

Marriage or Cohabitation: The Effects of the Marriage Tax

James Russell
College of the Holy Cross
Advisor: Prof. Boyle
Spring 2009

Abstract: This paper examines the marriage tax paid by couples in 2000 using the U.S. Census data from that year. The U.S. Census data allows the study to focus on cohabiting and married couples, and ignore individuals, to overcome the inaccuracies that can result when the income of a potential spouse for an individual must be estimated. The marriage tax for couples is calculated and examined. Then, the effect of the marriage tax on the likelihood of marriage, as opposed to unmarried cohabitation, is calculated. As expected, an increase in the marriage tax has a small negative effect on the likelihood that a couple is married. A one standard deviation increase in the marriage tax causes a decrease in the likelihood of marriage of about 0.2673 percentage points. This would mean that if there was a one standard deviation increase in the marriage tax the proportion of couples actually married would be 92.5% rather than the current 92.8%. However, several other factors are found to have a much larger effect on the likelihood of marriage. The paper concludes with a brief discussion on the income tax implications of the federal legalization of same-sex marriage. A prediction is made as to which same sex couples would elect to marry if it were legalized, and this prediction is used to estimate the aggregate effect of legalization on federal income tax revenues.

Acknowledgements:

I would like to thank my advisor Professor Boyle. Her guidance and knowledge were essential for this research project. Also, I would like to thank Professor Cahill for his assistance through the honors program. Finally, I would like to thank Professor Baumann and Professor Soares for their help with data collection and statistical analysis.

Introduction

The marriage tax or subsidy is the difference between the amount of taxes that a couple would pay if married and the amount they would pay if unmarried. It has become an important issue in recent years due to the increase in two-earner couples in the United States. In the past, the marriage subsidy was much more prominent in society, benefiting couples that decided to marry. However, in recent years, the marriage tax has grown to have the opposite effect, harming married couples. The marriage tax is an important concept because it concerns the equal treatment of individuals. In order for the tax system to be just, two couples with identical incomes should be treated equally. However, because of the marriage tax, two couples that are identical except for marital status must pay different amounts of income tax. This marriage tax could affect marital decisions or labor force decisions. The effect on marital decisions is a concern because marriage is viewed as beneficial to the stability and welfare of society, and therefore the government might prefer not to adversely impact the marriage rate. This paper examines the marriage tax and calculates the effect that the marriage tax has on a couple's decision to marry. This contributes to the existing literature on the effects of the marriage tax because it is the first study to focus exclusively on cohabiting married and unmarried couples.

Bull et al. (1999) notes that the marriage tax was first created in 1948 when a second rate structure for married couples was developed to calculate income taxes. Due to the structure of our taxation system, a couple's tax burden may be significantly different depending on the couple's marital status. This is due to the fact that the United States tax laws use income splitting to tax the income of a couple. Income splitting means

that the income earned by each spouse is split evenly between the two spouses, or shared equally among each member of the married couple, to determine the income tax of the couple. Couples can elect to file separate returns to avoid income splitting, but this has many negative side effects including increased tax rates, and thus increases the couple's combined tax burden above what they would be paying if they filed jointly. Therefore, a couple's tax burden may be significantly higher or lower depending on whether they elect to marry or remain single.

A major factor affecting the marriage tax is the income of the second earner, the spouse with the lower income. This is due to the fact that the marriage tax tends to be smaller (or even a marriage subsidy) for couples with very different incomes, and larger for couples with similar incomes. This fact has a negative effect on couples with two earners with similar incomes, and therefore may discourage the second earner from entering the work force. It also means that couples with a large difference between their incomes can benefit from marriage, since their income tax while married could be lower than their combined income taxes as two single individuals.

As the marriage tax has gained recognition in tax law, much research has been undertaken to determine the magnitude and effects of the marriage tax. To determine the effects of the marriage tax it is important to determine which individuals pay a marriage tax or receive a marriage subsidy. This paper will look at various groups of individuals to determine which individuals are most negatively affected by the marriage tax/subsidy. The results indicate that couples with children, and couples below the poverty level are less likely to pay a marriage tax. Interracial couples, on the other hand, are more likely to pay a marriage tax. Finally, older couples are the least likely age group to pay a marriage

tax, and young couples have a much smaller average marriage tax than middle aged couples.

Another important area of marriage tax research has been studies to determine if the marriage tax has an effect on people's decisions to marry or remain single. If the marriage tax increased the cost of marriage, then a couple may decide that it is more beneficial to remain single and cohabit and elect to avoid marriage. Also, individuals might decide that they do not want to marry, since it would increase their income tax, and may elect to avoid looking for a partner. Alternatively, individuals who pay more tax as singles than they would pay if they were married have an incentive to locate a partner and get married. Therefore, the marriage subsidy could have a positive effect on the likelihood that an individual is married. Similarly, the marriage tax could have a negative affect on the likelihood that an individual is married.

This paper focuses only on couples, since this is the most straightforward way to calculate the marriage tax and it avoids the complication of estimating the income of a hypothetical partner of an individual. The paper looks at the effect that the marriage tax has on the probability that a couple is married rather than remaining as an unmarried cohabiting couple. The results show that the marriage tax does in fact have a statistically significant negative effect on a couple's likelihood of marriage. This means that the marriage tax does slightly discourage a couple from deciding to marry. However, this effect is small, and reveals that the majority of couples do not consider the marriage tax to be an important factor in the decision to get married. There are many other characteristics of a couple that have a much greater impact on the likelihood of marriage.

The effects of the marriage tax for couples with certain characteristics are highlighted by focusing on certain subsets of the population. The likelihood of marriage of couples with children is less affected by the marriage tax than the likelihood of marriage of couples without children. The likelihood of marriage for non-interracial couples is less affected by the marriage tax than the likelihood of marriage for interracial couples. Finally, the marital decisions of middle aged couples are less affected by the marriage tax than the marital decisions of couples from other age groups.

The final section of this paper is a brief investigation of the financial effects of legalizing same-sex marriage. The support for same-sex marriage has been growing internationally, and also in several areas of the United States. One side effect of legalizing marriage would be a change in the income tax paid by same-sex couples. The taxes of a same-sex couple could increase or decrease with marriage, depending on several factors. Studies have been performed to estimate the overall tax effect of legalization, but these studies generally have assumed that all same sex couples elect to get married. This study attempts to estimate the likelihood that same sex couples would marry. According to the model, about 16% of cohabiting same-sex couples would elect to remain as unmarried partners. This estimate results in a lower estimated increase in tax revenues than the estimate that assumes all same-sex couples decide to marry.

Literature Review

There is a large amount of research that has examined the marriage tax and the tax policies that have unintentionally created it. This research includes studies on the size of the marriage tax and the cause of changes in the magnitude of the marriage tax. There is

also research considering the different methods of calculation. Defining the marriage tax in different ways can result in significantly different marriage tax valuations. There have also been studies on the effects that the marriage tax has on society. For example, researchers have studied the effects on marital decisions, and on decisions to enter the labor force.

The Marriage Tax

Bull et al. (1999) explains how to calculate the marriage tax. The tax liability is calculated for the couple, and compared to the sum of the two individual tax liabilities of the two spouses if they were single. The difference between these figures is the marriage tax or subsidy. There are difficulties with this calculation, as it is often impossible to determine how to allocate credits and deductions if the couple were to hypothetically be viewed as two separate single individuals. The paper faces an additional difficulty as to the splitting of income because the paper uses tax return data to calculate the marriage tax, and many income items on joint returns must be allocated to one spouse for the marriage tax calculation. The paper calculates that 48% of couples will pay a marriage tax, and 41% of couples will receive a marriage subsidy, where the average marriage tax in 1999 dollars is \$1,141 and the average marriage subsidy is \$1,274.

Alm and Whittington (1996) reviews three methods for estimating the marriage tax. The first method involves analyzing hypothetical couples. The second method involves calculating the marriage tax or subsidy for a couple with average income and characteristics. The third method, (employed by Alm and Whittington (1996) in their calculations) is to examine taxes paid by historical married couples and determine what

they would have paid if the couple was divorced. This third method is the method used by Bull et al. (1999). My study also uses a method similar to the third method, looking at data of historical couples. Alm and Whittington (1996) calculates the tax burden in two different situations. The first gives the parent earning higher income, regardless of gender, custody of any dependents, and the second gives the woman, regardless of income, custody of any dependents. The study finds that the marriage tax is affected by the method of calculation

Cataldo (1995) calculates the marriage tax using the historical couples method with data from 1989. The paper is distinct from prior work since it distinguishes between couples that use the standard deduction and those that file with itemized deductions. The paper's calculations show that the marriage tax for couples that use the standard deduction and those that use itemized deductions is similar. The only component of the marriage tax that has a large difference between filers that use the standard deduction and those that use the itemized deduction is the alternative minimum tax component. However, this only affects one percent of filers who elect to itemize deductions and an even lower percentage of those who elect to file using the standard deduction.

Carasso and Stueurle (2005) focus on the marriage tax that is paid by families with children. The paper discusses the cause of the marriage tax, and how tax laws inadvertently harm middle and low income families with children. The progressive structure of the tax system can have a negative effect on couples with a second earner. This could discourage a couple from marrying, or it could discourage the second earner from entering the labor force. The marriage tax is amplified for couples with children by the Earned Income Tax Credit and the Child Tax Credit, since married couples must add

their incomes together in calculating the phase-out of the credit, which reduces the tax credit that is received if a couple decides to marry.

Marital decisions

The research on the effect of the marriage tax on the frequency of marriage has produced varying results. Some researchers have found that the marriage tax has an effect on both the rate of marriage and the timing of marriage. Other research disagrees, arguing that there is no statistically significant effect. Part of the disagreement stems from the several different methods used by researchers.

Sjoquist and Walker (1995) studied both the rate and timing of marriage of females in relation to the size of the marriage tax from 1948-1987. The paper provides evidence that the timing of marriages is affected by marriage taxes. This means that certain couples may delay marriage until the next tax year, or get married in an earlier tax period to obtain the benefits of either avoiding a marriage tax, or gaining a marriage subsidy, depending on the couple's situation. Sjoquist and Walker (1995) used a supply and demand analysis to portray the market for marriage for males based on differences in income. Using this analysis, the paper tested to determine if the supply and demand curves of married partners are shifted from year to year by changes in the marriage tax. Sjoquist and Walker (1995) find that there is no statistically significant effect on marriage rates by marriage taxes. The paper recognizes one major flaw with the method, the fact that their calculations ignored many important differences among different couples, including the distribution of earnings between the two members of the couple.

Alm and Whittington (1995) uses a similar model but finds different results. The paper concludes that there is a negative effect on the rate of marriage caused by the marriage tax. Also, Alm and Whittington (1995) discuss several benefits that make their model more accurate than the model of Sjoquist and Walker (1995). For example, the paper claims to have better controls for age and a better estimate of the marriage tax or marriage subsidy over time. Alm and Whittington (1995) analyze both the divorce rate and the timing of marriage, and explain that the marriage tax could affect both. The paper concludes that the marriage tax has a significant effect on both divorce and marriage timing.

A third paper, Chade and Ventura (2002) uses a two-sided approach to examine marriage incentives. The two-sided approach considers the market for partners in marriage, and takes into account the fact that if a relationship does not lead to marriage, the two individuals will return to the market to seek a new partner. The paper finds that there is a statistically significant effect of the marriage tax on marriage rates. It finds that as a result of an increase in the “cost” of marriage caused by an increase in the marriage tax, the market will become more selective. However, the increased selectiveness caused by the increase in marriage tax will cause individuals in the pool to realize they will be selected less often, so they will become less selective in choosing a spouse. As a result Chade and Ventura (2002) finds that there is an effect on marriage caused by the marriage tax, but the effect is less than the effect estimated in other studies using only a one sided analysis.

Another study on the affect of the marriage tax on marital decisions is Alm and Whittington (1999). The paper uses empirical data to determine the probability of

marriage given several factors, including the potential marriage tax paid by the couple. The paper considers individuals, and examines the time to their first marriage. A model is then built to determine the effect that taxes have on the probability of marriage. The marriage tax for this calculation is complicated by the fact that the income of the potential spouse is unknown for each individual. To solve this problem, the paper predicts what the income of the potential spouse would be in marriage tax calculations. Alm and Whittington (1999) calculates the tax cost of marriage for each individual and finds that the average female pays a marriage penalty of \$2620, and the average male receives a marriage subsidy of \$429.

The paper uses regression analysis to determine the effect of various factors on the probability of marriage including income, age, race, and other variables. The regression reveals that the marriage tax has a small negative effect on the likelihood of marriage. The effect is larger for the women in the sample than it is for the men in the sample. For the women, the effect is the same regardless of age, whereas for the men the marriage penalty has a larger negative effect on the probability of marriage for older couples. The paper concludes that although other factors are much more important in an individual's decision to marry or remain single, economic factors such as the marriage tax do play a role in the decision.

The literature on the subject has several holes that I intend to fill with my research. One of the major downfalls of many previous studies on the marriage tax is the lack of information in the data that is used. Many of the studies must estimate how to allocate certain income items due to their selection of data, or attempt to estimate a potential spouse's income. My study looks at actual couples, and ignores single

individuals living without a partner to avoid this problem. This eliminates the need to consider the effect that the marriage tax has on an individual's decision to find a partner, and allows my paper to focus on the effect of the marriage tax on a couple's, rather than an individual's, decision to marry. My paper uses a model similar to the model used by Alm and Whittington (1999); however it improves on the model by adding more variables to account for characteristics that might also affect the likelihood of marriage. My paper overcomes the issue of assuming an estimated income for the individual's spouse faced by Alm and Whittington (1999), since my analysis uses a different data set where the couples can be viewed together, with information given about each individual in the couple.

Data and Methods

Data

The data in the study are from the 2000 United States Census. This data set was chosen because it provides the income figures for each individual in a couple, and thus is useful for calculating the marriage tax. This eliminates the need to estimate the income of a hypothetical spouse for an individual, and also eliminates the need to estimate how the income is allocated between the two members of the couple. Additionally, the data set includes information about cohabiting, non-married partners. This allows for the calculation of a potential marriage tax for couples who have decided not to get married. The data set contains same-sex and opposite-sex cohabiting couples and includes a variable for the relationship to the head of household. It is assumed that individuals who are the same sex as the head of household, and are reported as an unmarried partner are

same-sex couples. The cohabiting, unmarried, opposite-sex couples were located using a similar technique, but only including individuals who were the opposite-sex of the head of householder.

The Census data includes several variables in addition to income that affect the likelihood that a couple elects to marry. The Census includes the number of children, which has a mean of about 1 in a household. It also includes the age of each member of the couple. The average age for a husband in the data set is about 49 years, and the average age for a wife in the data set is about 46 years. There are several other factors that could affect a decision to marry, including race, employment, education and location, which can be found in the Census. The location can also be examined in more detail, by considering both the state where the couple lives, and also whether the couple lives in a metropolitan or rural area.

The data set was divided into individuals who are heads of households, and those who are not. The head of household was designated by the person filling out the Census form, and therefore was a random selection. Non-household heads were dropped if their relationship to the head of household was not married or unmarried partner. The data sets were then merged together according to household serial number, so that each observation represents one couple. Then, same-sex couples were separated from the data to be studied later. Finally, the couples were split into married and unmarried groups based on their marital status. Summary statistics for the data are given in Table 1.

Both members of married couples have higher average income than members of unmarried couples. The average income for the male in an unmarried cohabiting couple is over \$10,000 less than the average income of the husband in a married couple. The

difference between the average income of a woman in an unmarried cohabiting couple and the average income of a wife is not as large as the difference for males. Also, unmarried cohabiting couples tend to be younger and have fewer children than married couples. Unmarried couples are more likely to live in a metropolitan area, and each member of an unmarried couple is more like to be white. Also, the average unmarried couple tends to have more education than married couples, since there are a larger percentage of married couples that have zero years of college, and a larger percentage of unmarried couples that have 4 or more years of college. Finally, in unmarried couples, it is more likely that both individuals will be employed than in married couples.

Calculating the Marriage Tax

As noted in previous studies, there are several different ways to calculate the marriage tax. The marriage tax calculation is dependent on assumptions about who would receive certain deductions if the couple were unmarried. For example, if a couple has three children, it is impossible to know which member of the couple would care for the children if the couple were not together. Also, an individual has tax deductions for each dependent child that he/she is responsible for. Thus, the hypothetical individual income tax for each member of the couple depends on which member is responsible for the children. There are several methods to split up the children, and this paper uses three different methods to split up the children for opposite-sex couples. The first method, which will be named method A, assumes that the mother retains responsibility for the child. Method B assumes that the father retains responsibility for the child, and the third

method, method C, assumes that the children are split between the mother and father, with the first child being the responsibility of the mother.

The first step in calculating the marriage tax is to determine the taxable income of the couple and the individual taxable income of each member of the couple by subtracting deductions and exemptions from income. In this study, it is assumed that everyone uses the standard deduction since information about all possible itemized deductions is not present in the data set. Next, the income tax that would be paid by the couple if they were married and the individual income tax that would be paid by each member of the couple if they were unmarried are calculated using tax tables. This study uses the federal tax tables from 2000, since the data is for the same year. Next, tax credits need to be considered. Due to limitations in the data, and also to simplify the study, only the Earned Income Tax Credit is calculated for the couple as a whole and for each individual. The Earned Income Tax Credit is important since studies have shown that it has an effect on the marriage tax. The Earned Income Tax Credit was added back to the tax of the couple and each individual to determine the total income tax of the couple if they were married, and the total income tax of each individual if they were single.¹ The marriage tax is then calculated for each of the three possible methods with equation 1:

$$\text{marr_tax} = \text{mfj_tax} - (\text{m_tax} + \text{f_tax}) \quad (1)$$

where mfj_tax is the tax paid by the couple if they were married, m_tax is the tax paid by the male member of couple, and f_tax is the tax paid by the female member of the couple. This calculation was repeated three times to account for the three methods described above, resulting in three separate calculated marriage tax figures, A_marr_tax ,

¹ The Earned income tax credit was calculated using the program written by Kerry L. Papps.

B_marr_tax, and C_marr_tax. Following the calculation of the marriage tax, separate groups of individuals were analyzed to determine which people benefit most and are harmed the most by the marriage tax.

As expected, the different methods of allocating children result in differing calculated marriage taxes. These results are given in Table 2. The results reveal that the lowest percentage of couples paying a marriage tax occurs when the children remain with the mother. This is as expected, since the mother is generally the second earner, and if the children remain with the lower earner, the second earner's taxable income is decreased. Therefore, the couple would be more likely to receive a marriage subsidy. Another interesting result from the marriage tax calculations is that both the lowest average marriage tax and subsidy occur when the children remain with the husband. When the children are allocated in some other manner, either all to the wife or split among the husband and wife, the average marriage tax and the average marriage subsidy are both higher.

In most cases, the mother retains possession of the children. Therefore, the marriage tax paid or subsidy received by couples with certain characteristics is examined in more detail using method A of calculating the marriage tax. These results are shown in Table 3. First, the data were split into couples with and without children. The marriage tax calculations show that couples without children are more likely to pay a marriage tax than couples with children. The next division of the group was based on the poverty level. In 2000, the poverty level for a family of four was \$17,603. The results of this calculation reveal that couples below the poverty level rarely pay a marriage tax. Interracial couples were also considered, and interracial couples are slightly more likely

to pay a marriage tax than non-interracial couples. Finally, the marriage tax or subsidy paid by couples was examined based on the age of the couple. Older couples are the least likely to pay a marriage tax. Young couples and middle aged couples have a similar likelihood of paying a marriage tax, but the middle aged couples have the highest average marriage tax, whereas the young couples have the lowest average marriage tax.

Empirical Model

Next, an econometric model is used to calculate the effects of various factors on the likelihood of marriage. The following equation is estimated:

$$\text{Married}_c = a_0 + a_1\text{Marr_tax}_c + a_2\text{Wife}_c + a_3\text{Husb}_c + a_4\text{Couple}_c + \varepsilon_c \quad (2)$$

where Married_c is equal to 1 if the couple is a married couple and it is equal to 0 if the couple is an unmarried cohabiting couple. The constant term in the equation is a_0 .

Marr_tax_c is the couple's marriage tax calculated using the methods described above.

Wife_c is a vector containing information about the wife in the couple, including income,

age, race, employment status, and education. Husb_c is a vector containing information

about the husband in the couple, including income, age, race, employment status, and

education. Couple_c is a vector containing information about the couple, including the

number of children, if the couple lives in a city, and the state in which the couple resides.

Finally, ε_c is the random error term in the equation. The model is estimated using a probit

regression since the dependent variable is either a 0 or a 1.² The regression is run three

separate times, each time with a different method of calculating the marriage tax.

Afterwards, the regression is run on several subsets of the dataset.

² Probit regressions are discussed in Wooldridge (2003)

Results

All Opposite Sex Couples

If a couple must pay a marriage tax, the cost of marriage is therefore increased. Thus, it is expected that there should be a negative effect on the likelihood of marriage caused by the marriage tax. Probit marginal effects from estimating equation (2) on all opposite sex couples are given in Table 4. As expected there is a negative, statistically significant effect on the likelihood of marriage caused by the marriage tax for all three methods of calculating the marriage tax. In each case, the magnitude of the effect is small, which is consistent with the previous literature. When the mother retains the children (method A), the marriage tax coefficient is $-9.62E-07$. When the father retains the children (method B) the marriage tax has a slightly smaller effect on the likelihood of marriage, $-6.28E-07$. When the children are split among the spouses, the marriage tax has the largest negative effect on the likelihood of marriage, $-1.94E-06$. These results are as expected; couples are slightly less likely to get married if doing so would increase their income tax burden.

Using method A, the coefficient on `Marr_tax` implies that a \$1 increase in the marriage tax (equivalent to a \$1 decrease in the marriage subsidy) results in a .000096 percentage point decrease in the likelihood of marriage. This means that a one standard deviation increase in the marriage tax (an increase in the marriage tax of \$2784.86) causes a .2673 percentage point decrease in the likelihood of marriage, and a one standard deviation decrease in the marriage tax causes a .2673 percentage point increase in the likelihood of marriage. The proportion of opposite sex couples actually married in

the data set is 92.79%. A one standard deviation decrease in the marriage tax would result in a higher proportion of opposite sex couples actually married, 93.05%.

The regression also reveals other interesting factors that affect marital decisions. Except for the income difference variables, the coefficients on different factors affecting the probability of marriage using the three different methods to calculate the marriage tax are very similar. The largest factors affecting the likelihood of marriage rather than cohabitation are the ages of the individuals in the couple. Younger men and women are the least likely to be married, and as the age of the men and women increases, the probability of marriage increases. This seems logical, since younger couples seem more likely to cohabit as unmarried partners, and older couples are more likely to marry. The results show that all couples with males older than 70 years and couples with females older than 70 years old are more likely to be married than the couples in any other age group.

Another factor with a large effect on the likelihood of marriage is the number of children of the couple. The number of children has positive correlation with the likelihood of marriage according to all three of the regressions. This seems correct since as the number of children increases, a couple would be more likely to decide to marry rather than cohabit for the benefit of the children. The location of residence also affects the likelihood of marriage; if a couple lives in a metropolitan area, they are less likely to be married. This also seems logical, since it is expected that people in cities are more likely to cohabit and remain unmarried. Another interesting result is the effect that race has on the likelihood of marriage. According to the results, a white man is more likely to be married, and an African American man is less likely to be married, compared to men

of other races. The effect of race on a woman's likelihood of marriage is the opposite. A white woman is less likely to be married, and an African American woman is more likely to be married, compared to women of other races.

Another characteristic that affects the likelihood of marriage is employment status. According to the regression, if the male is employed, the couple is more likely to be married, and if the female is employed, the couple is less likely to be married. This seems realistic, since the traditional view that a man works and the woman stays at home may be followed by some couples, and the couples that follow the traditional approach are less likely to cohabit as unmarried partners. This is due to the fact that a couple with more traditional beliefs would probably frown upon living together while unmarried.

The results also show that low education has a negative effect on marriage, and more educated couples are more likely to be married, and therefore less likely to cohabit. Finally, the age difference between the two individuals has an effect on the likelihood of marriage. If a couple has a greater difference in age, it is expected that they would be less likely to be married. All of the regressions confirm this expectation.

Therefore, for all three regressions, the coefficients that affect marriages all seem reasonable, and they all seem to have the correct sign. This supports the accuracy of the findings on the effect of the marriage tax, which has a small negative effect on marriage. However, the other factors, such as number of children, age, age difference, race, and others all have a larger effect on marriage. Therefore, while the marriage tax is a factor in marital decisions, it is a relatively small factor compared to others when a couple is deciding if they should get married, or if they should cohabit as unmarried partners.

Subsets of Opposite Sex Couples

The same regression is run several times with different subsets of the data set. This is done with the marriage tax calculated using method A, because in most cases, the mother retains responsibility for the child when a couple separates, so method A seems to best model the real world marriage tax. The regression is run on subsets of the population to determine which groups' marital decisions are most affected by the marriage tax. First, the regressions are run for couples with children, and without children. In addition, I compare couples above and below the poverty line, and interracial couples versus couples of the same race. The regression is also run for couples who pay a marriage tax only, and for couples who pay a marriage subsidy only. This regression is split into couples of different age groups to isolate the effects on certain couples in the population.

Finally, the regressions are run on subsets of the population that are divided by age. The couples are divided based on the age of the husband, and certain couples are dropped if the age of the wife is very different from the age of the husband. This results in the regression being run for three groups of couples. The first group is young couples, in which the husband is 18 to 29 years old and the wife is 18 to 39 years old. The next group is middle-aged couples, in which the husband is 30 to 49 years old and the wife is 18 to 59 years old. The final group is older couples, where the husband is 50 to 69 years old and the wife is 40 to 69 years old. The results of these regressions are compared to determine which age group's marital decisions are most and least affected by the marriage tax.

These results are presented in Table 5. The first subsets that were examined were the couples with children and the couples without children. One would expect that for

couples without children the marriage tax would have a larger effect on the likelihood of marriage. A couple with children is facing more pressure to marry for reasons other than the marriage tax due to the traditional societal view of a family with a married couple as father and mother. Therefore, it is less likely that they would consider the marriage tax as a significant factor in a decision to marry or remain single. This is corroborated by the results of the regression. For the group of couples with children, the marriage tax has a coefficient of $-2.67E-07$, whereas for the group of couples without children, the marriage tax has a coefficient of $-1.01E-05$. Both of these results are statistically significant. This means that a one standard deviation decrease of the marriage tax results in a .07 percentage point increase in the likelihood of marriage for couples with children and a 2.81 percentage point increase in the likelihood of marriage for couples without children. This would mean that the proportion of actually married couples with children would rise from 98.92% to 98.99%, and the proportion of actually married couples without children would rise from 86.12% to 88.93%.

Next the opposite sex couples were split into two groups, those below the poverty level and those at or above the poverty level. The coefficient for couples above the poverty level is a small negative number, as expected. However, the coefficient on the marriage tax for the regression using only individuals below the poverty level is positive. One possible explanation for this outcome could be the effect of cash welfare on marriage. Since the welfare that a couple receives is affected by marital status, a couple may elect not to get married, or to get married based on different welfare benefits. According to Moffit (1997), welfare has a negative effect on the decision to marry. Also, couples with very different incomes are more likely to have their welfare benefits

affected by marriage. Thus, couples with very different incomes are more likely to avoid marriage for welfare reasons. However, these couples are also less likely to pay a marriage tax, since couples with similar incomes pay the largest marriage tax. Therefore, couples who pay a smaller marriage tax, or receive a marriage subsidy, are more likely to avoid marriage for welfare reasons. This could cause the positive coefficient for couples below the poverty level who would be more likely to receive welfare. More research could be performed on the combined effects of welfare and taxes on the probability of marriage.

Next, couples were split up into groups to examine the different reactions to the marriage tax for interracial couples as opposed to couples of the same race. The effect of the marriage tax on the probability of marriage is found to be negative for both groups as expected. The effect on interracial couples is larger than the effect on same-race couples. This can be explained by the fact that a larger percent of interracial couples decide to cohabit. Thus, more interracial couples consider unmarried cohabitation, so it is logical that the marriage tax will affect the probability of marriage for interracial couples more than it will for same-race couples.

Also, groups were separated based on age. The opposite-sex couples were divided into young, middle aged and older couples. The regressions indicate that younger and older couples' decisions to marry are more affected by the marriage tax. This also seems reasonable, since middle aged couples are expected to marry, and to start families, whereas older couples and younger couples may feel less pressure to get married. Therefore, older couples and younger couples would be more likely to consider the costs

and benefits of cohabitation. This could cause the larger magnitude negative marriage tax coefficients that were found for older and younger couples.

The final method of dividing the couples was based on the marriage tax that they paid. The couples were split into two groups, those who paid a marriage tax, and those who received a marriage subsidy. These groups were then further broken down by age groups to investigate interesting results. For the couples paying a marriage tax, the signs of the effects on the young couples and the old couples were as expected, with an increase in the marriage tax decreasing the likelihood of marriage, but the coefficients are statistically insignificant. The coefficient for middle aged couples that pay a marriage tax is significant but has the opposite sign. This is most likely due to the fact that there are many other factors which affect the likelihood of marriage that are difficult to estimate. These pressures may have a larger affect on middle aged couples. For example, social pressures are most likely the greatest for middle aged couples. The effect of this and other factors could account for the unexpected result. Finally, the effect of the marriage tax on couples receiving a marriage subsidy is as expected. An increase in the negative marriage tax, which is equivalent to a decrease in the marriage subsidy, statistically significantly decreases the likelihood of marriage for couples of all ages. Additionally, the effect was found to have the smallest effect on middle aged couples.

A Thought Experiment: Same Sex Couples

Recent legislation legalized same sex marriage in some states. As a result, research has been performed to examine the tax revenue effects of legalization at the federal level. Alm et al. (2000) analyzed the income tax effects of legalizing same sex

marriage. The paper discussed the state of same-sex marriage legislation in 2000, and the history of the marriage tax. It notes that the Defense of Marriage Act of 1996 specifically prohibits same-sex marriages from being recognized at the federal level. Thus, this analysis is hypothetical, and would only be relevant with the expiration of the Defense of Marriage Act. Alm et al. (2000) uses U.S. Census survey data, National Health and Life Survey Data and General Social Survey data to calculate the marriage tax of same-sex couples. The authors create several hypothetical same-sex couples with varying characteristics. The marriage tax is calculated for each of these couples and ranges from \$200-\$3000.

Holtz-Eakin (2004) also studies the financial effects for the government from 2005 to 2014 of legalizing same-sex marriage. The study includes a discussion of income taxes and the marriage tax. The paper notes that there are a large quantity of issues that would be affected by legalization, and in fact, over 1,000 statutory laws and benefits would be affected by the legalization of same sex marriage. The paper estimates that 1.2 million same sex couples would elect to marry if same-sex marriage were legalized. The paper calculates 1.2 million couples by assuming that all same-sex cohabiting couples in 2000 would elect to marry, and then increasing this number for future population increases, since their estimate is for the years 2005-2014. This contrasts with the results in my paper, which is presented in terms of couples and dollars in the year 2000. Holtz-Eakin (2004) concludes that revenues would increase by less than \$400 million per year between 2005 and 2010, and revenues would increase by \$500 million and \$700 million per year between 2011 and 2014.

There are several difficulties in estimating the effect of the legalization of same-sex marriage on federal income tax revenues. One issue with such a study is the lack of available data. Another issue is determining which same-sex couples would marry. Most studies assume that all current cohabiting same-sex couples will marry. However, this is not necessarily true since many couples who have already been living together may not see the need to get married. In fact, 7% of all opposite-sex couples, and 15% of interracial opposite-sex couples decide to cohabit as unmarried partners. Thus, it would be very helpful to determine which same-sex couples would elect to get married if same-sex marriage were legalized at a federal level.

Same-sex cohabiting couples can be located using the 2000 U.S. Census. The summary statistics for the same-sex couples are given in Table 6. The members in a same-sex couple tend to have lower incomes than the individuals in a married couple, but a higher income than the individuals in unmarried, cohabiting, opposite-sex couples. About half of the couples are male couples, and half of the couples are female couples. Same-sex couples have fewer children on average than opposite-sex couples, and are more likely to live in a metropolitan area. Additionally, same-sex couples are more likely to be more educated, since a larger percentage of same-sex couples have had some college education, or four or more years of college education than opposite-sex couples.

The model used in the paper can be applied to estimate which same-sex couples would marry. The probability of marriage for each couple can be predicted using the regression for opposite-sex couples and applying the resulting coefficients to same-sex couples to predict which couples would get married, and which couples would remain as unmarried cohabiting partners. Making such a prediction first requires calculation of the

marriage tax. All of the methods used previously in this study have allocated children to the wife or husband. However, in a same-sex couple, there is no husband and wife distinction. Therefore, the children must be allocated in a different manner. One method, method D, allocates all children to the high earner. A second method, method E, allocates all children to the low earner. The resulting marriage tax is summarized in Table 7. Both methods produce similar results, and in both cases, the percent of same-sex couples paying a marriage tax is higher than the percent of opposite sex couples paying a marriage tax.

Next, the regression can be run to determine the coefficients of the model. This regression is very similar to equation (2), only rather than distinguishing the variables based on husband or wife, the variables are distinguished by numbers, one or two, for each member in the couple³. Another factor to consider is which population of opposite-sex couples acts the most like same-sex couples. The entire population of opposite-sex couples or just a subset of this population could be used in the regression. Same-sex couples may act similarly to a certain subset of the population, and running the regression on this subset alone might produce a more accurate result. One possible subset that may behave in a similar manner as same sex couples is interracial couples. Since interracial couples have faced discrimination over the years, similar to same-sex couples, they may behave in a similar manner. In fact, the marriage rate for interracial couples in the data set is lower than the marriage rate for all opposite sex couples. The marriage rate for all opposite-sex couples is 92.8%. For non-interracial couples, the marriage rate is higher,

³ For the members of the couple, the number one corresponds with the individual in the couple who is reported as the household head according to the Census, and the number two corresponds with the unmarried partner.

93.3%, and for interracial couples the marriage rate is lower, 85.0%. The regression is therefore computed four times, using the method D and method E with the whole sample of opposite sex couples, and again using method D and method E with only interracial couples.

After running the regression, there are four different models to estimate the likelihood of marriage for same sex couples. The data for the same-sex couples are then input into these four models to create a new variable to predict the likelihood that each couple is married. The next step is to designate same-sex couples as married or unmarried using the variable that has been created. One method to determine the most accurate cutoff percentage for the predicted marital status is to calculate the predicted marital status for the opposite sex couples using the same regression models, and minimize the number of couples whose marital status is incorrectly predicted. The number of incorrect predictions was minimized for the models using all opposite sex-couples when the couples with a predicted marriage value of above 0.56 are assumed to be married. The number of incorrect predictions was minimized for the models using all interracial couples when the couples with a predicted marriage value above 0.47 are assumed to be married. Using these cutoffs, a new variable can be created for the predicted marital status of the couple. The models with all opposite sex couples results in a marriage rate for same sex-couples of about 0.83 for each method of marriage tax calculation. The models including only interracial couples in the regression result in a slightly higher marriage rate of about 0.84 for each method.

Next, the marriage taxes that would be paid or the marriage subsidies that would be received by these predicted married same-sex couples are calculated. The results from

the four models, and also results assuming that all same-sex couples elect to marry are presented in Table 8. The percent of same-sex couples paying a marriage tax and receiving a marriage subsidy are higher using the models than if it is assumed that all same-sex couples marry. Also, both the average marriage tax and the average marriage subsidy are greater when only a portion of the same sex population is predicted to be married. This indicates that couples who pay a large marriage tax or receive a large marriage subsidy are more likely to get married.

Finally, these results are applied to the entire population, to estimate the effect that the legalization of same sex marriage would have on income tax revenues. This is done by multiplying the household weights in the Census data and the marriage tax paid by each same sex couple. The results are presented in Table 9. All methods of calculation indicate that income tax revenues would increase by a significant amount. This is due to the marriage tax that is paid by many married couples. If it is assumed that all same sex couples elect to marry, the revenues increase by between \$135,376,578 and \$143,954,203. When it is assumed that only certain same-sex couples would elect to marry, there would be a smaller increase in federal income tax revenues of between \$126,237,893 and \$136,607,067.

Discussion and Conclusion

The marriage tax has grown in recent years and become a concern for many people. The marriage tax can be calculated in several ways, since it is difficult to determine which individual will be responsible for the children, and therefore receive each child's dependent deduction. The children could be allocated to the wife, to the

husband, or split between the spouses. If the children are allocated to the wife, 47% of couples pay a marriage tax and 50% of couples receive a marriage subsidy, where the average marriage tax is \$1,725 and the average subsidy is \$2,436. If the children are allocated to the husband, 56% of couples pay a marriage tax and 39% receive a marriage subsidy, where the average marriage tax is \$1,610 and the average subsidy is \$1,624. Finally, if the children are split between the spouses 52% of couples pay a marriage tax and 43% of couples receive a marriage subsidy, where the average marriage tax is \$1,968 and the average marriage tax is \$1,846. Different couples face different marriage taxes based on certain characteristics. Couples without children, couples above the poverty level, and non-interracial couples are more likely to pay a marriage tax. Also, older couples are less likely to pay a marriage tax than young couples or middle aged couples.

Since a couple's income tax may be lower or higher depending on their marital status, a couple's marriage tax could have an effect on their decision to marry. My paper finds that a couple's likelihood of marriage is affected by their marriage tax. This effect is found for all three methods of calculating the marriage tax, but is a very small factor, since other considerations such as age and number of children play a much larger role in marital decisions. The marital decisions of certain groups of people are more or less affected by the marriage tax than others. The likelihood of marriage of couples with children, non-interracial couples, and middle aged couples are less likely to be affected by the marriage tax than the likelihood of marriage of couples with children, interracial couples, and couples of other age groups respectively.

Finally, these models can be used to estimate which same sex cohabiting couples would elect to marry if it were legalized. It is estimated that 83% or 84% of same sex

couples currently cohabiting would elect to marry. These couples are more likely to pay a marriage tax than to receive a marriage subsidy, and as a result, legalization of the marriage tax would result in an increase of income tax revenues for the government of between \$126,237,893 and \$136,607,067.

This study can be improved upon by adding more factors into the calculation of the marriage tax. Due to data limitations, and other factors such as simplicity, the marriage tax calculation ignored many of the minor tax laws affecting income taxes. For example, everyone in the study was assumed to file using the standard deduction rather than the itemized deduction. If more data was available, the standard deduction and the itemized deductions of each individual could be calculated and compared to determine which would provide the greater tax benefit, and then that method could be used in calculating the marriage tax.

Further studies could also consider the effect of the marriage tax and welfare combined. Both of these factors have been shown to influence the likelihood of marriage, and it would be helpful to see the comparative magnitude of the effects that these factors have on the marriage tax. Additionally, these factors could be examined to determine the effect they have on the likelihood of entering the labor force, since both factors may discourage a second earner in a household from entering the labor force.

Finally, the study of the marriage tax effects on same sex marriage could be expanded upon. A more in-depth calculation could be used for the marriage tax to calculate a more exact figure by considering more complex tax laws. One additional aspect that could be considered is the long term effects of same-sex legalization. If same sex marriage were legalized, same sex marriage may gain more public support and

become more common. As a result the number of same sex cohabiting couples, both married and unmarried could increase. If this were to happen, the long term effect of legalization of same sex marriage on income tax revenues could be even larger than the effect calculated using current same sex cohabiting couples.

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Table 1:

Summary Statistics - Opposite Sex Couples				
Variable	Married Couples		Unmarried Cohabiting Couples	
	Mean	Std. Dev.	Mean	Std. Dev.
Income - Husband	48488.95	55687.34	30797.57	35863.66
Income - Wife	19620.89	27329.21	20817.09	24389.9
Age - Husband	49.52	15.29	37.09	12.49
Age - Wife	47.06	14.91	34.91	12
Number of Children	1.074	1.217	0.112	0.431
Metro - In Metro Area	0.517	0.4997	0.5474	0.4978
Race - White - Husband	0.8448	0.3621	0.7387	0.4394
Race - White - Wife	0.8415	0.3652	0.7573	0.4287
Race - Black - Husband	0.0634	0.2438	0.139	0.3459
Race - Black - Wife	0.0603	0.238	0.1169	0.3213
Employed - Husband	0.723	0.4475	0.7845	0.4112
Employed - Wife	0.5687	0.4953	0.7037	0.4566
Education - No College - Husband	0.4608	0.4985	0.5711	0.4949
Education - No College - Wife	0.4675	0.4989	0.5136	0.4998
Education - Some College - Husband	0.2688	0.4433	0.2791	0.4483
Education - Some College - Wife	0.2963	0.4566	0.3281	0.4695
Education - 4+ Years College - Husband	0.2737	0.4458	0.1675	0.3734
Education - 4+ Years College - Wife	0.233	0.4228	0.1407	0.3477
Northeast Region - New England Division	0.0568	0.5485	0.0504	0.5072
Northeast Region - Middle Atlantic Division	0.1442	0.6289	0.1387	0.6226
Midwest Region - East North Central Division	0.1677	0.8904	0.1663	0.8865
Midwest Region - West North Central Division	0.0667	0.6324	0.0748	0.6778
South Region - South Atlantic Division	0.1881	1.1751	0.1876	1.1832
South Region - East South Central Division	0.0473	0.4287	0.0622	0.4895
South Region - West South Central Division	0.0863	0.5293	0.1117	0.5968
West Region - Mountain Division	0.0715	0.6959	0.0656	0.6832
West Region - Pacific Division	0.1506	0.5853	0.1252	0.5282

Sample restricted to married and cohabiting opposite-sex couples with both individuals over the age of 18.
All dollar amounts are in 2000 dollars.

Table 2:

Different Methods of Calculating the Marriage tax					
	Percent Paying	Average Marriage Tax	Percent Receiving	Average Marriage Subsidy	Standard Deviation
	Marriage Tax		Marriage Subsidy		
Method A - Children to Wife	46.7%	1724.87	49.5%	2435.99	2784.86
Method B - Children to Husband	56.0%	1609.86	39.0%	1462.85	2114.97
Method C - Children Split	52.1%	1967.76	43.3%	1846.24	2598.58

Results from calculation of equation (1). Couple pays marriage tax if the marriage tax is greater than 0, and receives a marriage subsidy if marriage tax is less than 0. All dollar amounts are in 2000 dollars.

Table 3:

Groups Affected by the Marriage Tax					
	Percent Paying	Average Marriage Tax	Percent Receiving	Average Marriage Subsidy	Observations
	Marriage Tax		Marriage Subsidy		
All Opposite Sex Couples	46.7%	1724.87	49.5%	2435.99	608184
Couples Without Children	52.0%	841.59	44.4%	1431.95	291545
Couples With Children	42.0%	2732.54	54.3%	3191.84	316639
Couples Below Poverty Level	5.8%	204.7	48.3%	846.28	40342
Couples at or Above Poverty Level	49.7%	1737.51	49.6%	2545.97	567842
Interracial Couples	47.2%	1732.51	48.4%	2458.89	34789
Non-Interracial Couples	46.7%	1724.4	49.6%	2434.64	573395
Young Couples	48.0%	1132.25	46.6%	2072	59501
Middle Aged Couples	48.0%	2211.74	49.0%	3051	282248
Older Couples	44.8%	1348.79	51.5%	2020.36	148190

Results from calculation of equation (1), split into different subgroups. Couple pays marriage tax if the marriage tax is greater than 0, and receives a marriage subsidy if marriage tax is less than 0. All dollar amounts are in 2000 dollars.

Table 4:

Regression Results: All Couples			
	A	B	C
Marriage Tax	-9.62E-07 (-12.30)	-6.28E-07 (-6.96)	-1.94E-06 (-23.42)
Couple Income	3.06E-08 (9.49)	2.11E-08 (6.35)	5.64E-08 (16.75)
Income Difference(\$0 - \$5,000)	-6.39E-04 (-0.85)	-3.34E-03 (-4.08)	4.31E-03 (6.63)
Income Difference(\$5,000 - \$10,000)	-7.70E-04 (-1.02)	-3.44E-03 (-4.14)	4.06E-03 (6.30)
Income Difference(\$10,000 - \$15,000)	4.25E-04 (0.59)	-1.93E-03 (-2.43)	4.76E-03 (7.70)
Income Difference(\$15,000 - \$20,000)	9.77E-04 (1.40)	-1.10E-03 (-1.43)	4.94E-03 (8.23)
Income Difference(\$20,000 - \$30,000)	2.28E-03 (3.57)	5.63E-04 (0.81)	5.79E-03 (10.20)
Income Difference(\$30,000 - \$40,000)	3.72E-03 (6.26)	2.42E-03 (3.76)	6.36E-03 (12.04)
Income Difference(\$40,000 - \$50,000)	4.70E-03 (8.19)	3.80E-03 (6.18)	6.59E-03 (12.80)
Income Difference(\$50,000 - \$75,000)	4.86E-03 (9.06)	4.22E-03 (7.47)	6.30E-03 (12.68)
Number of Children	3.04E-02 (177.39)	3.12E-02 (168.93)	3.14E-02 (176.29)
Age(18-29) - Husband	-2.20E-01 (-60.55)	-2.21E-01 (-60.51)	-2.21E-01 (-60.70)
Age(30-39) - Husband	-1.18E-01 (-55.62)	-1.20E-01 (-55.61)	-1.19E-01 (-55.74)
Age(40-49) - Husband	-8.06E-02 (-49.58)	-8.14E-02 (-49.59)	-8.11E-02 (-49.71)
Age(50-59) - Husband	-4.16E-02 (-34.14)	-4.21E-02 (-34.14)	-4.20E-02 (-34.29)
Age(60-69) - Husband	-1.33E-02 (-16.73)	-1.35E-02 (-16.72)	-1.34E-02 (-16.82)
Age(18-29) - Wife	-4.39E-02 (-26.74)	-4.36E-01 (-26.49)	-4.53E-02 (-27.21)
Age(30-39) - Wife	-3.81E-02 (-28.36)	-3.82E-02 (-28.18)	-3.89E-02 (-28.73)
Age(40-49) - Wife	-1.92E-02 (-18.73)	-1.92E-02 (-18.55)	-1.98E-02 (-19.16)
Age(50-59) - Wife	-5.53E-03 (-6.88)	-5.40E-03 (-6.67)	-5.95E-03 (-7.34)
Age(60-69) - Wife	-2.91E-03 (-4.08)	-2.88E-03 (-3.99)	-3.05E-03 (-4.26)
Metro Area	-7.57E-04	-7.81E-04	-7.48E-04

	(-3.61)	(-3.67)	(-3.56)
Race White - Husband	2.77E-03 (6.31)	2.80E-03 (6.29)	2.82E-03 (6.40)
Race White - Wife	-2.06E-03 (-5.37)	-2.06E-03 (-5.39)	-2.01E-03 (-5.32)
Race - African American - Husband	-2.01E-02 (-17.92)	-2.05E-02 (-18.00)	-2.00E-02 (-17.81)
Race - African American - Wife	1.57E-03 (2.26)	1.56E-03 (2.21)	1.61E-03 (2.31)
Employed - Husband	2.86E-03 (10.94)	3.05E-03 (11.49)	2.76E-03 (10.55)
Employed - Wife	-6.09E-04 (-2.72)	-9.29E-04 (-4.14)	-1.57E-04 (-0.70)
Some High School - Husband	-8.49E-03 (-28.13)	-8.60E-03 (-28.14)	-8.51E-03 (-28.20)
Some High School - Wife	-1.08E-02 (-34.78)	-1.08E-02 (-34.54)	-1.09E-02 (-35.05)
Some College - Husband	-4.52E-03 (-14.50)	-4.58E-03 (-14.51)	-4.54E-03 (-14.56)
Some College - Wife	-8.49E-03 (-26.43)	-8.58E-03 (-26.36)	-8.55E-03 (-26.60)
Age Difference	-1.37E-03 (-66.90)	-1.39E-03 (-66.88)	-1.37E-03 (-66.95)
pseudo r ²	0.3699	0.3696	0.3713

Results from probit regression on equation (2). Marginal effects are reported. Dependent variable is the likelihood of marriage rather than cohabitation. Regression also includes state dummies. Z statistics for each variable are presented in parentheses. Method A represents the calculation that assumes all children are the responsibility of the wife, Method B represents the calculation that assumes all children are the responsibility of the husband, and Method C represents the calculation that assumes the children are split between the husband and the wife, with the first child being the responsibility of the wife.

Table 5:

Marriage Tax Coefficients for Different Groups	
	Marriage Tax
Couples with Children	-2.67E-07 (-6.43)
Couples without Children	-1.01E-05 (-18.93)
Couples Below Poverty Level	6.50E-05 (10.46)
Couples at or Above Poverty Level	-1.47E-06 (-28.84)
Interracial Couples	-2.01E-06 (-3.22)
Non-Interracial Couples	-9.09E-07 (-11.77)
Young Couples	-9.17E-06 (-7.02)
Middle Aged Couples	-3.56E-07 (-4.28)
Older Couples	-1.61E-06 (-10.33)
Marriage Tax Only:	
Young Couples	-7.55E-06 (-1.49)
Middle Aged Couples	2.14E-06 (5.02)
Older Couples	-8.20E-07 (-1.53)
Marriage Subsidy Only	
Young Couples	-1.04E-05 (-8.29)
Middle Aged Couples	-9.70E-07 (-12.19)
Older Couples	-1.73E-06 (-8.28)

Results from probit regression on equation (2) on different subsets of the population. Marginal effects are reported. Dependent variable is the likelihood of marriage rather than cohabitation. Other independent variables are the same as those in table 5. Z statistics for each variable are presented in parentheses. The marriage tax calculation assumes that all children are the responsibility of the wife

Table 6:

Summary Statistics: Same-Sex Cohabiting Couples		
Variable	Same Sex Couples	
	Mean	Std. Dev.
Income – 1	41908.54	51637.25
Income – 2	29461.65	41113.58
Age – 1	44.6	14.69
Age – 2	42.96	14.53
Sex - Male	0.5039	0.5
Number of Children	0.019	0.164
Metro - In a Metro Area	0.6242	0.4844
Race - White – 1	0.7964	0.4027
Race - White – 2	0.7861	0.4101
Race - Black – 1	0.1012	0.3016
Race - Black – 2	0.1032	0.3043
Employed – 1	0.7316	0.4431
Employed – 2	0.6699	0.4703
Education - No College – 1	0.3828	0.4861
Education - No College – 2	0.4262	0.4946
Education - Some College – 1	0.2827	0.4504
Education - Some College – 2	0.2808	0.4494
Education - 4+ Years College – 1	0.3345	0.4718
Education - 4+ Years College – 2	0.293	0.4552
Northeast Region - New England Division (CT, ME, MA, NH, RI, VT)	0.0575	0.2327
Northeast Region - Middle Atlantic Division (NJ, NY, PA)	0.1397	0.3467
Midwest Region - East North Central Division (IL, IN, MI, OH, WI)	0.1255	0.3313
Midwest Region - West North Central Division (IA, KS, MN, MO, NE, ND, SD)	0.0488	0.2154
South Region - South Atlantic Division (DE, DC, FL, GA, MD, NC, SC, VA, WV)	0.2008	0.4006
South Region - East South Central Division (AL, KY, MS, TN)	0.0556	0.2291
South Region - West South Central Division (AR, LA, OK, TX)	0.1069	0.3090
West Region - Mountain Division (AZ, CO, ID, MT, NV, NM, UT, WY)	0.0712	0.2572
West Region - Pacific Division (AK, CA, HI, OR, WA)	0.1942	0.3956

Sample restricted to cohabiting same-sex couples with both individuals over the age of 18.
All dollar amounts are in 2000 dollars.

Table 7:

Same-Sex Methods of Marriage Tax Calculation				
	Percent Paying	Average Marriage Tax	Percent Receiving	Average Marriage Subsidy
	Marriage Tax		Marriage Subsidy	
Method D - Child to High Earner	60.2%	1073.6	35.1%	1283.98
Method E - Child to Low Earner	59.8%	1072.98	35.6%	1297.96

Results from calculation of equation (1) performed on same sex couples (instead of husband and wife, individuals in the couple are labeled 1 if they are the head of household according to the census data, and 2 if they are designated the unmarried partner of the head of household.) Couple pays marriage tax if the marriage tax is greater than 0, and receives a marriage subsidy if marriage tax is less than 0. All dollar amounts are in 2000 dollars.

Table 8:

Same Sex Couples Marriage Tax						
	Percent Married	Percent Paying Marriage Tax	Average Marriage Tax	Percent Receiving Marriage Subsidy	Average Marriage Subsidy	Obs.
Assume All Couples Marry						
Method D - Children to High Earner	100.0%	60.2%	1073.6	35.1%	1283.98	6335
Method E - Children to Low Earner	100.0%	59.8%	1072.98	35.6%	1297.96	6335
Assume Some Couples Marry - Based On All Opposite Sex Couples						
Method D - Children to High Earner	82.9%	60.8%	1181.38	35.9%	1385.86	5253
Method E - Children to Low Earner	82.9%	60.4%	1180.89	36.4%	1403.33	5251
Assume Some Couples Marry - Based On Interracial Opposite Sex Couples						
Method D - Children to High Earner	84.0%	60.8%	1177.19	36.0%	1482.27	5321
Method E - Children to Low Earner	84.0%	60.4%	1176.09	36.5%	1397.82	5322

Results from calculation of equation (2) performed on same sex couples (instead of husband and wife, individuals in the couple are labeled 1 if they are the head of household according to the census data, and 2 if they are designated the unmarried partner of the head of household.) Couple pays marriage tax if the marriage tax is greater than 0, and receives a marriage subsidy if marriage tax is less than 0. All dollar amounts are in 2000 dollars. Couples predicted to be married or not married based on regressions on opposite-sex couples.

Table 9:

Same Sex Couples Marriage Tax : Whole Population						
	Number		Number		Total	
	Paying	Total	Receiving	Total	Increase in	
	Marr.	Marr. Tax	Marr.	Marr. Sub.	Tax Revenues	Obs.
	Tax		Sub.			
Assume All Couples Marry						
Method D - Children to High Earner	3815	432794201	2224	288839998	143954203	6335
Method E - Children to Low Earner	3790	429950486	2254	294573908	135376578	6335
Assume Some Couples Marry - Based On All Opposite Sex Couples						
Method D - Children to High Earner	3195	399588107	1889	264997987	134590119	5353
Method E - Children to Low Earner	3173	396832514	1914	270594621	126237893	5251
Assume Some Couples Marry - Based On Interracial Opposite Sex Couples						
Method D - Children to High Earner	3237	403479749	1913	266872682	136607067	5321
Method E - Children to Low Earner	3216	400762483	1941	273023195	127739288	5322

Results from calculation of equation (2) performed on same sex couples (instead of husband and wife, individuals in the couple are labeled 1 if they are the head of household according to the census data, and 2 if they are designated the unmarried partner of the head of household.) Couple pays marriage tax if the marriage tax is greater than 0, and receives a marriage subsidy if marriage tax is less than 0. All dollar amounts are in 2000 dollars. Couples predicted to be married or not married based on regressions on opposite-sex couples. Numbers calculated by using the household weights given in the U.S. census data.