



**The Effects of Joint Taxation of Married Couples  
on Labor Supply and Non-wage Income**

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**Abstract**

The United States changed its tax treatment of married couples in 1948, from a system in which each spouse paid taxes on his or her own income to a system in which a married couple is taxed as a unit. The switch from separate to joint taxation changed incentives for labor supply and asset ownership. This paper investigates the effects of the conversion to joint taxation, taking advantage of a natural experiment created by cross-state variation in property laws. Married individuals in states with community property laws had always been taxed as if each spouse had earned half of the couple's income, and thus were unaffected by the 1948 legal change. Comparing the behavior of taxpayers in affected and unaffected states indicates that the tax change is associated with a decline of 0.9-1.6 percentage points in the labor force participation rate of married women, consistent with the higher first-dollar tax rates they faced after 1948. Married women were also 0.6-1.9 percentage points less likely to have non-wage income after 1948, reflecting pre-1948 allocation of family assets to wives for tax purposes. The effects of joint taxation on married men's labor force participation and non-wage income holding are generally not statistically significant.

**JEL Codes:** H24, J22

**Keywords:** joint taxation, labor supply, income shifting

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# 1 Introduction

Prior to 1948, the U.S. federal income tax was a system of separate taxation. Each spouse in a married couple was taxed on his or her own income, and the marginal tax rates of a husband and wife could differ. In the 1940s, the tax structure was highly progressive, with the top marginal rate exceeding 75%. Because husbands usually earned more than wives, husbands' marginal tax rates were higher than wives' marginal tax rates, on average. The combination of separate taxation and progressive rates meant that a couple in which one spouse had much greater income than the other spouse faced a larger tax liability than a couple with the same total income, divided evenly between the spouses.

Variation in state property law affected how a couple could divide income between the husband and wife. Most married couples lived in common law states, where income was legally viewed—and taxed—as belonging to the spouse who had earned it. Married couples living in states with community property laws, however, were taxed as if each spouse had earned half of the couple's total income. This “income-splitting” provision lowered tax liability, on average, by placing more of a couple's income into lower tax brackets. A 1947 article in *U.S. News and World Report* states that, “Realization that married couples in nine states (soon to be ten) pay smaller taxes than comparable couples in other states is attracting support for a federal program that will tax all families equally. Eight states without the community property advantage already have petitioned Congress to do something about the situation.”

Congress did do something with the passage of the Revenue Act of 1948. This law changed the federal income tax to a system of joint taxation. A married couple was now taxed as a unit, with tax liability independent of how income was divided between spouses. A married couple's federal tax liability was computed by taking the average of the two spouses' incomes, calculating the tax a single person would pay on that average income, and multiplying by two. Because the division of income between spouses no longer affected a couple's tax liability, state property laws no longer affected tax liability. Federal tax differences between common law and community property states were eliminated.

The choice between separate and joint taxation has important consequences. A system of separate taxation is marriage neutral—the combined tax liability of two people is the same whether they marry or not. A system of joint taxation lacks marriage neutrality but provides horizontal equity—two married couples with the same total income face the same tax liability. The United States is among a minority of countries currently using joint taxation. It is important to understand how this feature of the tax system impacts labor supply and financial decisions within households.

This paper uses a difference-in-difference estimation strategy to identify the responses to the 1948 introduction of joint taxation at the federal level. I exploit the geographic variation in tax treatment caused by differences in state property law. The federal introduction of joint taxation did not change the division of income between spouses, for tax purposes, in community property states. I treat couples in community property states as a control group, and compare changes across time in common law states to changes across time in community property states. I use census data from 1940 and 1950.

Joint taxation equalizes the marginal tax rates of a husband and wife. Because husbands tended to earn more than wives, the introduction of joint taxation lowered husbands' marginal tax rates and raised wives' marginal tax rates, on average. Theory predicts that such a tax change will reduce the labor supply of married women. The effect on the labor supply of married men is theoretically ambiguous, since the income and substitution effects work in opposite directions. Under separate taxation a husband and wife could lower their tax liability by shifting financial income to the spouse facing a lower marginal rate (usually the wife). Joint taxation eliminates this possibility and should be associated with a decline in the share of wives reporting non-wage income. My empirical results are consistent with these theoretical predictions. Across a variety of specifications, joint taxation reduces the probability that a married woman is employed by 0.9 to 1.6 percentage points, and reduces the average number of weeks worked by 0.9 to 1.5 weeks. There is no evidence of a significant change in hours worked by those who are employed. Once regional effects are controlled for, the effect of joint taxation

on husbands' labor supply is not significantly different from zero. Joint taxation reduces the probability of a wife having non-wage income by 0.6 to 1.9 percentage points.

## 2 Tax Law, 1940-1950

Because I use census data from 1940 and 1950 to analyze the changes caused by the 1948 conversion to joint taxation, here I describe relevant details of the 1940 and 1950 tax codes. In 1940, total income tax liability was the sum of three components, the normal tax, surtax, and defense tax. Taxpayers could claim an earned income credit, equal to the smaller of 10% of earned income or \$1400.<sup>1</sup> Although married couples could elect to file a combined return, there was no separate rate schedule for combined returns. Single filers could claim an exemption of \$800, while married couples could claim an exemption of \$2000, divided in any way between husband and wife.<sup>2</sup> The normal tax was equal to 4% of net income less exemptions and the earned income credit. The surtax was levied on net income less exemptions, with progressive rates ranging from 4% to 75%. The defense tax was equal to 10% of the sum of normal tax and surtax.

The U.S. federal income tax changed in many important ways between 1940 and 1950. Faced with the need to raise revenue for World War II, the federal government expanded the income tax from a "class tax" paid only by those with the highest levels of income to a "mass tax" paid by a majority. For a married couple, the tax filing threshold was \$2000 in 1940, equivalent to about \$26,300 in year 2003 dollars. Close to 15 million returns were filed, with about 8 million filed by married individuals. By 1950, this threshold had fallen to \$600, or about \$4580 in year 2003 dollars, and 53 million returns were filed (32 million by married couples). Between 1940 and 1950, there were five increases and three decreases in individual income tax rates.<sup>3</sup> The net effect of these changes was to raise tax rates for all levels of nominal income. Another

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<sup>1</sup>Despite its name, this earned income credit is more similar to today's standard deduction than to today's EITC.

<sup>2</sup>The exemption for each dependent was \$400, divided between husband and wife at their discretion.

<sup>3</sup>For details, see Tempalski (2003).

important change, introduced by the Current Tax Payment Act of 1943 and still reflected in today's tax code, was the introduction of employer withholding of taxes from wage income.

The Revenue Act of 1948, passed on April 2 and retroactive to January 1 of that year, introduced joint taxation of married couples. A new tax rate schedule was established for married couples filing jointly. A married couple's tax liability was set equal to twice what a single person earning half of their income would pay. This reform extended to all married couples the benefits of income splitting previously enjoyed only by married couples living in community property states.<sup>4</sup> A Commerce Clearing House tax-planning guide published in 1948 describes this as "the most dramatic change in the tax position of married couples in federal tax history."

By 1950, the defense tax had been repealed and the standard deduction had replaced the earned income credit. Married taxpayers could claim a personal exemption of \$1200, while single taxpayers could claim a personal exemption of \$600.<sup>5</sup> The standard deduction was the smaller of 10% of adjusted gross income (roughly, income less business expenses) and \$1000. Taxpayers computed a tentative normal tax, equal to 4% of income less exemptions and deductions, and a tentative surtax, with marginal rates ranging from 2% to 91%. The combined normal tax and surtax was reduced by 13% if less than \$400, by 9% if between \$400 and \$100,000, and by 7.3% if greater than \$100,000.

Table 1 illustrates marginal tax rates and tax liability in 1940 and 1950. The examples in Table 1 assume that all of the couple's income is earned by the husband, that the husband claims the entire personal exemption, and that the couple claims no dependents. The marginal tax rates of husbands are shown in the top panel, with those of wives shown in the middle panel. The tax liability for a couple is shown in the bottom panel. Column 1 shows 1940 values in community property states. In these states, each spouse is taxed as if he or she has earned

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<sup>4</sup>The Revenue Act of 1948 also included a host of other changes, notably the creation of an additional exemption for a taxpayer or spouse over age 65. For a description of the Revenue Act of 1948, from the perspective of one of the authors of the Act, see Surrey (1948).

<sup>5</sup>The exemption for each dependent was also \$600.

half of the couple's income, so a husband and wife face the same marginal tax rate.<sup>6</sup> Column 4 shows 1940 values in common law states. With a federal system of separate taxation in place, each spouse is taxed on his or her own income. The husband's marginal tax rate increases as his income increases. The wife's marginal tax rate does not increase with her husband's income. Assuming the husband claims the entire personal exemption, the wife's first dollar of income is always taxed at the lowest rate. Tax liability is shown in the bottom panel of Table 1. Comparing columns 1 and 4 shows that a married couple faced a lower tax bill in a community property state. Marginal tax rates and tax liabilities for 1950 are shown in columns 2 and 5 of Table 1. Column 5 shows that, with joint taxation in place, a husband and wife in a common law state now face equal marginal tax rates. A comparison of columns 2 and 5 shows that joint taxation also eliminates the tax differences between common law and community property states.

Comparing the marginal tax rates faced by taxpayers in different situations, as shown in Table 1, motivates the analysis performed in this paper. Between 1940 and 1950, changes in the tax code caused tax rates to increase, at all levels of income. In community property states, the changes in tax rates and liability reflect all of the changes in the tax code *except* the introduction of joint taxation. The corresponding changes in husbands' marginal tax rates, wives' marginal tax rates, and tax liability are shown in column 3 of Table 1. In common law states, married couples were affected by all of the changes in the tax code that had affected those in community property states *and* by the introduction of joint taxation. Changes in common law states are shown in column 6 of Table 1. Comparing changes in common law states to changes in community property states isolates the effect of joint taxation. The 1948 conversion from separate taxation to joint taxation lowered the marginal tax rates faced by husbands living in common law states, relative to the rates faced by husbands living in community property states. Similarly, the 1948 conversion raised marginal tax rates faced by wives in common law states, relative to rates in community property states.

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<sup>6</sup>Although the Treasury Department had argued against this treatment of income for tax purposes, the U.S. Supreme Court had upheld the practice in the 1930 case *Poe v. Seaborn*.

Table 1 also demonstrates that the conversion to joint taxation had an impact only on high-income couples. In fact, a majority of married couples did not have enough income in 1940 to even be paying income taxes. Assuming that the highest-income husbands were married to the highest-income wives, IRS data from 1940 indicate that about 2.9 million married couples filed taxable returns. This is about 11% of the total number of married couples enumerated in the 1940 census.

### 3 Theoretical Framework

Formally, suppose that each married couple maximizes the utility function  $U = U(C, L_H, L_W)$ , where  $C$  is a numeraire consumption good,  $L_H$  is the husband's leisure, and  $L_W$  is the wife's leisure. Each spouse has one unit of time, which can be divided between leisure and paid employment at wage  $w_i$ . Each spouse has non-wage income of  $Y_i$ , with the couple's total non-wage income equal to  $Y = Y_H + Y_W$ . Under separate taxation, the couple's budget constraint is

$$C = w_H \cdot (1 - L_H) + w_W \cdot (1 - L_W) + Y - \tau_H(w_H \cdot (1 - L_H) + Y_H) - \tau_W(w_W \cdot (1 - L_W) + Y_W) \quad (1)$$

where  $\tau_i$  represents the tax levied on the income of spouse  $i$ . The marginal tax rates can be written as  $\frac{\partial \tau_i}{\partial L_i}$ . On average,  $\frac{\partial \tau_H}{\partial L_H} > \frac{\partial \tau_W}{\partial L_W}$ .

From the familiar first order conditions for the couple's maximization problem, each spouse equates the marginal rate of substitution between leisure and consumption to his or her after-tax wage rate.

$$\frac{\partial U / \partial L_i}{\partial U / \partial C} = w_i \cdot \left(1 - \frac{\partial \tau_i}{\partial L_i}\right) \quad (2)$$

The introduction of joint taxation changed the tax function for those living in common law states. A couple's tax liability no longer depended on the division of income between husband



and wife. The resulting budget constraint is

$$C = w_H \cdot (1 - L_H) + w_W \cdot (1 - L_W) + Y - \tau(w_H \cdot (1 - L_H) + w_W \cdot (1 - L_W) + Y) \quad (3)$$

The introduction of joint taxation equalized spouses' marginal tax rates, increasing the after-tax wage of husbands and reducing the after-tax wage of wives. From Equation 2, the predicted substitution effect in common law states is a decrease in leisure for husbands (and thus an increase in labor supply) and an increase in leisure for wives (and thus a reduction in labor supply).

Because income splitting allows spouses with unequal incomes to place more of their combined income in lower tax brackets, the 1948 conversion lowered tax liability for married couples in common law states, relative to married couples in community property states. If leisure is a normal good, the predicted income effect of this change is a reduction in labor supply of both husbands and wives in common law states. Combining the income and substitution effects, the predicted net effect is a reduction in labor supply of married women in common law states, relative to the labor supply of married women in community property states. The prediction for married men is ambiguous, because the substitution and income effects of the 1948 law change work in opposite directions.

This framework, which ignores kinks in the budget set, is a simplification that captures the main implications of the introduction of joint taxation. It is not meant to fully describe the budget set faced by a household. Progressive tax schedules create nonlinear budget sets, and a more complete characterization of an individual's optimal labor supply choice would account for this. Such a task would be complicated by the large number of tax brackets—30 brackets in 1940 and 24 in 1950. This simplified framework also overlooks possible cross-substitution effects between spouses.

The conversion from separate to joint taxation is also predicted to affect the division of non-wage income between spouses. Under a system of separate taxation, couples can lower

their tax liabilities by shifting income from the spouse in a higher tax bracket to the spouse in a lower tax bracket. There are limited opportunities for shifting wage income.<sup>7</sup> Shifting interest or dividend income, however, may be relatively easy. Couples may choose to open savings accounts or to purchase assets in the wife's name rather than the husband's. Prior to 1948, couples living in common law states had an incentive to do so. The introduction of joint taxation removed this incentive, and should be associated with a decline in the fraction of wives in common law states with non-wage income.

## 4 Related Literature

There is a great deal of descriptive work—by lawyers, policy-makers, and economists—related to the tax treatment of families. Bittker (1975) discusses the evolution within the U.S. of tax policies related to married couples and families with children. O'Neill (1981) describes equity, efficiency, and administrative aspects of the choice between separate and joint taxation. Munnell (1980) presents the results of a Treasury Department simulation of a return to separate taxation, showing that such a change would benefit two-earner couples relative to one-earner couples. A 1997 CBO study of the marriage penalty lists reinstating separate taxation as one possible way to reduce or eliminate marriage penalties or bonuses.

Many of the papers that discuss joint taxation note that, prior to 1948, state property laws affected a married couple's federal tax liability. Graetz (1997) and McCaffery (1997) both give particular emphasis to this point. McCaffery offers a thorough discussion of the labor supply disincentives joint taxation generates for secondary earners. This literature demonstrates that the natural experiment I utilize in this paper is well known to tax researchers. However, to my knowledge it has not previously been used for any empirical study of the effects of joint taxation.

Other methods have been used to study the labor supply effects of joint taxation within

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<sup>7</sup>In the 1930 case *Lucas v. Earl*, the U.S. Supreme Court ruled that contracts dividing the wage income of one spouse between husband and wife would not be recognized for tax purposes.

the United States. Leuthold (1984) uses a sample of married households from the 1979 Michigan Survey of Income Dynamics to predict the probability of labor force participation under a system of income splitting and under three alternative systems without income splitting. The probability of participating in the labor force is much higher without income splitting, particularly for wives married to high-income husbands. Rosen (1976) simulates the change in social welfare resulting from the elimination of joint filing, assuming a particular form of utility. While he also concludes that there would be reductions in labor supply, particularly among wives of high-income husbands, he predicts only a small change in social welfare.

Two papers have used policy experiments to investigate the effects of joint taxation in other countries. Gustafsson (1992) compares the labor supply of Swedish women (facing separate taxation) and German women (facing joint taxation). The analysis suggests that the participation rate of Swedish wives would fall from an initial level of 80% to 60% if the German system of joint taxation was adopted. Stephens and Ward-Batts (2004) investigate changes in the division of assets between spouses in response to the 1990 switch from joint to independent taxation in the United Kingdom. They find a significant increase in the share of investment income held by wives, as well as an increase in the fraction of households in which all asset income accrues to the wife.

There is a large literature investigating the closely related question of how tax rates affect labor supply. A thorough summary of this work is provided by Blundell and MaCurdy (1999). In general, married women are found to have more elastic labor supply than married men. Several papers within this literature use a difference-in-difference strategy similar to that used here. Eissa (1995) studies how the Tax Reform Act of 1986 (TRA86) affected married women's labor supply. She exploits the fact that the law had very different effects on marginal tax rates for individuals at different points in the income distribution. She finds substantial labor supply responses for married women at the top of the income distribution. Moffitt and Wilhelm (2000) also use TRA86 as a natural experiment. They focus on the labor supply of high income men, using repeated cross sections of the Survey of Consumer Finances. They find no evidence that

hours of work respond to taxation.

There is also a theoretical literature investigating the differences between separate and joint taxation. Boskin and Sheshinski (1983) describe the optimal tax treatment of families. Consistent with the Ramsey rule, they show that the tax rate on primary earners' income should be higher than the tax rate on secondary earners' income if the labor supply decisions of secondary workers are more elastic. In a series of simulations, they show that optimal tax rates on primary earners can be two to three times as large as optimal rates on secondary workers. Thus, the deadweight loss from a rate-equalizing income-splitting provision is potentially large. Piggott and Whalley (1996) argue that an additional behavioral margin must be considered. They show that the input of primary and secondary labor into household production is distorted when an income tax is levied on individuals, but not when it is levied on households. Depending on the size of this distortion, a switch from individual to household taxation can generate either welfare gains or losses. Further discussion of this analysis is carried out in Apps and Rees (1999), Gottfried and Richter (1999) and Piggott and Whalley (1999).

## 5 Methodology and Data

### 5.1 Estimation Strategy

I use a difference-in-difference estimation strategy with pooled cross-sections of data from 1940 and 1950. I compare the 1940 to 1950 change in labor supply for a group affected by the introduction of joint taxation (married individuals living in common law states) to the 1940 to 1950 labor supply change for a group not affected (married individuals living in community property states). Specifically, I estimate the following equation separately for married men, assumed to be primary earners, and married women, assumed to be secondary earners:

$$Y = \beta_0 + \beta_1 \cdot 1950 + \beta_2 \cdot CL + \beta_3(1950 \cdot CL) + \gamma X + \epsilon \quad (4)$$

Here,  $Y$  is the outcome of interest, either a measure of labor supply or an indicator for having non-wage income. The variable  $1950$  is a dummy equal to one in the year 1950, and  $CL$  is a dummy equal to one for common law states (the treatment states). The coefficient on the time dummy,  $\beta_1$ , describes the time trend that is common across states. The coefficient on  $CL$ ,  $\beta_2$ , measures the average time-invariant difference between those living in common law states and those living in community property states. The difference-in-difference estimator is  $\beta_3$ , the coefficient on the interaction term. The vector  $X$  includes measures of age, race, the presence of children younger than 18, and, in some specifications, education.

When a labor supply measure (employment status, weeks worked, or hours worked) is the dependent variable, theory suggests that  $\hat{\beta}_3$  should be negative for women. If the substitution effect of the tax change dominates the income effect,  $\hat{\beta}_3$  should be positive for men. When a measure of a wife's non-wage income is the dependent variable, I expect  $\hat{\beta}_3$  to be negative.

As described in more detail below, I estimate Equation 4 using individual-level decennial census data from 1940 and 1950. It is important to note that these data consist of two independent cross-sections, rather than a panel. Because the observations are at the level of the individual while the explanatory variable of interest is at the state level, the assumption of independent errors may be violated. OLS estimation may produce standard errors that are biased downwards (Moulton, 1990). To address this problem, all reported standard errors are robust and clustered at the state level.

The difference-in-difference strategy depends on two assumptions for identification. The first assumption is that, absent any treatment, trends would have been the same in the control and treatment groups. The second assumption is that the composition of each group is unchanging over time. Besley and Case (2000) point out that any policy difference distinguishing the treatment from the control group may itself be endogenous. Some states may adopt particular laws precisely because of related trends within the state. If so, the first identifying assumption is violated.

Besley and Case argue that it is important to understand a policy's determinants before

treating that policy as an exogenous right-hand side variable. Why did certain states have community property laws in the first place? If attitudes about women's employment or property rights led to the adoption of community property laws, it would be unreasonable to expect similar trends in community property and common law states, absent the introduction of joint taxation. The historical pattern of adoption of community property laws, described by DeFuniak (1943), suggests that this is not the case. Community property laws have always been concentrated in the west and south. As shown in Figure 1, Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, and Washington had such laws in place in 1940. These are the states that make up the control group in the following analysis. All of these states except Idaho and Washington had used systems of community property since their organization as U.S. states. Idaho switched to a community property system in 1867 and Washington switched in 1869, both states choosing to adopt the policy of their populous neighbor, California. Most of the community property states had significant Spanish settlement in their earliest days. Their state constitutions include features rooted in Spanish law, including community property regimes. It is unlikely that Spanish colonial influence had direct effects on changes in labor supply or non-wage income allocation decisions between 1940 and 1950. However, I address the possibility that the outcomes of interest changed differentially for Hispanics and for non-Hispanics by including a measure of Spanish ancestry as a control variable.

There were some states that adopted community property regimes years after their state constitutions were written. Oklahoma instituted an elective community property system in 1939, followed by Oregon in 1943. In the 1944 case *Commissioner v. Harmon* the U.S. Supreme Court ruled that elective community property laws did not permit couples to split income for federal tax purposes. Oklahoma then converted to a non-elective community property system in 1945, as did the territory of Hawaii. Michigan, Nebraska, Oregon, and Pennsylvania converted from common law to community property in 1947. The conversion from a system of common law to one of community property is a significant legal undertaking. In addition to its effect on taxes, it has implications for divorce and probate laws. The fact that several states were

willing to enact such a conversion emphasizes that individuals were concerned about—and likely responding to—the federal tax treatment of married couples.

Much evidence suggests that these conversions were directly motivated by tax considerations. For example, a pamphlet published by a Philadelphia lawyer in 1947 opens with the line, “The Community Property Law was adopted to save income taxes for residents of Pennsylvania” (Clarke, 1947). The most compelling evidence that these changes were tax-motivated is that all of the converting states reverted back to common law shortly after the federal introduction of joint taxation. In my analysis, observations from the five converting states are included in the treatment (common law) group. This is because I have data from 1940 and 1950. While the tax changes between, for example, 1947 and 1950 would differ, the tax changes between 1940 and 1950 are the same for post-1940 converting states and common law states. Dropping all observations from converting states has little effect on the general pattern of results.

Other challenges may be made to the validity of the identifying assumptions. There is evidence that different regions of the country were differentially affected by World War II. If World War II mobilization rates differed systematically between common law and community property states, labor supply in these two groups likely evolved differently. I address this concern directly in Section 7.2. More generally, if people living in community property and common law states have different characteristics, they may be subject to different trends over time. For example, if wealthier couples chose to live in community property states, and if wealthier wives experienced greater growth in labor force participation during the 1940s for reasons unrelated to taxes, my results will be biased towards finding a negative estimate of  $\hat{\beta}_3$ . I mitigate this potential problem by including controls for observable characteristics, such as race, age, and education.<sup>8</sup> Finally, the assumption of stable populations in the control and treatment groups may be violated due to cross-state migration. I address this point in Section 7.3.

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<sup>8</sup>I also estimate the models without these covariates, and obtain similar results. This suggests that sorting is not driving my results.

## 5.2 Description of Data

I use the 1940 and 1950 1% Public Use Microdata Samples of the U.S. Census of Population. Each census attempts to enumerate all individuals living in the United States. Information collected at the household level includes details about a household's composition and location. In 1940, limited information on the characteristics and value of housing is available. Basic demographic information is collected for each individual, including age, race, sex, marital status, relationship to the head of household, and state of residence.<sup>9</sup> All individuals 14 and older are asked about their primary activity in the week prior to the census. Answers to this question are used to determine employment status. Employed individuals are those either at work, or with a job but temporarily not working. Unemployed individuals are those actively seeking work. Individuals not working, with no job, and not looking for work are classified as not in the labor force. Although this classification is standard in modern surveys, 1940 was the first year in which it was used in the census. Those in the labor force report their current occupations and industries, whether they are self-employed, and the number of hours worked in the week prior to the census.

In both 1940 and 1950, every fifth census respondent was designated a "sample-line" person, and asked additional questions. This design means that not every household in the population includes a sample-line person. However, the 1% samples used here are drawn entirely from households including a sample-line person. The sample-line person can be anyone within a household. The number of additional questions asked is greatest if the sample-line person is the head of household, less if the sample-line person is another adult member, and least if the sample-line person is younger than 14. Questions about years of completed schooling, about weeks worked in the year prior to the census, and about income were asked of all adults in 1940 but of only sample-line adults in 1950. The census provides weights that correct for the differing representation of large and small households in the sample.

Unfortunately, the census includes no questions about a household's tax bracket, and limited

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<sup>9</sup>Alaska and Hawaii did not become states until 1959 and thus are not included here.



information about a household's taxable income. 1940 was the first year in which the census collected any information about income. The income questions were controversial, and were intentionally placed at the end of the schedule, so that other information could be collected from those who refused to report their income. In 1940, wage and salary income for each spouse is reported, topcoded at \$5000. In addition, there is an indicator for whether each spouse has more than \$50 in income from sources other than wage and salary. In 1950, the set of income questions is larger, but is asked only of sample-line persons. If the sample-line person in a household is the husband, he reports his own wage and salary income, net business income, and net income from other sources, each topcoded at \$10000. He also reports the same items for other family members. If the sample-line person is the wife, she reports her own wage and salary income, net business income, and net income from other sources, but is not asked about the income of other family members.

I restrict my sample to married couples who head households. Individuals living in group quarters are not included in the sample, nor are married couples listed as a secondary family or subfamily within a household headed by another married couple. Weighted summary statistics for the sample, by year and group, are presented in Table 2. There are 267,991 married couples in the 1940 sample and 375,008 in the 1950 sample.<sup>10</sup> Means for race, age, employment status, weeks worked, and the presence of children are based on data for all individuals in the sample. The number of individuals is reported in the last row of Table 2. Means for education and non-wage income are based on data for all individuals in 1940 but only sample-line individuals in 1950, and so the relevant sample sizes for these cells are smaller. Among the married couples in the 1950 sample, the husband is the sample-line person in 98,783 cases and the wife is the sample line person in 102,925 cases. Homeownership is available in 1940 but not in 1950. The measure of Spanish ancestry is constructed by the Census Bureau, based on an individual's last

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<sup>10</sup>This large increase is primarily explained by an increase in population. Secondary explanations include an increase in the marriage rate, a decline in the population living in group housing, and a slight decline in the number of multi-family households. Historical statistics reported in the 2003 *Statistical Abstract* and based on the complete census, rather than the 1% samples used here, report a total of 26.6 million married couples in 1940 and 33 million married couples in 1950.

name.

The means for 1940 suggest that community property states are in fact a reasonable control group for common law states. With the exception of Spanish ancestry, initial differences between community property and common law states are small. The initial means for education, non-wage income, and homeownership are slightly higher in community property states, suggesting that married couples in community property states may be slightly wealthier than married couples in common law states.

## 6 Baseline Results

### 6.1 Labor Supply

Labor supply regression results are reported in Table 3, with standard errors in parentheses. Columns 1 and 2 show the results of OLS estimation of Equation 4 with employment status as the dependent variable.<sup>11</sup> This variable is based on an individual's activity in the week prior to the census. It is equal to one if the individual was at work or had a job and was temporarily not working. It is equal to zero for those unemployed or not in the labor force. The difference-in-difference estimate (the interaction of the 1950 and common law dummies) is negative and significant for women, and positive and significant for men. This suggests that the introduction of joint taxation did have causal effects on labor supply—wives were discouraged from entering the labor force, while husbands were induced to do so. The coefficient of -0.009 in column 1 indicates that married women in common law states had a 0.9 decline in the probability of being employed, relative to married women in community property states, after the introduction of joint taxation. This coefficient is significantly different from zero at the 10% confidence level. Although the point estimates for women and men are similar in magnitude, the implied percentage change in employment is larger for women because they have a much lower mean employment rate. The 0.9 decline for women represents a percentage change of

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<sup>11</sup>Probit estimation yields similar marginal effects.

-7.4%, relative to the 1940 employment rate for wives in common law states. For husbands, the difference-in-difference estimate as a percent of the 1940 employment rate is 1.6%. All of the control variables have the expected signs: employment is increasing in age, but not linearly; white women are less likely than non-white women to be employed, while white men are more likely to be employed; and the presence of children has a strong negative effect on women's employment but no effect on men's employment.

Columns 3 and 4 of Table 3 repeat the analysis with weeks worked in the year prior to the census as the dependent variable. The sample size falls because the number of weeks worked is reported only for sample-line individuals in 1950, rather than for all persons. Years of completed schooling is another variable available only for sample-line persons in 1950. Thus, including it here as an explanatory variable does not directly reduce my sample size, while including it in columns 1 and 2 would eliminate all non-sample-line 1950 persons from those estimations.<sup>12</sup> Again, the difference-in-difference estimate is negative and significant for women, and positive and significant for men. The coefficient of -0.916 in column 3 indicates that the average number of weeks worked fell by 0.9 among married women in common law states, relative to married women in community property states. These labor supply results for wives are consistent with the theoretical prediction and are large enough to be of economic significance. The point estimate for married men is positive and similar in magnitude, 0.824. Because men work more than women, this represents a much smaller percentage change.

If weeks of work are spread uniformly across the year, there is a mechanical relationship between the percentage of people employed in a given week and the average number of weeks worked: The average number of weeks will equal 52 times the employment rate. This implies that each coefficient in the weeks equation should be 52 times the corresponding coefficient in the employment equation. Focusing on the difference-in-difference coefficient, this relationship roughly holds for husbands. For wives, however, the weeks coefficient is approximately 100

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<sup>12</sup>The employment results are robust to the inclusion of education variables. When these variables are included, the difference-in-difference coefficient for women is -0.007 with a standard error of 0.004, and the difference-in-difference coefficient for men is 0.014 with a standard error of 0.006.

times the employment coefficient. This discrepancy may be due to the fact that the employment and weeks worked measures have different reference periods. The employment question refers to the week prior to the census, while the weeks worked question refers to the year prior to the census. Particularly at the time of the 1940 census, as the country was emerging from the Great Depression, employment during a single week of the census year may not closely correspond to employment in an “average” week of the previous year. In addition, agriculture and other industries have strong seasonal patterns in employment, confounding the expected relationship between employment and average weeks worked. The share of workers employed in the agricultural sector declined sharply between 1940 and 1950, with a larger initial level and a larger drop in common law states.

In columns 5 and 6 of Table 3, the dependent variable is the number of hours worked in the week prior to the census, for those individuals who are employed. The difference-in-difference estimate for women is not significantly different from zero. This, combined with the results in columns 1 and 3, suggests that the labor supply response for women was primarily on the extensive, rather than intensive, margin. For men, joint taxation is associated with a significant but small increase in hours worked.

If community property states are truly a good control group for common law states, the difference-in-difference estimates in Table 3 should be robust to the set of controls included. To investigate this, I repeat the analysis, including only a year dummy, a treatment dummy, and their interaction. The difference-in-difference estimate from such a regression corresponds to a simple difference in means. In most cases, the effect of dropping the covariates is small. With wives’ employment as the dependent variable, the simple difference in means is -0.006, with a standard error of 0.005. The difference in means for husbands’ employment is 0.012, with a standard error of 0.006. For weeks worked last year, the results are -0.781 (0.398) for wives and 0.738 (0.460) for husbands. For hours worked last week, the results are -0.252 (0.503) for wives and 0.859 (0.404) for husbands. As is the case in the baseline specification, the general pattern without covariates is that joint taxation is associated with a decline in married women’s

employment probability and weeks worked and an increase in each measure of married men's labor supply, although the results are not statistically different from zero in every case.

## 6.2 Non-Wage Income

In this section I investigate whether the introduction of joint taxation, which removed the tax advantage to equalizing income between spouses, is associated with a decline in the share of wives with non-wage income. I also present results for husbands. If income is transferred between spouses, any decline in the non-wage income of wives must be accompanied by an increase in the non-wage income of husbands. However, my measure of non-wage income is a dummy variable for having non-wage income above some threshold level. Reallocations of income that cause wives to fall below this threshold may be going to husbands already above the threshold.

Specifically, the dependent variable is a dummy equal to one if an individual receives at least \$50 of non-wage income in 1940 or at least \$100 of non-wage income in 1950. In 1940, the only information on non-wage income is a yes or no question, asked of all individuals over 14, indicating receipt of \$50 or more. In 1950, sample-line individuals report categorical amounts of income from business and from other non-wage sources. Receiving \$50 in 1940 is equivalent to receiving approximately \$85 in 1950. Therefore, I classify 1950 observations reporting business and other non-wage income in the \$1 to \$99 category as zeroes, and those in any higher category as ones. Non-wage income is broadly defined. It includes business profits, rent, income from financial assets (interest and dividends), and in-kind income (for example, the value of food grown and consumed by a farming family<sup>13</sup> and the value of living quarters and food received by domestic employees). This measure of non-wage income does not include receipts from the

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<sup>13</sup>The 1940 instructions to census enumerators point out, "On almost any farm on which foodstuffs are grown or poultry is raised for home consumption the value of these products consumed in the course of a year will amount to more than \$50 and some member of the family (usually the head) should be credited with this income." Perhaps these instructions explain in part why living on a farm is associated with a greater probability of a husband having non-wage income, but the opposite is true for wives. Among husbands, 69.9% of those on farms have non-wage income, vs. 30.8% of those not on farms. For wives, the corresponding numbers are 8.4% and 9.0%.

sale of land, buildings, businesses, or securities.

Table 4 presents results related to the receipt of non-wage income. All observations from 1940 and sample-line observations from 1950 are included in the estimation sample. In addition to the control variables used in the labor supply equations, there is a dummy variable equal to one for those who live on a farm. Column 1 shows the results for married women. With the introduction of joint taxation, wives in common law states experienced a 1.9 percentage point decline in the probability of having non-wage income, relative to wives in community property states.<sup>14</sup> This effect is quite significant economically, since only 8.9% of wives in common law states had non-wage income in 1940. Thus the 1.9 percentage point change corresponds to a 21.3% change. This evidence is consistent with the results of Stephens and Ward-Batts (2004), who find large interspousal income-shifting effects in response to the much later elimination of joint taxation in the U.K. One result from column 1 is unexpected: Holding other factors constant, the association between being white and having non-wage income is negative. This might be explained by the inclusion of in-kind income in non-wage income. Non-white wives are much more likely to be domestic employees, and domestic employees report a high incidence of non-wage income. Column 2 shows the results for married men. Here, the difference-in-difference estimate is not significantly different from zero.<sup>15</sup>

In 1950, income questions are asked only of the sample-line person. However, sample-line husbands report additional information about the combined income of all other family members. I construct an expanded non-wage income variable that makes use of this information. For wives married to sample-line husbands in 1950, the expanded non-wage measure is equal to 1 if the husband reports that other family members have \$100 or more of business or other income, and is equal to 0 otherwise. I repeat the non-wage income regression for this somewhat larger sample of married women, with one modification. I drop the education variables, since these are available only for sample-line individuals in 1950. The results are very similar to those with

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<sup>14</sup>The results are virtually the same when the set of covariates is dropped. The difference in means is -0.019 with a standard error of 0.003.

<sup>15</sup>With no covariates, the difference in means is 0.005 with a standard error of 0.015.

the original non-wage income measure. The difference-in-difference coefficient is -0.015 with a standard error of 0.004.

If non-wage income is a greater share of total income for older couples than for younger couples, and if older couples are wealthier, older couples may be more likely to shift non-wage income between spouses. This intuition is supported by estimates performed separately for wives of different ages. For wives under 40, the difference-in-difference coefficient is -0.011 with a standard error of 0.003. For wives between 40 and 59, the coefficient is -0.017 (0.004) and for wives 60 and older, the coefficient is -0.042 (0.014).

The probability of having non-wage income is higher for employed wives than for wives who are not employed. Averaged across the two census years, 13.8% of employed wives have non-wage income, compared to 8.0% of wives who are not employed. In part, this is due to the inclusion of some fringe benefits in the definition of non-wage income. It is also possible that employment has a positive causal effect on the probability of a wife holding financial assets. Regardless of the mechanism by which employment affects non-wage income, the correlation between the two affects the interpretation of the non-wage income regression results. Table 4 reflects two effects of joint taxation. The direct effect, on which I have been focusing, is that joint taxation eliminates any marginal tax rate differences between spouses and thus eliminates any incentive to transfer income to the lower-earning spouse. In addition, by reducing wives' labor force participation, joint taxation can indirectly reduce the share of wives with non-wage income. To investigate the degree to which joint taxation impacts non-wage income *through* its effect on employment, I add employment status to the non-wage income regression for married women. As expected, the employment status variable has a positive and large effect on the probability of having non-wage income. The coefficient is 0.074 with a standard error of 0.003. However, the difference-in-difference estimate is virtually unchanged. The coefficient is -0.019 with a standard error of 0.004.

One particular way in which income may have been shifted between spouses is through the formation of business partnerships. In a number of cases, both the U.S. Supreme Court and

tax courts considered the question of when a husband-wife partnership would be recognized for tax purposes. Jones (1988) describes many of these cases, and summarizes four criteria the Bureau of Internal Revenue established in 1947. In order to be recognized as a partner for tax purposes, the family member in question needed to render services in the business, participate in the control and management of the business, contribute capital or credit, and be granted a reasonable share of the profits. Despite the high threshold for establishing that a partnership was valid for tax purposes, newspaper stories from the 1940s suggest that family partnerships were frequently used by married couples hoping to lower their tax liabilities. Limited information on the prevalence of partnerships is available from published IRS statistics. Although a partnership itself is not subject to direct assessment of federal income tax, every domestic partnership is required to file a return of income, Form 1065. Figure 2 plots the number of partnership returns of income filed annually from 1930 to 1949. This figure demonstrates that there was a very large increase in the number of partnerships between 1940 and 1947, followed by slight declines in 1948 and 1949, a pattern consistent with tax-motivated income shifting. Throughout the time period shown in the figure, there was no change in the filing threshold for partnerships—*all* partnerships were required to file. However, it is possible that substantial declines in the income tax filing threshold during the early and mid 1940s, which brought more individuals into contact with the tax system, also prompted greater compliance with the partnership filing requirement. Unfortunately, only aggregate partnership data is available. It is not possible to distinguish between husband-wife partnerships and other partnerships, or to distinguish between partnerships located in different states.

Self-employment may offer greater opportunity for interspousal income shifting, whether through organizing one's business as a husband-wife partnership or through some other means. If so, the difference-in-difference estimate in a non-wage income regression should be larger in absolute value when the husband is self-employed. Schuetze (2004) compares the self-employment rates of wives in the U.S. and in Canada. With a system of separate taxation and progressive rates, Canadian taxpayers, like U.S. taxpayers in common law states prior to 1948, have an



incentive to shift income to the lower-earning spouse. Schuetze finds that self-employment rates of wives married to self-employed husbands are significantly higher in Canada than in the U.S., and that Canadian wives are more likely to work in the same industry as their husbands. He interprets these results as evidence of income shifting by the self-employed in Canada.

Given this background, I repeat the non-wage income regressions by self-employment status of the husband. These results are shown in Table 5. Wives of self-employed men demonstrate a slightly larger decline in the probability of having non-wage income than do wives of non-self-employed men, 2.4 percentage points vs. 1.8 percentage points. Self-employed husbands experience a significant *increase* in the probability of having non-wage income. As expected, the difference-in-difference coefficients are larger in absolute value for those couples likely to have more scope for shifting income between spouses.

## 7 Extensions

### 7.1 Regional Differences

The baseline specification suggests that wives' labor supply fell in response to the introduction of joint taxation, while husbands' labor supply rose. This evidence comes from comparisons of states with different legal regimes, and is subject to the criticism that some other state-specific factor is driving the results. All of the states with community property laws in 1940 are in the west or south census regions. If non-tax factors caused employment to decline in the west and south regions, where the group of control states is clustered, the difference-in-difference strategy will be biased towards finding positive effects of joint taxation on employment. To investigate whether this is the case, I include a dummy variable equal to one for those in the west and south census regions. These regions include all of the eight states with community property laws in 1940, as well as 19 other states and the District of Columbia. I also include the interaction of this regional dummy and the 1950 indicator.

Table 6, column 1 reports the resulting difference-in-difference coefficients from the em-

ployment, weeks worked, hours worked, and non-wage income regressions for married men and women. This table shows that the signs of the results for women are robust: Wives in common law states are relatively less likely to work, work fewer weeks, and are less likely to have non-wage income after the introduction of joint taxation. However, the point estimates in the labor supply equations are larger, in absolute value. For husbands, the difference-in-difference coefficients in the employment and weeks worked regressions become negative and insignificant. There is still a positive coefficient in the hours of work regression. In each labor supply equation except hours worked for married men, the coefficient on the interaction of the regional and 1950 dummies is negative. This pattern of results suggests that the west and south census regions did experience relative declines in employment between 1940 and 1950, and that omitting regional effects from the baseline specification biases the results upwards.

In regressions not reported here, I replace the common law dummy with state dummy variables. The resulting difference-in-difference estimates (as before, the interaction of the common law and 1950 dummies) are similar to those reported previously. Even with state fixed effects, there is evidence of significant reductions in the probability of employment and in the probability of having non-wage income for married women. The difference-in-difference coefficient with wives' employment as the dependent variable is -0.007 (0.005). With wives' non-wage income as the dependent variable, the estimate is -0.018 (0.004). These are similar to the baseline employment and non-wage income results in Tables 3 and 4. When only observations from the south and west census regions are included, the coefficient of interest is -0.014 (0.005) for wives' employment and -0.011 (0.006) for wives' non-wage income. For married men, the difference-in-difference estimates in the employment and weeks worked regressions are positive and marginally significant when all states are included, and negative and marginally significant when the sample is limited to the south and west census regions.

## 7.2 World War II

Many authors within and outside of economics have emphasized the important effects of World War II on female labor supply. Goldin (1991) uses data from retrospective surveys conducted in 1944 and 1951 to show that while the war did draw women into the labor force, many wartime workers had left the labor force by 1950, and more than half of the women who entered the labor force during the 1940s did so after the end of the war. Mulligan (1998) argues that war-related changes in budget sets cannot explain all of the dramatic changes in labor supply observed during the war. He considers a variety of other pecuniary explanations but concludes that together they leave a large portion of labor supply changes unexplained.

Using data from 1940 and 1950 to study responses to a 1948 tax change raises the question of how tax-induced behaviors can be distinguished from war-induced behaviors. If both common law and community property states were *similarly* affected by the war, the time trend in my estimation equation would adequately account for the effects of the war. However, Acemoglu, Autor, and Lyle (2004) show that World War II mobilization rates differed across states, and that states with higher mobilization rates saw greater entry of women into the labor force. If mobilization rates were systematically different in common law and community property states, a key assumption of the difference-in-difference estimation strategy is violated. Changes in the outcomes of interest may have differed in the treatment and control groups, even without the introduction of joint taxation. Specifically, if lower mobilization rates in common law states contributed to slower growth in women's labor force participation, the difference-in-difference estimate will be biased towards finding a negative effect of joint taxation on wives' labor supply.

Acemoglu et. al. define the mobilization rate as the fraction of men registered for the draft, between ages 18 and 44, who were drafted or enlisted for the war. They classify states with mobilization rates greater than or equal to 49% as high mobilization states. The community property states with high mobilization are Arizona, California, Idaho, and Washington. The common law states with high mobilization are Colorado, Connecticut, Kansas, Maine, Massachusetts, Montana, New Hampshire, New Jersey, Oregon, Pennsylvania, Rhode Island, and

Utah. Among married couples living in community property states, 55% lived in high mobilization states. Only 24% of married couples in common law states lived in high mobilization states. Additional evidence on mobilization differences across states comes directly from the census data. In 1950, male sample-line persons were asked about their veteran status. In community property states, 31.4% of sample-line husbands reported that they were World War II veterans, compared to 27.4% of sample-line husbands in common law states.<sup>16</sup>

To investigate the possibility that World War II is biasing my results, I add a dummy variable equal to one for those states classified as high mobilization, and the interaction of this dummy with the 1950 indicator. I also include the dummy for living in the west or south, separately and interacted with the 1950 indicator. The resulting difference-in-difference estimates are shown in Table 6, column 2. Even with controls for World War II mobilization, married women in common law states reduced their labor supply, relative to married women in community property states. There is no evidence of a statistically significant change in wives' probability of having non-wage income, or in husbands' employment, weeks worked, or probability of having non-wage income.

### 7.3 Migration

One of the assumptions of the difference-in-difference approach is that the composition of each group (treatment and control) is unchanging over time. In my case, migration between common law and community property states may cause this assumption to be violated. There are many possible scenarios in which migration could affect my results. The most interesting is that, between 1940 and 1948, high-income married couples in which the wife worked (or earned non-wage income) may have moved from common law to community property states specifically to lower their federal tax liability. If this is the case, wives' observed employment rates could have fallen in common law states, relative to community property states, without any change

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<sup>16</sup>The share of husbands with World War I or other military experience is also higher in community property states than in common law states. In 1950, 42.1% of husbands in community property states and 36.6% of husbands in common law states report some military service.

in individual labor supply behavior.

Although the census data do not allow me to identify any individual's movement across states between 1940 and 1950, they do contain some information related to lifetime migration. In both 1940 and 1950, all individuals report their state (or country) of birth. Cross-tabulating state of birth and state of residence at the time of census enumeration offers some evidence that migration from common law to community property states increased during the 1940s. Among all husbands, the share born in a common law state but enumerated in a community property state increased from 5.5% in 1940 to 7.3% in 1950. Among wives, this share increased from 5.1% to 7.0%. This increase is not simply a reflection of greater overall mobility by 1950 than by 1940. For both husbands and wives, the share moving in the opposite direction—born in a community property state but enumerated in a common law state—increased by much less, from 1.0% in 1940 to 1.2% in 1950. In addition, the share of individuals born and enumerated in the same state actually increased slightly—from 57.2% to 58.3% for husbands and from 60.2% to 60.4% for wives.

How do characteristics of those who move from common law states to community property states compare to characteristics of the rest of the population? Importantly, wives' probabilities of employment and of having non-wage income are higher. In 1940, the share of wives who were employed was 12.9% among those born in common law and enumerated in community property states and 12.1% among all other wives. In 1950, this figure was 22.4% among those born in common law and enumerated in community property states and 20.1% among all other wives. Wives who had moved to community property states had a probability of reporting non-wage income of 11.8% in 1940 and 12.8% in 1950. Among other wives, this probability was 8.9% in 1940 and 8.3% in 1950. Other notable patterns include a higher percentage of college graduates, a higher percentage of whites, and a lower percentage of households with children, among those who had moved to community property states than among all others.

If couples in which the wife was employed or had non-wage income tended to move from common law to community property states between 1940 and 1950, my earlier estimates will

be biased upwards (in absolute value) as a measure of labor supply or non-wage income responsiveness to joint taxation. That is, the wives' coefficients in Tables 3 and 4 overstate the effects of joint taxation. To investigate this possibility, I eliminate from my sample those individuals born in common law states and enumerated in community property states. The remaining sample is designed to eliminate those who have made specifically tax-motivated moves, but likely also excludes some individuals who have moved for other reasons. I repeat the baseline set of regressions for this reduced sample, with results shown in Column 1 of Table 7. For wives, this small reduction in the sample reduces the magnitude of the difference-in-difference estimates for employment and weeks worked by about half. These coefficients are no longer statistically different from zero. The estimate in the non-wage income regression falls slightly, from -0.019 to -0.015. For husbands, this change in the sample has little effect on the difference-in-difference estimates. In Column 2 of Table 7 I again use the reduced sample and add controls for census region and World War II mobilization. Comparing these results to those in Table 6 shows that in this slightly richer specification, just as in the baseline specification, the estimated effects of joint taxation on wives' outcomes are smaller, in absolute value, when migration is accounted for. The pattern of results in this section suggests that cross-state migration biases the initial results towards finding a negative effect of joint taxation on wives' labor supply. After removing from the sample those individuals who may have made tax-motivated moves, the effects on employment and weeks worked fall by about one quarter and are marginally significant at conventional levels.

## 7.4 Stratifying by Education

As the discussion of 1940 and 1950 tax laws demonstrated, the people most affected by the switch from separate to joint taxation are those in high tax brackets. Demonstrating that responses are concentrated among those with high incomes would strengthen the argument that the estimated effects are in fact due to joint taxation. Given the limited income information available, I use a husband's education level as a proxy for household income.

I estimate employment regressions separately for cases in which the husband has fewer than 12 years of schooling, between 12 and 15 years of schooling, and 16 or more years of schooling. I use the richest specification, including regional and World War II mobilization controls. Because education is asked only of sample-line individuals in 1950, here the sample is restricted to households in which the husband is the sample-line person.<sup>17</sup>

For wives married to men in the lowest educational category, there is no evidence that the introduction of joint taxation affected labor force participation. The difference-in-difference coefficient for these women is -0.002 with a standard error of 0.007. The response to joint taxation is concentrated among wives married to men with 12 to 15 years of education. For this group, the coefficient is -0.034 with a standard error of 0.009. Among wives married to men in the highest educational category, the coefficient is -0.020 (0.014). This insignificant coefficient may be a result of the relatively small size of this group. Averaged across 1940 and 1950, only 6.4% of husbands have 16 or more years of schooling.

The finding that husbands' labor force participation is not affected by joint taxation is unchanged when the sample is split by education. For husbands with the lowest levels of education, the difference-in-difference coefficient is -0.011 (0.008). For husbands with 12 to 15 years of schooling, the coefficient is -0.011 (0.007) and for husbands with the highest levels of education, the coefficient is -0.021 (0.017).

## 7.5 A Counter-Example: Single Individuals

Single individuals were not affected by the introduction of joint taxation. Like married individuals, though, they were subject to other factors and trends that may have caused changes in labor supply and non-wage income between 1940 and 1950. Repeating the above analysis for a group of single individuals, and demonstrating that there is no differential response between community property and common law states, supports the interpretation of my previous results

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<sup>17</sup>This restriction makes it impossible to estimate wives' non-wage income regressions by husbands' educational levels, since non-wage income is also asked of sample-line individuals in 1950. In households in which the non-wage income of the wife is observed, the education of the husband is not observed.

as the effects of joint taxation.

The estimated difference-in-difference coefficients and standard errors for single household heads are shown in Table 8. Column 1 shows results from the baseline specification. Column 2 adds regional controls, and column 3 adds World War II controls. Column 1 shows significant *increases* in the labor supply of single women in common law states, relative to single women in community property states. For single men, like married men, the estimates indicate an increase in labor supply in common law states, relative to community property states. Once regional control variables are included, almost all of the difference-in-difference estimates are not significantly different from zero. This demonstrates that there was no “effect” of joint taxation on single individuals. However, the estimated standard errors are large, and in most cases the point estimate for married individuals lies within the confidence interval for single individuals.

It is possible that decisions to marry were affected by the introduction of joint taxation. Prior to 1948, high income individuals could face lower tax liabilities if married than if single, but only in community property states. With the introduction of joint taxation, this “marriage bonus” or “singles’ penalty” existed in all states. It may be the case that joint taxation induced couples in common law states to marry. If the women in these newly married couples had low rates of employment, my results may reflect a change in the composition of married couples rather than a change in labor supply behavior. Aggregate marriage rates do not support this possibility. The share of households headed by a married man did increase between 1940 and 1950, but by more in community property states. This share rose from 73.5 to 75.6 in community property states, and from 76.8 to 77.3 in common law states.

## 8 Conclusion

This paper utilizes a natural experiment to estimate the effects of joint taxation on labor supply and the allocation of non-wage income between spouses. Most married couples experienced a



change from separate to joint taxation in 1948, but those in states with community property laws had been able to split income between spouses, for tax purposes, even prior to 1948. The difference-in-difference results suggest that joint taxation led to a significant reduction in labor supply for married women, and that this reduction was concentrated on the participation margin. In the baseline model, the probability of employment falls by 0.9 percentage points for wives in common law states relative to wives in community property states. The introduction of joint taxation is also associated with a decline in the probability that a wife has non-wage income. In the baseline model, wives in common law states experienced a 1.9 percentage point decline in the relative probability of having non-wage income. The results for wives are robust to the inclusion of region-specific trends, and to the inclusion of controls for state-specific World War II mobilization rates. For husbands, the baseline model indicates that joint taxation had a positive effect on labor supply, but allowing for regional trends eliminates this finding.

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Table 1: Sample Calculations of 1940 and 1950 Taxes

Husband's Income	Community Property			Common Law		
	1940	1950	Change	1940	1950	Change
A. Husband's Marginal Tax Rates (%)						
	(1)	(2)	(3)	(4)	(5)	(6)
5000	3.96	15.66	11.70	3.96	15.66	11.70
10000	8.36	20.02	11.66	12.76	20.02	7.26
15000	10.56	23.66	13.10	17.60	23.66	6.06
20000	12.77	30.91	18.14	27.49	30.91	3.42
30000	20.90	39.11	18.21	37.40	39.11	1.71
40000	27.54	48.34	20.80	43.95	48.34	4.39
B. Wife's Marginal Tax Rates (%)						
	(1)	(2)	(3)	(4)	(5)	(6)
5000	3.96	15.66	11.70	3.96	15.66	11.70
10000	8.36	20.02	11.66	3.96	20.02	16.06
15000	10.56	23.66	13.10	3.96	23.66	19.70
20000	12.77	30.91	18.14	3.96	30.91	26.95
30000	20.90	39.11	18.21	3.96	39.11	35.15
40000	27.54	48.34	20.80	3.96	48.34	44.38
C. Tax Liability (\$)						
	(1)	(2)	(3)	(4)	(5)	(6)
5000	110	574	464	110	574	464
10000	308	1457	1149	528	1457	929
15000	748	2632	1884	1258	2632	1374
20000	1320	4092	2772	2336	4092	1756
30000	2869	7643	4774	5614	7643	2029
40000	5223	12120	6897	9552	12120	2568

*Note:* Calculations assume that all income is earned by the husband, that the husband claims the entire personal exemption, that the couple claims no dependents, and that, under a community property regime, each spouse is taxed on half of the husband's income.

Table 2: Summary Statistics, Married Couples

	1940		1950	
	Community Property	Common Law	Community Property	Common Law
<b>Husbands</b>				
% White	90.3	92.2	91.7	92.6
Average Age	43.7	44.6	43.5	44.6
% College Graduate	6.4	5.6	8.7	7.7
% Employed Last Week	85.9	87.0	86.4	88.8
% Self-Employed	28.0	26.5	20.5	22.1
Weeks Worked Last Year	41.1	41.3	40.7	41.6
Hours Worked, if Employed	47.5	46.3	46.3	46.0
% with Non-Wage Income	41.3	37.6	41.8	38.6
<b>Wives</b>				
% White	90.3	92.2	91.7	92.6
Average Age	39.3	40.7	39.5	40.9
% College Graduate	3.9	2.8	5.5	4.6
% Employed Last Week	12.7	12.1	21.3	20.1
Weeks Worked Last Year	6.2	6.6	11.2	10.8
Hours Worked, if Employed	40.3	39.2	38.7	37.2
% with Non-Wage Income	9.8	8.9	10.9	8.1
<b>Households</b>				
% with Kids $\leq 18$	54.8	56.5	54.7	54.9
% Homeowners	45.7	42.6	NA	NA
% with Spanish Surname	4.5	0.4	5.0	0.5
N	38419	229572	63619	311389

*Note:* The sample is restricted to married household heads and their spouses, excluding those living in group quarters. Census sample weights are used in all calculations.

Table 3: Labor Supply Regression Results

	Employed		Weeks Worked		Hours Worked	
	Last Week		Last Year		Last Week	
	Wives	Husbands	Wives	Husbands	Wives	Husbands
	(1)	(2)	(3)	(4)	(5)	(6)
1950	0.090	0.009	4.249	0.015	-1.728	-1.186
	(0.003)	(0.004)	(0.288)	(0.270)	(0.545)	(0.336)
Common	0.002	0.013	0.998	0.525	-1.115	-1.294
Law	(0.011)	(0.014)	(0.348)	(0.657)	(1.123)	(1.153)
<b>Interaction</b>	<b>-0.009</b>	<b>0.014</b>	<b>-0.916</b>	<b>0.824</b>	<b>-0.210</b>	<b>0.904</b>
	(0.005)	(0.006)	(0.336)	(0.402)	(0.604)	(0.409)
Age	0.012	0.029	0.299	1.497	0.224	0.290
	(0.0007)	(0.0006)	(0.042)	(0.031)	(0.038)	(0.032)
Age	-0.0002	-0.0004	-0.006	-0.019	-0.003	-0.003
Squared	( $7.95e^{-6}$ )	( $7.64e^{-6}$ )	(0.0004)	(0.0004)	(0.0005)	(0.0004)
White	-0.086	0.023	-4.842	1.365	2.511	1.760
	(0.009)	(0.008)	(0.552)	(0.405)	(0.375)	(0.401)
Spanish	-0.033	-0.057	-1.175	-2.874	-0.180	-1.917
	(0.016)	(0.006)	(0.561)	(0.602)	(0.345)	(0.255)
Any Kids	-0.172	0.002	-7.500	0.153	-2.465	0.784
	(0.005)	(0.003)	(0.347)	(0.132)	(0.210)	(0.140)
Less than 12			-1.880	-3.436		
School Years			(0.218)	(0.186)		
16 or More			2.367	0.190		
School Years			(0.380)	(0.153)		
Constant	0.180	0.378	14.928	17.512	35.320	39.518
	(0.017)	(0.022)	(0.890)	(1.109)	(1.185)	(1.278)
N	642999	642999	363378	357291	96510	542107

*Note:* Standard errors (in parentheses) are robust and clustered at the state level. Census sample weights are used in all regressions. The entire sample is used in the employment regressions, all individuals from 1940 and sample-line individuals from 1950 are used in the weeks worked regressions, and employed individuals are used in the hours worked regressions.

Table 4: Non-Wage Income Regression Results

	Wives	Husbands
	(1)	(2)
1950	-0.004	0.029
	(0.003)	(0.010)
Common Law	-0.010	-0.040
	(0.006)	(0.008)
<b>Interaction</b>	<b>-0.019</b>	<b>-0.008</b>
	(0.004)	(0.011)
Age	-0.003	-0.003
	(0.0004)	(0.0008)
Age Squared	0.00007	0.0001
	( $6.17e^{-6}$ )	( $7.98e^{-6}$ )
White	-0.017	0.069
	(0.003)	(0.015)
Spanish	-0.021	-0.068
	(0.006)	(0.019)
Any Kids	-0.012	0.007
	(0.002)	(0.002)
Less than 12 School Years	-0.030	-0.056
	(0.002)	(0.005)
More than 16 School Years	0.060	0.124
	(0.003)	(0.006)
Farm	-0.006	0.403
	(0.003)	(0.010)
Constant	0.139	0.192
	(0.009)	(0.024)
N	363381	357292

*Note:* Standard errors (in parentheses) are robust and clustered at the state level. Census sample weights are used in all regressions. All individuals from 1940 and sample-line individuals from 1950 are included in the sample.

Table 5: Non-Wage Income Regression Results, by Self-Employment Status of Husband

	Wives		Husbands	
	Husband is Self-Employed (1)	Husband is Not Self-Employed (2)	Self-Employed (3)	Not Self-Employed (4)
1950	-0.001 (0.007)	-0.004 (0.003)	-0.023 (0.008)	0.057 (0.017)
Common	-0.007 (0.007)	-0.010 (0.007)	-0.057 (0.011)	-0.021 (0.015)
<b>Interaction</b>	<b>-0.024</b> (0.008)	<b>-0.018</b> (0.003)	<b>0.049</b> (0.011)	<b>-0.031</b> (0.018)
Age	0.002 (0.0005)	-0.005 (0.0005)	0.005 (0.0008)	-0.016 (0.0006)
Age Squared	$-3.93e^{-6}$ ( $6.02e^{-6}$ )	0.0001 ( $7.68e^{-6}$ )	-0.00004 ( $7.86e^{-6}$ )	0.0002 ( $6.70e^{-6}$ )
White	-0.005 (0.004)	-0.024 (0.004)	0.040 (0.016)	0.050 (0.010)
Spanish	-0.040 (0.012)	-0.015 (0.007)	-0.033 (0.022)	-0.035 (0.018)
Any Kids	-0.026 (0.003)	-0.009 (0.002)	0.001 (0.004)	0.004 (0.002)
Less than 12 School Years	-0.036 (0.004)	-0.026 (0.002)	-0.029 (0.006)	-0.040 (0.005)
More than 16 School Years	0.062 (0.007)	0.057 (0.004)	0.041 (0.006)	0.098 (0.006)
Farm	-0.038 (0.005)	0.0004 (0.002)	0.069 (0.008)	0.184 (0.008)
Constant	0.090 (0.013)	0.169 (0.011)	0.664 (0.027)	0.391 (0.022)
N	92649	270732	90837	266455

*Note:* Standard errors (in parentheses) are robust and clustered at the state level. Census sample weights are used in all regressions. All individuals from 1940 and sample-line individuals from 1950 are included in the sample.



Table 6: Difference-in-Difference Estimates, Controlling for Regional and WWII Effects

	Including 1950 · SW (1)	Adding 1950 · HighMob (2)
A. Wives		
Employment Last Week	-0.015 (0.005)	-0.016 (0.006)
Weeks Worked Last Year	-1.468 (0.414)	-1.177 (0.423)
Hours Worked Last Week	-0.454 (0.625)	0.207 (0.484)
Non-Wage Income	-0.012 (0.006)	-0.006 (0.005)
B. Husbands		
Employment Last Week	-0.009 (0.005)	-0.010 (0.006)
Weeks Worked Last Year	-0.685 (0.405)	-0.514 (0.444)
Hours Worked Last Week	1.108 (0.414)	1.363 (0.335)
Non-Wage Income	0.010 (0.012)	0.009 (0.014)

*Note:* Each cell represents the difference-in-difference estimate and standard error (in parentheses) from a separate regression. Standard errors are robust and clustered at the state level. Census sample weights are used in all regressions.

Table 7: Difference-in-Difference Estimates, Dropping Individuals Born in Common Law and Enumerated in Community Property States

	Baseline (1)	With Regional and WWII Controls (2)
A. Wives		
Employment Last Week	-0.004 (0.006)	-0.012 (0.007)
Weeks Worked Last Year	-0.494 (0.399)	-0.865 (0.482)
Hours Worked Last Week	-0.042 (0.617)	0.214 (0.465)
Non-Wage Income	-0.015 (0.005)	-0.004 (0.005)
B. Husbands		
Employment Last Week	0.017 (0.008)	-0.007 (0.007)
Weeks Worked Last Year	0.882 (0.452)	-0.504 (0.503)
Hours Worked Last Week	0.857 (0.483)	1.263 (0.372)
Non-Wage Income	0.005 (0.022)	-0.0006 (0.024)

*Note:* Each cell represents the difference-in-difference estimate and standard error (in parentheses) from a separate regression. Standard errors are robust and clustered at the state level. Census sample weights are used in all regressions.

Table 8: Difference-in-Difference Estimates, Single Household Heads

	Baseline	Adding	Adding
		Regional Controls	WWII Controls
	(1)	(2)	(3)
A. Women			
Employment Last Week	0.035 (0.015)	-0.023 (0.015)	-0.020 (0.017)
Weeks Worked Last Year	1.800 (0.792)	-1.397 (0.863)	-0.911 (0.850)
Hours Worked Last Week	0.870 (0.313)	0.851 (0.452)	0.969 (0.556)
Non-Wage Income	-0.016 (0.028)	0.035 (0.029)	0.034 (0.032)
B. Men			
Employment Last Week	0.028 (0.013)	-0.009 (0.015)	-0.003 (0.018)
Weeks Worked Last Year	1.854 (1.039)	-1.548 (1.085)	-0.865 (0.914)
Hours Worked Last Week	-0.202 (0.663)	0.187 (0.940)	1.066 (0.750)
Non-Wage Income	-0.021 (0.017)	-0.006 (0.021)	-0.020 (0.020)

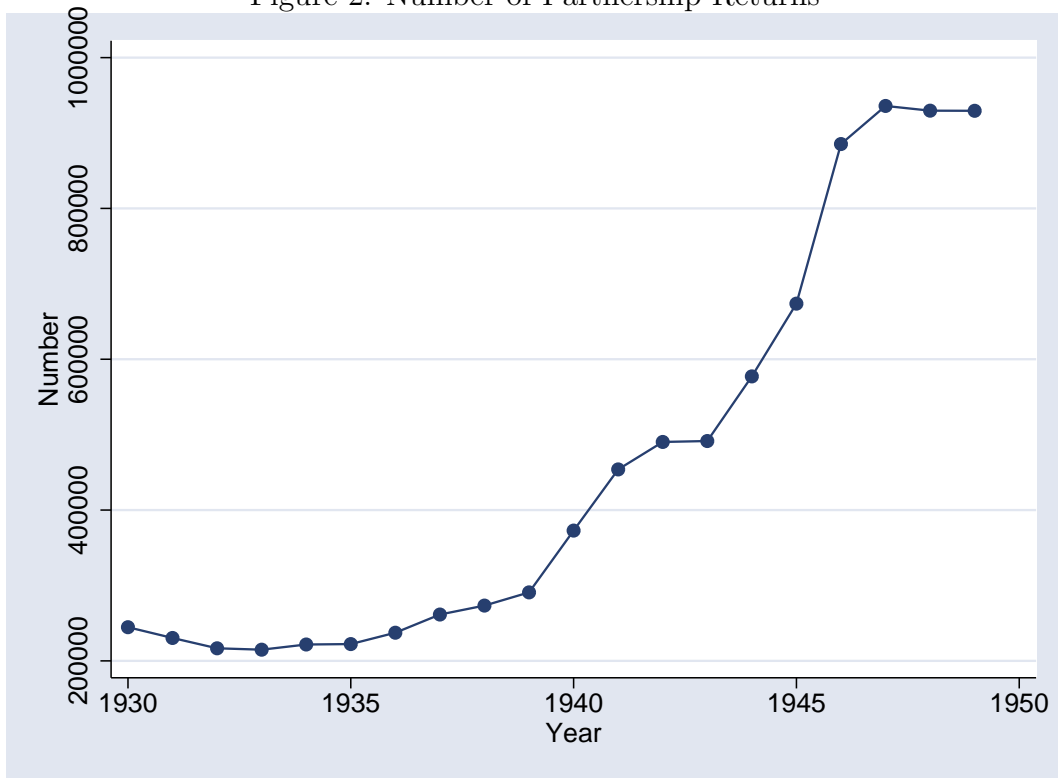
*Note:* Each cell represents the difference-in-difference estimate and standard error (in parentheses) from a separate regression. Standard errors are robust and clustered at the state level. Census sample weights are used in all regressions.

Figure 1: States with Non-Elective Community Property Laws, 1940



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Figure 2: Number of Partnership Returns



*Note:* The number of partnership returns of income (Form 1065) filed annually is reported in *Statistics of Income for 1950*.