrimination face the most difficulty choice. Because a gay or lesbian can mask their minority status, it is only when they are open about their sexual orientation are they subject to the discrimination. One is able to hide in the closet and avoid the negative outcomes others face. For these individuals the perceived social benefits of being out are less than the perceived social costs.

Another wrinkle is that since sexual orientation is not correlated with any visible characteristic, so employers who discriminate against gays and lesbians are left guessing at the sexual orientation of individuals that are not open about their sexual orientation. This will lead the employers to discriminate against heterosexuals who they perceive as gay, while not discriminating against gays or lesbians who do not appear to be homosexual. If this discrimination takes place in such a manner that heterosexuals and homosexuals are miss
characterized at the same rate, then there will be no effect on the aggregate amount of discrimination against gays and lesbians. If gays and lesbians are more often mistaken for heterosexuals, then the amount of discrimination is overstated. If heterosexuals are more likely to be mistaken for homosexual than gays and lesbians mistaken for heterosexuals, the amount of discrimination will actually be understated. To avoid this issue, researchers assume that the assumptions are normally distributed, so that an assumption in one direction is canceled out by an assumption in the other direction.

To understand why these different facets of homosexuality are significant and lead to individuals that behave differently from heterosexuals, we turn our attention to how the relationships between two individuals of the same sex are different from those of members of the opposite sex.

The reasons that individuals enter a union are very similar for gays and lesbians and heterosexual individuals. What is different is the rate at which they enjoy the returns. We can analyze one’s choice to enter into a union with another person using the neoclassical framework of utility maximization. According to Becker (1993) there are seven different benefits to entering into a union. For the most part both homosexuals and heterosexuals receive these benefits, though some of the benefits may be determined by the recognition regime in place within the states.

Researchers investigating gay and lesbian registration rates for domestic partnerships in California identified five different reasons that gays and lesbians may enter into domestic partnerships: specialization of labor, commitment, reduces transaction costs, economies of scale, and institutional support (Badgett et al. 2008). These social benefits are especially important when looking at same-sex marriage as they can vary across states. Even if states grant the same
rights (such as hospital visitation, second partner adoptions, or filing taxes jointly), the title of that union has very large connotations that influence the rewards from society for entering into that union.

Entering into a union will tend to promote specialization of labor. By forming a union it becomes utility maximizing for one individual to focus on labor market activity, while the other focuses on a higher portion of home output. In heterosexual couples this home output has traditionally been the role of the wife, while the husband focuses more intensely on market output. This allows the husband to achieve higher wages that offsets the lost wages of the wife. The problem is that this may or may not be an effective compromise for gays and lesbians. While heterosexual partners can offset the loss of one individual’s income with an increase in the worker’s income, it is unclear if there is such a marriage premium for gays or lesbians. This means that there would be a one to one ratio of benefits to costs that could lead to very little specialization.

For all types of couples there is a decrease in transaction costs. Buying and bargaining for two people as one entity is easier to do and has lower transaction costs than buying and bargaining for two individuals separately, which has twice as many costs. This allows couples to buy and consume more and do so easily. Combined with the economies of scale inherent in a coupling and this benefit can become quite large overtime, especially if the goods and services being consumed require higher transaction costs (such as buying a car or a house, insurance, or doing ones taxes).

By forming a union, individuals are able to get a form of social insurance. If they become sick, cannot work in the market, or are disabled for some reason or another, their spouse or partner is able to help out with bills and other expenses, much as insurance would. There isn’t
any reason theoretically that this benefit would differ for homosexual partners compared to their heterosexual counterparts. It is the specific act of forming a union that allows one to get this benefit. It occurs for both married partners and for unmarried partners.

A very important benefit of entering into a union is that it signals commitment for both individuals. This signaling allows for long term planning and commitment on the part of both individuals. If one knows that it is truly until “death do us part” it lengths the time horizon ensuring better returns to investments in the union.

Individuals can take advantage of economies of scale when they enter a partnership that allows them to produce more. At times it is easier to buy and consume goods as a unit than it is as individuals. Things such as grocery shopping and food preparation can become cheaper when it is two people preparing and consuming together rather than separately. Any sort of fixed cost will become cheaper when two individuals enter into a household coupling. This is especially true for such fixed costs as television, internet, or phones.

The creation of stable partnerships helps promote the provision of caring labor for the sick and those in need of care. It is cheaper for an individual to be taken care of by their spouse or partner than it is to go to the doctor or to do it alone. The reciprocal nature of couples ensures that this benefit is available to both individuals when they are sick and that they will both give and receive care over the length of the relationship. This caring labor can save both psychic and monetary costs depending on the nature of care given.

By formalizing the union, the individuals can obtain access to institutional support from third parties of the government. This formal recognition is a key difference between the returns to marriage for gays and lesbians and those for heterosexuals. The Defense of Marriage Act ensures that gays and lesbians do not receive any federal benefits to marriage. This means that
they are ineligible for the hundreds of benefits available to married heterosexual couples. The different levels of recognition (same sex marriage, civil unions, and domestic partnership) for gays and lesbians will lead to different returns to unions. If institutions treat all three forms as the same things, then the returns will be identical for all three types, but any different institutional responses and the benefits to each will differ.

Due to the presence of difference categories of unions available to gays and lesbians, it is unclear if all of the unions impart the same benefits, or if there are different returns to different categories. My thesis will explore whether or not there are different levels of a premium for domestic partnerships, civil unions, and full-fledged marriage.

An important question is then whether the marriage premium will only be present for full-fledged marriage (if it is applicable to same-sex couples) or if it exists for each category, but with differing magnitudes. If the latter is the case, then we expect the premium to be largest for the category that imparts the most benefits, and the lowest for the category that imparts the least. Given that, then the returns for a man for marriage will be greater than returns to a civil union, and civil unions will yield higher returns than a domestic partnership. In states where civil union is the functional equivalent of same-sex marriage without the title, it will be interesting to see if there is any difference in the returns. If there is a difference, then the title itself will have an positive effect on the marriage premium, and if there is no difference then it is the returns to the union and the benefits from the state that primarily drive the premium.

While it is clear from the literature that there are benefits to entering into a union, these differences should not show up as increasing the wages of married men. Yet, there is ample evidence that married men make more than their unmarried counterparts (Korenmann and Neumark 1991). There are two possible causes of the marriage premium: statistical
discrimination and household specialization allows married men to focus more on labor market investments. Empirical has focused on decomposing the premium into its different components to understand which effect is strongest.

Statistical discrimination is a stochastic model of discrimination where in the employer does not have perfect information with regards to the productivity of the worker (Cain 1986). This leads the employer to rely on an imperfect indicator of productivity for a given worker. While any individual’s wage may be randomly different from another individual with the same observable characteristics, differences between entire groups do not occur randomly.

Mathematically we model this as $y = q + u$. Where $y$ is the true productivity of a worker, $q$ is the imperfect indicator, and $u$ is the random error of the employers guess. Because $q$ and $u$ are jointly distributed and uncorrelated, we can compute a reverse regression that can be written as $\gamma$. In this case, $0 \leq \gamma \leq 1$ and $\gamma$ serves as a measure of the reliability of $y$ as a predictor of $q$.

The idea behind the selection bias is that there is a correlation between the fact that a man is married and his productive characteristic. In other words, because a man is married and woman found him to be a suitable husband that serves as a strong indicator of better worker potential. In order to test this Zavodny (2008) ran a logit model with marital status as the dependent variable to test what observable characteristics help determine if a man is married or not. The results are mixed for this analysis due to the fact that there was no correlation between any of the variables and being in an unmarried partnership with a man. For straight men, age and race were big factors in who was married. The older the individual man, the more likely he was to have been married, but African-American men were far less likely to be married. Education
increased the odds of a man being married, rather than cohabitating. This fact reinforces the selection bias since it ensures that workers with more human capital are more likely to be married.

David Neumark and Sanders Korenman (1991) explored the idea that marriage may make men more productive, leading to a marriage premium. What they found did not support their hypothesis, but their analysis of the marriage premium is comprehensive and insightful. They found that hourly wage premiums were robust to extensive human capital controls, including controls for experience. The wage premium started off slow in their analysis, but gained strength as married men experienced faster wage growth, leading to their suggestion that it isn’t an marriage should not be a dummy variable, but a control for the number of years married should be used (Korenman and Neumark 1991). In their analysis, the selection of more productive men into marriage accounted for less than 20% of the wage premium.

Interestingly the wage premium exists within firms as well. Neumark and Korenman found that at the firm level, married men received higher performance ratings than their unmarried counterparts and were more likely to be located in higher pay grades than their single counterparts. The wage premium came from their location in the pay-grade, more so than any intra-pay-grade premiums for married men, and this promotion disparity disappeared when performance reviews were controlled for.

Allegretto and Arthur (2001) devoted their entire paper to understanding the role of the marriage premium in the wage gap between gay men and married men. They found that the coefficient of their marriage variable was .141, which translates to a marital premium of 14.1%. If all gays were in a type relationship closer to that of a married heterosexual couple, then the
wage gap between gay men and married men was still negative 14.4%. If all gays were in a type relationship more similar to those of unmarried partner houses, the wage penalty was only 2.4%. The true value of the wage gap will fall somewhere in between those two values, since not all gays are in unmarried type relationships and not all of them are in married type relationships.

Looking at a sample with a split between unmarried type and married type would allow us to pinpoint the exact spot, but this has become a possibility only recently with the addition of gay and lesbian married couples in the American Community Survey and the Census. The problem is that without productivity measurements, we can’t test the premium theory based on innate productive heterogeneity like Neumark and Korenman were able to do. If unobserved productivity favors gay men over married men, then discrimination is understated in the model. If it favors married men, then the results may overstate the discrimination against gay men.

A man’s earnings are also negatively correlated with the number of hours that a wife works. This relationship suggests that specialization plays a role in the marital premium, but when Zavodny (2008) controlled for this effect using predicted hours worked, the results were more consistent with positive assertive mating than specialization of labor. This result could also suggest an income effect for household income is more powerful than specialization of household labor.

She also found that there was little benefit to specialization for cohabitating couples. This could be because couples have little incentive to specialize more heavily than they currently do. There exists a lack of legal protection and binding commitment for cohabitating couples, which reduces the transaction cost of breaking up, leading to lower benefits of committing to one another. Such behavior results in fewer investments in the relationship and more attachment to
the labor market and could explain why gays and lesbians have a more equal distribution of labor supply. Gays and lesbians also may not specialize because it will end up as a net loss for the household, with the benefits to one partner being canceled out by the sacrifices of the other.

In their work, Allegretto and Arthur (2001) found no evidence of a division of labor in gay households as compared to other heterosexual households. Gay households have a primary earner to secondary earner hours worked ratio of .99, while married heterosexual households have a ratio of 1.37 and unmarried heterosexual households have a ratio of 1.29. This ratio may be driven by the fact that gay men are far less likely to have children, only 4.4% of couples do, which reduces the need for a division of labor. There also is a noticeable lack of non-labor-market work present in gay couples, since the secondary earner is more than 2.5 times likely to be employed than a married secondary earner and 28.4% more likely than a secondary earner in an unmarried couple.

This suggests that any sort of marriage premium that gay men would enjoy would be entirely due to the selection hypothesis or favorable treatment by the firm. This lack of specialization in household production is most likely the main cause of gay households having higher income than other households, but it does not explain why gay men earn less than their married counterparts or lesbians earn more.

Data Sources for Information on Gays and Lesbians

To the detriment of researchers interested in exploring the behaviors and labor supply of gays and lesbians, there are very few sources of data that are provide variables supportive of economic research. The majority of data sources are either convenience samples, not random, not national, or not large enough. While it is not possible at this time to find a data source that is representative, national, large, and detailed, there are a few sources that researchers have used
with varying amounts of success. Often their use is heavily qualified, which limits the conclusions that can be drawn from the author’s research. The three most commonly used sources of data are the National Health and Social Life Survey that was completed in 1992, the General Social Survey, and the surveys of the U.S. Census Bureau, including the Current Population Survey and the American Community Survey.

The National Health and Social Life Survey was by far the most detailed research into the sexual life of gays and lesbians. It gave researchers a detailed look into the sexual lives of gays and lesbians and how this connected and interacted with their social identity. Edward Laumann, one of the key individuals behind the National Health and Social Life Survey, published a book based on the results of the survey. His book, “The Social Organization of Sexuality: Sexual Practices in the United States” was one of the first truly in depth looks into American sexuality (Laumann et al. 1994). The chapter on homosexuality was extremely influential in early research into the economics gays and lesbians because his work exposed the misconception that sexual behavior and sexual orientation are the same thing or at the very least go hand in hand.

The problem with the National Health and Social Life Survey is the fact that it is limited to questions regarding sexuality, it doesn’t include questions that pertain to economic behavior. So while the information from this survey was useful for creating a more rigorous process for identifying gays and lesbians from behavioral data, it had little use for economists researching the behavior of gays and lesbians in the labor market or in economic life. Early work based off of the General Social Survey, such as M.V. Lee Badgett’s revolutionary work “The Wage Effects of Sexual Orientation Discrimination”, made extensive use of Laumann’s work to help them group individuals based on sexual behavior to construct groups most likely to be gay or lesbian. That was the extent of the National Health and Social Life Survey’s contribution to the
literature (Badgett 1995). Later work by Dan Black et al. (2003) and John Blandford (2003) used Laumann’s book and research to help them refine Badgett’s methodology in the hopes of constructing more precise groupings of individuals with similar sexual behavior.

The General Social Survey was an improvement on the National Health and Social Life Survey for a variety of reasons. By 1995, the survey had gathered enough responses to allow for rigorous testing of the data. Conducted annually between 1988 and 1994, and then every two years after that, the General Social Survey contains extensive data on all aspects of an individual’s life, including questions about sexuality and economics. The main problem with the General Social Survey is that it only asks about sexual behavior at various intervals, leaving it up to the researcher to define who is most likely to be gay or lesbian based on this information. The General Social Survey structures their sexual behavior questions very similarly to the way they are structured in the National Health and Social Life Survey, asking an individual if he or she has ever had sex with a member of same sex since the age of 18, in the past 5 years, and in the past year. Then it asks what proportion of an individual’s partners have been of the same sex: all, more than half, half, less than half, or none in the past year and the past five years. Black et al. (2003) found that this recent behavior is accurate in isolating gays and lesbians, 81% of men who have slept with a man and 75% of women who slept with a woman in the past year had no contact with a member of the opposite sex in the same time frame. The drawback of the shortest time frame was that in the same analysis Black et al. (2003) found that the majority of individuals had not engaged in sexual activity with anyone.

Another problem with the General Social Survey is their handling of an individual’s earnings. Unlike the U.S. Census Bureau which provides information on earnings in continuous form up to a maximum, the General Social Survey only reports incomes in brackets, with no
indication of where the individual’s income falls within the bracket. This poses the challenge of how to treat this information. There are two schools of thought on how to treat these that researchers have put forth. The first was the approach taken by Badgett (1995) and involves using the Current Population Survey to find the median in each category and using that as the earnings variable for your ordinary least squares regression. This has the benefit of being a simple solution that does not require much extra legwork to implement. For every individual whose income is higher than the imputed median, there are an equal number of individuals below it. There are three drawbacks to this approach (Berg and Lien 2002).

- The first is that the income estimator from the imputed medians is inconsistent because all of the slop parameters depend on the choice of imputed income for the brackets that are not bounded.
- The second is that the standard errors will over state precision of the estimator, which results in some coefficients being significant when they would not otherwise be due to the suppression of within bracket variation.
- There also exists the chance for logical errors to occur, such as probabilities not totaling to one or negative probability due to the imposition of a linear relationship between regressors and income category when applying OLS.

To address these concerns, Berge and Lien (2002) argue that researchers should use a maximum likelihood regression on the brackets. This allows the researcher to specify a model where an individual belonging to a specific bracket is a function of the individual’s observable and unobservable characteristics.

The largest drawback for using the General Social Survey is the size of the sample. A given year does not contain enough gay and lesbian individuals to analyze. While pooling can
be used to get larger sample sizes, it takes almost a decade of data to gather more than one hundred individuals for each group. Badgett’s original paper only had 47 gays and 34 lesbians in her analysis. Pooling together data from 1988 to 2006, Chushing-Daniels and Yeung (2009) only had 209 lesbian or bisexual women and 243 gay or bisexual men. So while the data set is updated every two years and easy to pool to get a sample large enough, the large time span between the first observation and the last observation presents a challenge for researchers searching trying to draw conclusions. Since being gay or lesbian is not a characteristic that is passed down from parent to child, cohort effects may be extremely relevant. This means that gays from the Baby Boomer Generation may look nothing like the gays from the Millennials. The gender and racial make up of the LGBT community is may be reset every generation, posing a striking problem for researchers.

Another challenge with these long time horizon samples is that there has been a very substantive change in the way that society perceives gays and lesbians, meaning that the number and characteristics of individuals who choose to publically identify as gay or lesbian has changed and become far more inclusive. Pooling data for 20 years means that individuals in your last sample of 2006 could have just been born when your first observation was recorded in 1988. The coefficients on nearly identical individual’s can be very different depending on the time period observed due to the shifts in the economic lives of gays and lesbians. So what may have been a significant negative coefficient in 1996 could potentially be greatly different in 2006, but the long time horizon masks these differences. This was evident when Cushing-Daniels and Yeung (2009) observed different signs on the coefficient of being gay in their wage difference equation for the full time frame of 1988 to 2006 and the most current time frame of 1998 to 2006.
These concerns with the General Social Survey do not disqualify it as a good source for researchers. They simply highlight its limitations. It’s high frequency and large number of questions into various aspects of the lives of gays and lesbians give it a comparative advantage to the only other large source, the US Census. As long as one understands the problems posed by the way the GSS structures its data, there are easy fixes to mitigate them.

The U.S. Census Bureau is one of the most complete sets of data that researchers have on gays and lesbians. There exists one problem with the data, and it can be a large problem or not, depending on one’s original research question. The Census Bureau does not ask questions about an individual’s sexual behavior or identity. So it contains no data on who is gay or lesbian. What it does ask, however, is the relation of each individual in the household to the head of household. Using these data, researchers can theoretically identify gay and lesbian unmarried partners (and in the 2010 Census and 2008 and onward ACS, married gays and lesbians as well). The assumption being that if one is in a same-sex unmarried partnership, it is safe to assume that he or she is likely gay or lesbian. Bisexuals are not included in these samples like they are in the data from the General Social Survey, due to the fact there are no bisexual unmarried partner households. Given the data collected, it means that analysis from the Census is limited to gay and lesbian partners (and married couples in future papers). As long as researchers are careful in specifying whom they are researching, their conclusions are not invalid or biased.

The advantage of the Census Bureau Survey data is that it has by far the most detailed data on the economic behavior of gay and lesbian households. The large number of questions asked by the Census gives the data a versatility that the General Social Survey lacks. The ability to draw data on a large number of economic indicators for an individual or household allows the Census data to be cut and parsed into a variety of different research questions. The major benefit
of the Census over the General Social Survey with respect to researching wage issues is that income and earnings are reported as an continuous value subject to a maximum limit, not as falling within a given income bracket. This creates easier regression analyses, without having to resort to imputing means or maximum likelihood functions.

Besides the lack of any self-identification indicators, there is only one other concern with the Census data, and it has to do with the coding of individuals with in a household. It is possible that due to human error on the part of the respondent, that one of the individuals in the couple was miscoded as being the opposite gender. This would lead a normal heterosexual cohabitating couple to be classified in the Census data as a gay couple. In the 2000 Census, all gay couples that selected themselves as married were recoded as cohabitating unmarried partners. This further increased the risk of straight miscoded couples being classified as gays.

Miscoding is a potentially serious problem for researchers, but is more serious in the smaller sample American Community Survey. The American Community Survey uses three modes of communication to collect data: in person, a mailed form, and in person. The phone and in person interviews contain questions to double check the gender and relation of everyone in the household to the head of household, but the paper form does not contain these clarifying questions. Even though sex miscoding is among the rarest types of coding errors (about 0.2% of individuals will miscode their sex), the frequency ratio of different-sex married couples to same-sex married couples is approximately 100 to 1 (Gates and Steinberger 2009). If we assume that there are equal chances of same-sex couples miscoding the sex of one spouse as there is for different-sex spouses, the effect of same-sex spousal miscoding has almost no effect on the sample mean and distribution. Results of Gates’ and Steinberger’s analysis suggest that miscoded heterosexual couples account for only 30% of same-sex couples and that all of these
couples filled out the paper form (Gates and Stenberger 2009). Other estimates are lower at about 20% (O’Connel and Gooding 2006).

Since there is no chance of miscoding in the phone or in person data collection, so the easiest way to deal with the danger of miscoding is to simply remove any observations in the data collected through the paper mode. The challenge posed by this solution is that it decreases the sample size significantly, eliminating the ACS’s comparative advantage on size and scope of the observations.

To construct the database from the American Community Survey’s 5 Year Public Use Micro Samples, I used the state level five-year files. Merging the household records with the population records yielded over 8 million observations. To construct a database I removed all of the individuals who were not the respondent or the married or unmarried partner of the respondent. This was because we only are able to conjecture about the sexual orientation of the unmarried partner and householder. In order to have comparable groups, we must restrict the heterosexual observations to the same types of observations. I also removed anyone who was not in the labor force, which decreased the number of observations to roughly 4 million or so individuals. I randomly selected 10% of the respondents from the heterosexual population, while retaining all of the gays and lesbians in the sample that fit the criteria.

After these manipulations, I was left with a sample size of roughly 340,606 individuals, of which 54,816 were gay or lesbian. This meant there was roughly a 6 to 1 ratio of heterosexual individuals to homosexual individuals. All fifty states, plus the District of Columbia, are represented, with gay or lesbian observations for every state for every year in the sample.

While there are 27,587 gay men (and almost the same number of lesbians) in the sample, the number in each state differs greatly. North Dakota has the fewest gay men with roughly 25
individuals spread over five years, while California has the most with 4,661 individuals over five years. This introduces the potential problem that these states with few observations will be highly sensitive if one of the individuals recorded that year was an outlier in terms of an important variable. Smaller states are thus more prone to sampling errors. To help mitigate these errors, state level means were weighted using the individual observation weights provided by the Census Bureau.

Looking at the overall sample of gay men, we see that they are similar to the numbers from the literature. They are slightly older than the individuals in Black et al (2007), as well as being more educated with higher individual and household incomes. The difference in incomes is most likely due to these changes in educational attainment and the age of the individuals, which increases earnings.

In the dataset that I have created, there are marked differences between gay men and their counterparts. As can be seen in Table 1, gay men are older than unmarried straight men, but younger than married men. Married men have a median age of 47 years, while gay men are 44 and unmarried straight men are 34. An important difference is that gay men are much more educated than their straight counterparts. They outperform straight men in terms of degrees obtained and years in school. Almost 48% of gay men have obtained a bachelor’s degree or higher, compared to 20% for unmarried partners and 36% for married men. Gay men also have almost a full year more of schooling on average than married men, and almost two years over unmarried straight men (14.7 years for gay men, 14.0 for married men, and 13.1 for unmarried straight partners).

These differences in educational attainment lead to different personal and household earnings. Interestingly, while gay households make more than married households, gay men
earn less than their married counterparts. The median earnings for gay men are $5,000 less than their straight married counterparts ($43,000 vs. $48,000), but the median gay household received $15,100 more in income than the median married households ($97,000 vs. $81,900).

Another cause of these differences in household incomes is the fact that gays are far less likely to have children, allowing them to devote more time and resources to market activities. Only 17% of gay households have children in the sample, compared to 40% of heterosexual unmarried partner households and over 50% for straight married households. Lesbian households have more children than gays, but less than straight households. Part of the reason that gay and lesbian households have lower rates of childrearing is biological to be sure, but there exist institutional barriers to adoption in many states, including some states that have a flat out ban on adoptions for gays and lesbians. This only leaves them with surrogacy as an option, which is far more expensive.

While the Census Bureau recodes all gays and lesbians who indicate they are married on their forms to unmarried partners, in recent years they have begun to report US average descriptive statistics for gay unmarried households and gay married households. In 2008, the first year that this was done there was significant difference in those who called themselves married and those who considered themselves unmarried partner households (Gates 2009). Interestingly, there were 150,000 individuals who reported that they were in some sort of married relationship. The majority of individuals were from states that did not have same-sex marriage, but had some form or recognition (civil unions or domestic partnerships). In states that did not have any sort of recognition, 32,000 individuals indicated that they were married relationships, despite the lack of any sort of official recognition available in the state.
Same-sex spouses in Gates’s analysis were more likely to have children though the rate was still less than married couples, 34% had children in Gate’s analysis vs. 17% for gay men of both types in the ACS 5 year PUMS). They tended to be older than those who considered themselves partners. They also had lower rates of educational attainment and were more likely to be out of the labor force, though part of this could be due to the difference in age between those who enter into marriage and those who remain as partners.

Methodology
To understand if gay men respond differently to different levels of recognition for their relationships, we will look at how their behavior changes across three different indicators of commitment and rewards. The first task is to analyze whether or not gay men receive a marriage premium to their relationship after the introduction of same-sex marriage. The second is to understand the causes of this change. To do this I will look at changes in observable characteristics, the ratio of hours worked, and the presence of children in the household over the same period as the wage data. If the growth in wages is still significant after controlling for these changes, then it is evidence that there is some return to marriage for these couples.

Our null hypothesis is that there will be no change after the introduction of a new recognition regime. Therefore, the alternative is that there is an effect after the introduction of the new regime. Since the Census does not allow us to differentiate individuals who choose to obtain the new recognition and those who do not, it limits our analysis and ability to draw conclusions. Not everyone will choose to enter into the new recognition status right away, so there will be a mix of individuals that enter into the new recognition and those that do not. If everyone chooses to enter into the new recognition when they form a household and never qualify as an unmarried partner household, then the results will be the upper bound of the effect.
of introducing a new regime. Conversely, if no one chooses to enter a relationship that qualifies as a married-like couple, then the results will be the lower bound of the effects. In reality though there is likely to be a mix of individuals in a relationship qualifies as married and those that remain unmarried partner households. So our interpretation of the results is limited to, is there an effect and determining the sign, we are unable to determine the magnitude of the change.

The individuals in the analysis is constrained to men, who are in the work force and were classified as either the householder or the unmarried partner, whose partner was also male. The vast majority of the individuals in the sample responded to the American Community Survey using a paper form, which introduces the possibility of gender miscoding of the second partner. This results in some opposite-sex partnerships being classified as same-sex partnerships and vice versa. The problem is that the number of mail responses was almost six times the number of phone responses. When we exclude the individuals who responded with the paper form, we are left with only roughly 4,621 responses across five years. This means that there is not an observation in every state in every year, hampering our ability to meaningfully interpret the data and the results.

The sample was restricted to only gay men because it is unclear if there would be any marital benefit to lesbians that would resemble that received by married men. In the literature, lesbians already receive a premium for being lesbian, primarily due to the fact that they are less likely to leave the workforce to raise children and are thus treated like heterosexual men (Allegretto and Arthur 2001, Antecol et al. 2008). Controlling the selection of individuals into marriage based on observable characteristics, the statistical discrimination of married individuals mirrors closely the discrimination that leads to higher wages for lesbians compared to their heterosexual counterparts (Allegretto and Arthur 2001, Antecol et al. 2008).
Analysis

To see if there is a premium for entering into a relationship with some sort of legal recognition, we construct a Mincerian earnings function:

\[ \ln Y = \alpha + \beta \text{RECOGNITION} + \delta \text{OBSERVABLE} + \gamma \text{DIVISION} + \phi \text{OCCUPATION} + \eta \text{YEAR} + \kappa \text{TIME} \]

In the above equation, each control is a vector of independent variables, with the vector of coefficients being represented by the Greek letter. The list of independent variables can be seen in Table 3. The most important variable is the Recognition one. This variable is a dummy variable for whether or not the state has same-sex marriage, civil unions, or domestic partnerships. The coefficients of these dummy variables will tell us whether or not there is a premium and the size and direction of the premium. To construct these variables, we looked at each state and recorded whether or not they had a form of legal recognition, when they changed the law, and what form of recognition do they confer. If the state has same-sex marriage, but changed the law in the middle of the data set, then it will be coded as a zero for each year they had no recognition and coded as one starting the year the law changed. The variable for time since marriage will be negative for states that changed, zero during the year the law changed, and positive there after. Observable controls for differences in the demographic characteristics of the individuals. It includes variables for experience, experience squared, education, race, and whether or not the individual has children. Division controls for state level effects in the labor market by assigning a dummy variable for each of the Census Divisions: New England, Mid Atlantic, South Atlantic, East North Central, East South Central, West North Central, West South Central, Mountain, and Pacific. A control for broad occupational categories is included to control for differences in the effects of the occupations. A control was used for the year that the observation was collected to help mitigate the effects of the changes in the macro-economy during the five-year period they were collected. The last control was added to control for the
time since the law was passed. These three Time variables are an interaction term between the presence of legal recognition and time since the law was passed. For states with no legal recognition, time since the law was changed is zero.

Our dependent variable of interest is earnings of gay men. Instead of using the log of annual earnings as Badgett (1995) did, we use the log of hourly earnings as our dependent variable. By using hourly earnings, we control for any employment effect that exists. To construct hourly earnings, we first divide yearly earnings by the weeks worked per year. Then we divide these weekly earnings by the average number of hours worked per week. Because the wage data is not normally distributed, the hourly wages were turned into the log of the hourly wages to adjust for the fact that the right tail is longer than the left.

A challenge in analyzing the data is that the later years in the data set were collected during the recession, so the wages and ratios of hours worked from 2009 and 2010 are far off the average from the first three years of the data set. If we assume that all states were affected then we can control for the different effects by state by including a dummy variable for region and one for occupation. The decline in wages or the rise in the ratio of hours worked can especially be over-emphasized in a state’s average if the state has a very small gay population and few observations.

To observe if there is any effect on the presence of legal recognition on wages, we regress the hourly earnings for gay men against all observable characteristics and dummy variables for the form of recognition available (Table 4). The adjusted $R^2$ is not high, it’s only 0.176, but the majority of variables are significant at the 1% level. Most importantly, the dummy variables for legal recognition of same-sex relationships were significant. Full recognition of same-sex marriages provided a wage premium of 23.5%, while civil unions had a premium of
17.2%. Domestic partnerships provided a premium of 7.1%, but this result was statistically insignificant. These initial results confirm the hypothesis that there exists some sort of marital premium for legal recognition of same-sex relationships, but that the returns depend on the type of recognition. Same-sex marriage provides the largest returns because it is the most analogous to marriage for heterosexual men, while civil unions and domestic partnerships provide many of the same legal benefits, but lack the third party recognition and are treated as something sort of like marriage, but different and lesser.

An interesting pattern emerges when we look at the sub-group comparisons (Table 5). Since changes in the presence of children or changes in the ratio of hours worked have been ruled out as possible causes of the premium, the best explanation that remains is statistical discrimination in favor of the men in relationships. If we look at the sub-group comparisons in this light, it becomes clear that the groups that receive the highest premium are those that are in occupations where there is a benefit to lower turnover. Because the sub-group premiums follow the pattern of the individual premium that was observed (same-sex marriage being larger than civil unions, which are larger than domestic partnerships), we will mainly look at the premium for same-sex marriage. For every sub-group that experienced a higher premium, it was most often the case that this fact was true for all of the three forms of recognition. So while the actual premium received may be different, it isn’t the case that group with the larger premium would change when we change the recognition that we are discussing. So for the sake of brevity, we shall just focus quickly on same-sex marriage premiums.

Men employed in white-collar occupations receive a marital premium of 28.5%. This is 50% higher than the premium received by blue-collar workers. This suggests that employers in these industries find something desirable about having a man be married, more so than those in
industries that employ blue collar workers. Service occupations earn a premium slightly higher to the one earned by men in white-collar occupations, 29%. The same pattern holds true for comparing gay men with a college degree and without one. The premium received by college educated gay men is 25.7%, while gay men who never went to college receive a premium of only about 15.7%. The premium that college educated gay men receive is 63% larger than the one received by their counterparts who did not go to college.

To observe whether or not the effect of recognition changes over time, we construct a variable that tells us the time since the law changed. This variable is labeled, TMar (time since a change in the law). When a variable for time since the change in the law in the individual earnings function was included, the effect of this variable was insignificant, but its inclusion increased the $R^2$ of the model. It also had the effect of increasing the coefficients for same-sex marriage and civil unions, while causing the coefficient for domestic partnerships to become insignificant.

To see what portion of changes in the wages gay men received was due to changes in the observable characteristics of the sample, we construct state level means for the observable characteristics and hourly earnings. In states that have no form of recognition, the hourly earning variable was graphed with respect to the year the data was collected in to give us a sense of how the overall gay population was changing absent these changes in recognition. This represents a sort of national average of hourly wages. To control for difference in observable characteristics from year to year, a regression was run and the residual calculated (Table 3). The residual was then graphed with respect to TMar or the year.

When this is done, it appears as a fairly flat line. The results of this can be seen in Chart 1 (located in the Appendix). There is very little change in the average hourly earning from year
to year. In 2009 and 2010, though, there is a very slight uptick in the average. The cause of this is uncertain, but is most likely due to individuals in jobs that are more sensitive to changes in the macro-economy dropping out of the labor force, leaving only gay men with jobs that are robust to economic fluctuations in the data set. This theory is confirmed when we control hourly wages for differences in observable characteristics (Chart 2). That small positive uptick we observed has a residual of very close to zero, confirming that the change was largely due to changes in the composition of the workforce.

In states with some form of recognition, we see mixed evidence for a premium to legal recognition. It becomes evident that not all forms of recognition are created equal and that there are different responses to each. The response is strongest in states with same-sex marriage and weakest in states with only domestic partnerships. These results confirm what we observed in the wage equation regression, that same-sex marriage has the largest effect, followed by civil unions, and then domestic partnerships. These effects are positive for most years after legalization for same-sex marriage and civil unions.

In states with fully recognized same-sex marriage and those with domestic partnerships, hourly wages do seem to increase following the introduction of marriage (Chart 3). Especially in the later years, there is a positive slope that is quite large, tempered somewhat by the recession. There are mixed results for the early years, though this may be because every state besides Massachusetts that legalized same-sex marriage did so between 2008 and 2010, meaning that the data for TMar equals 0 through TMar equals 2 was collected during a recession. This biases our results downward, as it dampens the slope of the curve in the earlier years. If we restrict our analysis to Massachusetts, there is very clear evidence that in Massachusetts at least marriage had a strong effect on the wages of gay men. Even with the presence of the recession, wage
growth was only stagnant in years 0 through 2. This relationship holds after controlling for observable characteristics (Chart 4). The residual in year zero for states with same-sex marriage is .11, it grows to .34 in year five. Meaning the effect of full recognition is significant, positive, and there is some evidence that it grows over time.

Civil unions show small signs of giving a wage premium. The wage growth is relatively flat from years zero to four. Overall, there seems to be a return to civil unions, though the effect decreases with time. The residual is significant through year three, but is zero at year four. The problem with civil unions is that these observations are from only two states, New Jersey and Vermont. With the introduction of civil unions into more states (RI, HI, and DE) in 2012, there will be evidence available in the future from which to draw a more concrete conclusions, but as of now, these states are only represented in the negative years.

Domestic partnerships show a very stable mean wage after introduction of the recognition, but grow steadily in later years (Chart 7). After year 5, there is a very fast uptick in growth (again though, this is evidence from only one state). When we control for changes in the observable characteristics of gay men in the state, we find that there is essentially no change in the mean hourly earnings over time. The uptick was due to differences in that one state’s workforce than it was that they recognized same-sex couples.

Two possible causes the changes in the wages are observable characteristics and the ratio of hours worked. The changes in observable characteristics explained almost 50% of variation in the state level average, thus part of the other half may be due to changes in the ratio of hours worked allowing the householder to work more while the spouse/partner specializes more in household production.
There is evidence that married couples have very high ratios of hours worked between the householder and their spouse. When we construct this ratio for gays we see that their ratio is less that married couples, but that it is over 1. The ratio was highly sensitive to the recession, it rose a full tenth between 2006 and 2010, with almost half of that growth occurring between 2009 and 2010 (Chart 9). Thus the ratio variable should be interpreted with some caution, in that the later years of the sample show a much higher ratio than the earlier years. So changes over time may not actually be caused by the change in recognition.

When looking at state level averages of the ratio, there is some evidence that gay men changed their behavior after legalization of same-sex relationship recognition. Gay households in states with same-sex marriage saw a slight uptick in the ratio of hours worked between year zero and one, but then the ratio remained unchanged. Those households in states with civil unions saw a slight decline in years one and two, but a slight increase in years three and four, resulting in no change. Households in states with domestic partnerships saw a slight decline of the ratio. States with no form of recognition saw no change from 2006 to 2010. Without a more detailed control for the recession, it is hard to pinpoint the exact cause of this change in ratio. Given this fact, the evidence seems to confirm that gay men receive little benefit to household specialization and that the introduction of recognition does not induce them to change their behavior significantly.

A major difference between fully recognized marriage and a domestic partnership/civil union is the connotation of the union. Marriage is viewed as far more of a commitment than a domestic partner; the question is whether or not gays treat them as the same. Badget et al. (2008) suggests that in the case of registered domestic partnerships in California, they do not. One way to test how gay men view the union is the amount of commitment that they show. Children are a
very evident form of commitment. If fully recognized marriage induces more commitment, then there may be evidence of this change in the percent of the gay households that have children.

There is little evidence that gay men are induced to obtain children after a change in the recognition of their relationship. Charts 14 through 17 show the changes in the percent of gay households with children by time since the change in the law and the data seems to suggest that there was actually a decrease in the percent of households reporting having children. This is probably due to the changes in the sample of households interviewed each year. When states have a very small population, their means are likely to be heavily influenced by who was interviewed each year (especially since the households with children the previous year did not suddenly get rid of them the next). Another possible cause is that the introduction of recognition causes an increase in household formation. These new households do not have children yet since they are still quite new, so they drive down the overall percent of households in the state that report having children.

Conclusion

The evidence in the previous analysis confirms that there is a positive effect on the introduction of some sort of legal recognition for same-sex relationships for gay men. The effect is strongest for fully recognized marriage and weakest for domestic partnerships. There is limited evidence that the effect grows over time; rather it is prominent early in the introduction, and gradually fades. The problem with much of the time-series data is that there are a very small number of states that have some form of recognition, and those that do did not do it all at once. The staggered natured of the introduction means that there are more states with time variables of 0 or 1 than there are of 4, 5, or 6. Another challenge is that these lower time variables were more often collected in the years during the recession from 2008 to 2010. Finding a way to control for
the effects of the recession in the data would be helpful, but the most needed information is simply more years.

There is little evidence that the introduction of legal recognition changes the behavior within the household, so the effect on wages must be coming from an external source. This is most likely the statistical discrimination on the part of employers that benefits married men. The marital premium for gay men over those in states with no form of recognition is similar in size to the premium for married heterosexual men over heterosexual men in unmarried partner households.

What is most striking is that when states pass civil unions or domestic partnerships, they intend for them to be identical to full-fledged marriage in terms of the rights that are granted. Yet, there is ample evidence in this analysis to show that the returns to these identical rights are not the same. Marriage is still more rewarding than the supposedly identical civil unions. Now it may be the case that these will become the same as more and more states adopt civil unions (DE, HI, and RI all did so in 2012), but it seems more credible based on what Badget et. al (2008) found with respect to domestic partnerships that civil unions and domestic partnerships are viewed as inferior to marriage and thus are treated as marriage-lite by society. This results in the presence of the premium that we observed, but with different magnitudes based on how alike society views the three. From the analysis that I performed, it seems that marriage provides a premium that is 36% larger than civil unions and 230% more beneficial than domestic partnerships. These large differences are fertile ground for future research exploring the causes and consequences of these premiums.

The presence of the premiums also raises important questions about the wage differentials between gay men and their straight married counterparts. Now that we can
approximate marital premiums, it would be interesting to see what effects they have on the wage differentials that the previous literature observed. This analysis allows us to update Allegretto and Arthur and come to a more definitive result than theirs was able to.

With all types of research into gays and lesbians, the main obstacle is usually data limitations. This analysis relied on an admittedly crude construction of dummy variables to investigate the marital premiums. In the future, if the Census begins publishing married couples of both straights and gays and lesbian, we would be able to better investigate the marital premium and pin down its exact value. Having individual level marriage indicators would go a long way towards alleviating the data shortage, as would knowing what single individuals were straight, gay, or bisexual. The repeal of the Defense of Marriage Act would be a great boon for this type of research with regards to these data limitations.
Works Cited


Appendix A

Tables

1. Descriptive Statistics of Gay Men and Heterosexual Men
2. States by Form of Recognition and Year of Change
3. List of Independent Variables for Each Control
4. Regression Results of Wage Growth Controlling for Observable Characteristics and Type of Legal Recognition, Individual Observations
5. Sub-Group Comparisons
Table 1

Descriptive Statistics of Gay Men and Heterosexual Men

<table>
<thead>
<tr>
<th>Individual Characteristics</th>
<th>Gay</th>
<th>Standard Deviation</th>
<th>Unmarried Heterosexual</th>
<th>Standard Deviation</th>
<th>Married Heterosexual</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Age</td>
<td>44</td>
<td>0.08</td>
<td>34</td>
<td>0.11</td>
<td>47.1</td>
<td>0.04</td>
</tr>
<tr>
<td>% White</td>
<td>87%</td>
<td>0.2%</td>
<td>81%</td>
<td>0.3%</td>
<td>0.85</td>
<td>0.1%</td>
</tr>
<tr>
<td>% Minority</td>
<td>13%</td>
<td>0.2%</td>
<td>19%</td>
<td>0.3%</td>
<td>0.15</td>
<td>0.1%</td>
</tr>
<tr>
<td>Median Earnings</td>
<td>$43,000</td>
<td>$450</td>
<td>$27,000</td>
<td>$301</td>
<td>$48,000</td>
<td>$248</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household Characteristics</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Household Income</td>
<td>$97,000</td>
<td>$774</td>
<td>$57,600</td>
<td>$533</td>
<td>$81,900</td>
<td>$326</td>
</tr>
<tr>
<td>% with Children</td>
<td>17%</td>
<td>0.2%</td>
<td>40%</td>
<td>0.4%</td>
<td>51%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Mean Ratio of Hours Worked</td>
<td>1.25</td>
<td>0.01</td>
<td>1.26</td>
<td>0.02</td>
<td>1.49</td>
<td>0.01</td>
</tr>
<tr>
<td>Years of School</td>
<td>14.7</td>
<td>0.018</td>
<td>13.1</td>
<td>0.02</td>
<td>14</td>
<td>0.01</td>
</tr>
<tr>
<td>% High School Graduate</td>
<td>17%</td>
<td>0.3%</td>
<td>33%</td>
<td>0.4%</td>
<td>26%</td>
<td>0.2%</td>
</tr>
<tr>
<td>% Bachelor's or Higher</td>
<td>48%</td>
<td>0.2%</td>
<td>20%</td>
<td>0.2%</td>
<td>36%</td>
<td>0.1%</td>
</tr>
<tr>
<td>% Living in States with:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same Sex Marriage</td>
<td>15%</td>
<td>0.2%</td>
<td>14%</td>
<td>0.3%</td>
<td>12%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Civil Union</td>
<td>8%</td>
<td>0.2%</td>
<td>7%</td>
<td>0.2%</td>
<td>9%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Domestic Partnership</td>
<td>25%</td>
<td>0.3%</td>
<td>23%</td>
<td>0.4%</td>
<td>20%</td>
<td>0.1%</td>
</tr>
<tr>
<td>No Recognition</td>
<td>52%</td>
<td>0.2%</td>
<td>57%</td>
<td>0.3%</td>
<td>60%</td>
<td>0.1%</td>
</tr>
<tr>
<td>N</td>
<td>27,587</td>
<td>10,279</td>
<td>110,001</td>
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Table 2
States by Form of Recognition and Year of Change

<table>
<thead>
<tr>
<th>Same Sex Marriage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MA</td>
<td>2004</td>
</tr>
<tr>
<td>CT</td>
<td>2008</td>
</tr>
<tr>
<td>DC</td>
<td>2009</td>
</tr>
<tr>
<td>IA</td>
<td>2009</td>
</tr>
<tr>
<td>VT</td>
<td>2009</td>
</tr>
<tr>
<td>NH</td>
<td>2010</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Civil Unions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NJ</td>
<td>2006</td>
</tr>
<tr>
<td>VT</td>
<td>2000</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Domestic Partnerships</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ME</td>
<td>2004</td>
</tr>
<tr>
<td>CA</td>
<td>2005</td>
</tr>
<tr>
<td>MD</td>
<td>2008</td>
</tr>
<tr>
<td>OR</td>
<td>2008</td>
</tr>
<tr>
<td>WA</td>
<td>2008</td>
</tr>
<tr>
<td>CO</td>
<td>2009</td>
</tr>
<tr>
<td>NV</td>
<td>2009</td>
</tr>
<tr>
<td>WI</td>
<td>2009</td>
</tr>
<tr>
<td>RI</td>
<td>2010</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>No Recognition</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AK</td>
<td>IN</td>
</tr>
<tr>
<td>AL</td>
<td>KS</td>
</tr>
<tr>
<td>AR</td>
<td>KY</td>
</tr>
<tr>
<td>AZ</td>
<td>LA</td>
</tr>
<tr>
<td>DE</td>
<td>MI</td>
</tr>
<tr>
<td>FL</td>
<td>MN</td>
</tr>
<tr>
<td>GA</td>
<td>MO</td>
</tr>
<tr>
<td>HI</td>
<td>MS</td>
</tr>
<tr>
<td>ID</td>
<td>MT</td>
</tr>
<tr>
<td>IL</td>
<td>NC</td>
</tr>
<tr>
<td>IN</td>
<td>ND</td>
</tr>
<tr>
<td>KS</td>
<td>NE</td>
</tr>
<tr>
<td>KY</td>
<td>NM</td>
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<td>MO</td>
<td>PA</td>
</tr>
<tr>
<td>MS</td>
<td>SC</td>
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<td>MT</td>
<td>TN</td>
</tr>
<tr>
<td>NC</td>
<td>TX</td>
</tr>
<tr>
<td>Control</td>
<td>Variables</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Observable Characteristics    | Experience  
Experience\(^2\)  
Education  
High School Drop Out  
High School Graduate  
Some College  
Associate's Degree  
Bachelor's Degree  
Master's Degree  
PhD or Professional Degree  
Race  
Children |
| Census Division               | New England  
Middle Atlantic  
South Atlantic  
East North Central  
East South Central  
West North Central  
West South Central  
Mountain  
Pacific |
| Occupation                    | Manager  
Finance  
Professional  
Teacher  
Art  
Health  
Sales  
Service  
Administration  
Farm  
Craft  
Transportation  
Laborer  
Military |
| Year Effects                  | 2006  
2007  
2008  
2009  
2010 |
| Presence of Legal Recognition | Same-Sex Marriage  
Civil Union  
Domestic Partnership |
| Time Since Law was Changed    |                                                                          |
Table 4

Effect of Recognition on Wage Growth Controlling, Individual Observations

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same Sex Marriage</td>
<td>0.171*** 0.187*** 0.194*** 0.187*** 0.235***</td>
</tr>
<tr>
<td>Civil Unions</td>
<td>0.113** 0.136*** 0.144*** 0.143*** 0.172***</td>
</tr>
<tr>
<td>Domestic Partnership</td>
<td>0.091** 0.071 0.07 0.075 0.071</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observable Characteristics</td>
</tr>
<tr>
<td>Census Division</td>
</tr>
<tr>
<td>Occupation</td>
</tr>
<tr>
<td>Year Effects</td>
</tr>
<tr>
<td>Time Since Law</td>
</tr>
</tbody>
</table>

adjusted R² 0.146 0.148 0.171 0.176 0.176

Base case of region is south, base case of occupation is service, and base case of race is white

*** significant at the 1%, ** significant at the 5%, * significant at the 10%
Table 5
Sub Group Comparisons of the Coefficients

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>White</th>
<th>Minority</th>
<th>No College</th>
<th>College</th>
<th>White Collar</th>
<th>Service Collar</th>
<th>Blue Collar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same Sex Marriage</td>
<td>0.239***</td>
<td>0.199</td>
<td>0.157***</td>
<td>0.257***</td>
<td>0.285***</td>
<td>0.293***</td>
<td>0.188***</td>
</tr>
<tr>
<td>Civil Unions</td>
<td>0.180***</td>
<td>0.168**</td>
<td>0.079**</td>
<td>0.195***</td>
<td>0.204***</td>
<td>0.248***</td>
<td>0.143***</td>
</tr>
<tr>
<td>Domestic Partnership</td>
<td>0.049</td>
<td>0.223</td>
<td>0.003*</td>
<td>0.090*</td>
<td>0.059</td>
<td>0.081</td>
<td>0.075</td>
</tr>
</tbody>
</table>

*** significant at the 1%, ** significant at the 5%, * significant at the 10%
Appendix B
Charts

1. Gay Wage Growth in States with No Form of Recognition by Year, 2006 to 2010
2. Gay Wage Growth in States with No Form of Recognition by Year, 2006 to 2010, Controlling for Changes in Observable Characteristics
3. Gay Wage Growth in States with Same-Sex Marriage by Time Since Change in the Law
4. Gay Wage Growth in States with Same-Sex Marriage by Time Since Change in the Law Controlling for Changes in Observable Characteristics
5. Gay Wage Growth in States with Civil Unions by Time Since Change in the Law
6. Gay Wage Growth in States with Civil Unions by Time Since Change in the Law Controlling for Changes in Observable Characteristics
7. Gay Wage Growth in States with Domestic Partnerships by Time Since Change in the Law
8. Gay Wage Growth in States with Domestic Partnerships by Time Since Change in the Law Controlling for Changes in Observable Characteristics
9. Average Gay Couple’s Ratio of Hours Worked by Year, 2006 to 2010
10. Gay Ratio of Hours Worked in States with Same-Sex Marriage by Time Since Change in the Law
11. Gay Ratio of Hours Worked in States with Civil Unions by Time Since Change in the Law
12. Gay Ratio of Hours Worked in States with Domestic Partnership by Time Since Change in the Law
13. Gay Ratio of Hours Worked in States with No Form of Recognition by Year, 2006 to 2010
14. Percent of Gay Households with Children in States with Same-Sex Marriage by Time Since Change in the Law
15. Percent of Gay Households with Children in States with Civil Unions by Time Since Change in the Law
16. Percent of Gay Households with Children in States with Domestic Partnerships by Time Since Change in the Law
17. Percent of Gay Households with Children in States with No Form of Recognition by Year, 2006 to 2010
Chart 3

Gay Male Wage Growth By Time Since Legalization of Same Sex Marriage

Chart 4

Gay Male Wage Growth By Time Since Legalization of Same Sex Marriage Controlled
Chart 9

![Chart 9: Gay Couple's Hours Worked Ratio by Year](image)

Chart 10

![Chart 10: Gay Household Ratio of Hours Worked By Time Since Legalization of Same Sex Marriage](image)
Chart 11

Gay Household Ratio of Hours Worked By Time Since Legalization of Civil Unions

Chart 12

Gay Household Ratio of Hours Worked By Time Since Legalization of Domestic Partnerships
Chart 13

Gay Household Ratio of Hours Worked By Time in States with No Recognition

bandwidth = .8
Chart 16

Presence of Children in Gay Households By Time Since Legalization of Domestic Partnerships

Chart 17

Presence of Children in Gay Households By Time in States with No Recognition

bandwidth = .8