Independent Taxation, Horizontal Equity, and Return-Free Filing

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September 18, 2018

1. Introduction

More than 30 countries, including the UK, Germany, and Japan, operate personal income tax systems in which the majority of taxpayers do not need to file tax returns (GAO 1996). Instead, these countries use withholding systems in which the correct amount of tax is withheld during the year.

The tax systems in most of the return-free countries are much simpler than the U.S. tax system, and studies have shown that in the absence of similar simplifications the benefits of a return-free system for the U.S. would be limited (Gale and Holtzblatt, 1997; U.S. Treasury, 2003; Goolsbee 2006). There are four main simplifications that would be needed for the U.S. to reap the full benefits of return-free filing:

- the complicated set of child-related tax provisions would need to be replaced by a simple child benefit;
- capital income would need to be taxed at a flat rate and withheld at source;
- deductions would need to be limited; and
- married spouses would need to be taxed independently.

For the first three of the simplifications, a strong case can be made for the changes even in the context of the current tax-filing system:

Child Benefits. Research has shown that existing tax provisions associated with children (including dependent exemptions, the EITC, the child credit, and child care deductions and

credits) are complex and produce high marginal tax rates and large marriage penalties for many taxpayers (Cherry, 1998; Ellwood and Liebman, 2001). In addition, because the value of tax deductions increases with a filer's marginal tax rates, high-income taxpayers can sometimes receive larger child-related tax benefits than those with lower incomes. Following the model of many other countries, these provisions could be replaced with a flat child benefit that does not depend on income, supplemented with a means-tested child benefit administered separately from the core tax system. The replacement of the dependent exemption with an expanded child credit in the 2017 tax legislation is a step in this direction.

Capital Income. Many of the most complicated features of the existing tax code are associated with the reporting of capital income. Currently capital income is taxed at different rates according to type of income and length of holding period. Simplifying the taxation of capital income by taxing it all at a single rate via withholding at source could ease integration of the personal and corporate income taxes, ending the double taxation of earnings from corporate equity.

Deductions. Tax deductions distort consumption decisions, shrink the tax base (leading to higher tax rates and greater deadweight loss), and often have perverse distributional consequences. Experts ranging from Gephardt (1995) to the President's Advisory Panel on Federal Tax Reform (2005) to Feldstein (2015) have advocated limiting or eliminating many deductions. Countries with return-free systems often maintain a few deductions, but claiming them requires a procedure outside of the basic tax-filing mechanism. These alternate procedures typically result in subsidy rates that are independent of income, in contrast with the current U.S.

system in which subsidies depend on a taxpayer's marginal tax rate and therefore rise with income.[1]

The fourth simplification, independent taxation, involves more complicated tradeoffs. In a tax system with multiple brackets, independent taxation greatly facilitates the exact withholding required for a return-free system because it means that information about one spouse's income does not need to be communicated to the other spouse's employer. Independent taxation would also reduce marginal tax rates on secondary earners and eliminate inequities associated with treating cohabitation differently from marriage. But there is a potentially serious drawback to independent taxation. Since household members share economic resources, a strong argument can be made on ability-to-pay grounds that total household resources should be taken into account in determining tax liability (Shaviro, 2006).

This paper uses data from NBER's Taxsim model along with additional data from the Current Population Survey to investigate the equity implications of a switch from joint to independent taxation of the sort that might occur in conjunction with adoption of return-free filing. There are two main finding. First, although there are winners and losers from the reform, as there will be in any revenue-neutral tax reform, there are enough free parameters such that it is possible to design an independent taxation system that approximately matches the current distribution of the tax burden by income decile. Second, because the existing treatment of married couples under the tax code is far from the ideal that would be prescribed based on strict application of utilitarian ability-to-pay principles, the horizontal equity losses under independent taxation from not taking total household resources into account are offset by other horizontal

[1] The UK, for example, maintains a deduction for charitable contributions. Taxpayers make a payment to a charity that is 80 percent of their intended gift and the charity files with the government to receive the remaining 20 percent. From 1983 until it was eliminated in 2000, the UK's home mortgage interest deduction was administered at source. The borrower paid the lender a reduced interest rate reflecting the subsidy paid by the government to the lender.

equity gains. In particular, the current system often treats one-earner couples more favorably and two-earner couples less favorably than ability-to-pay considerations would suggest, and independent taxation reduces this inequity.

2. Debates over Independent Taxation

In 1970, Greece was the only European Union country employing independent taxation. Since then, Austria, Belgium, Denmark, Finland, Italy, the Netherlands, Spain, Sweden, and the UK have all switched to independent taxation of earned income. Australia and Japan also use independent taxation (O'Donoghue and Sutherland, 1998; Congressional Budget Office, 1997).

In Europe, the switch was the product of an unusual alliance between feminists and pro-family groups (Soler Roch, 1999). In many European countries, joint taxation resulted from a patriarchal tax system in which only men were considered to be taxpayers, and married men were required to pay tax on the combined incomes of themselves and their spouses.[2] Reformers called for abolishing this approach and providing equivalent treatment of men and women. A 1984 European Commission memorandum concluded that "a system of totally independent taxation is to be recommended from the point of view of achieving equal treatment [of women]." There was also a second reason for reform. Under the joint taxation systems in place in Europe around 1970, couples faced large marriage penalties once women started to enter the paid labor force. Indeed, in several countries the same tax schedule applied to both single individuals and married filers. Pro-family groups therefore favored reform as a way to eliminate marriage penalties.

[2] The UK's Income and Corporation Taxes Act of 1970 specified that "A woman's income chargeable to tax shall . . . be deemed to be her husband's income and not her income." Institute for Fiscal Studies (2018).

In the U.S., the political dynamic was different. Since 1948, family income has been the tax base for married households, and the rate structure from 1948-1969 was equivalent to income splitting, resulting in large marriage bonuses.[3] So initially there was neither the feminist nor pro-family impetus for reform. But U.S. tax legislation in 1969 widened the tax brackets for single tax filers, introducing marriage penalties to the U.S. tax system for some taxpayers (many others continued to receive marriage bonuses), and several prominent economists raised concerns about both the equity and efficiency properties of the U.S. system of joint taxation.

Rosen (1977) argued that independent taxation would make the tax system marriage neutral, and it would reduce marginal tax rates on secondary earners -- earners who, optimal tax theory suggests, should have low marginal tax rates because they have high labor supply elasticities. Munnell (1980) emphasized that independent taxation was an appealing response to the increase in two-earner couples, in cohabitation rates, and in divorce. She noted that assessing the same tax on a one-earner and two-earner couple with the same income raises equity concerns because the one-earner couple will typically have greater untaxed leisure and unpaid work at home and because the two-earner couple will generally have greater work-related expenses. Moreover, Munnell added, having a tax system which differentiates between couples with and without marriage licenses becomes less attractive as long-term cohabitation becomes more common and as income during married years becomes less correlated with lifetime income.

More recently, Kleven, Kreiner, and Saez (2009) have analyzed the question of joint versus individual taxation from an optimal income tax perspective. The authors point out that families with identical wage levels might differ on other dimensions. For example, their

[3] As discussed below, the 1969 tax act widened the brackets for single filers, introducing marriage penalties for some filers as well as higher marginal tax rates for secondary earners. The high marginal tax rates on secondary earners have been criticized as unfair to women by authors such as McCaffery (1999) and Duranza (2017).

secondary earners might face different fixed costs of work or vary in their skill at home production. In a model in which all secondary earners have the same earnings, they analyze whether secondary earners should face any tax at all on their earnings. The authors show that if secondary earner labor force participation is a signal of households being better off via lower costs of work, there should be a tax on the earnings of secondary earners. In contrast, if secondary earner labor force participation derives from households being worse off via lower skill at home production, then there should be a subsidy for secondary earners. In their model, they also show that as the earnings level of the primary earner increases, the social welfare value of redistributing between one-earner and two-earner households diminishes, and the optimal tax or subsidy on secondary earners heads asymptotically to zero. In their simulations calibrated to the UK tax system, they mostly find optimal tax rates on secondary earners that are below the marginal tax rates for primary earners, a result that is more in line with independent taxation than with joint taxation.[4] Kleven, Kreiner, and Saez also observe that the structure in many European countries of a welfare system based on household income and a tax system based on independent taxation is consistent with their finding that there should be more interdependence of tax rates at the bottom of the income distribution than at the top.

3. Analytical Framework and Data

In analyzing the distributional consequences of a shift from joint taxation to independent taxation, we study married households and take the perspective that tax filing units facing the

[4] A secondary earner deduction in a joint taxation system would be an alternative way of reducing marginal rates on secondary earners. See Kearney and Turner (2013) for a recent proposal along those lines.

same budget set are equally well off. This leads us to rank households according to their potential income – the income the household would receive if both spouses worked full-time.[5]

From this potential income perspective, joint taxation and independent taxation create different inequities. Under joint taxation, a one-earner couple in which one spouse earns $100,000 from full time work and the other is a non-working spouse who could earn $40,000 if he or she chose to work full time in paid work is taxed the same as a two-earner couple in which both spouses work full time and earn $50,000 each. The one-earner couple has greater potential earnings (and is consuming greater untaxed leisure and self-produced services) and should be taxed more heavily. Under independent taxation, the one-earner couple would be taxed more heavily than the two-earner couple (assuming a graduated schedule of marginal tax rates).

However, consider a second scenario. Under independent taxation, two spouses who are full time workers and earn $70,000 and $30,000 will be taxed more heavily than two spouses who are full time workers and each earn $50,000.[6] In this case, the two couples have the same ability to consume and the same leisure – the same potential income --, and they should therefore face the same tax, as would be the case under joint taxation.[7]

To explore these issues in a representative sample of U.S. taxpayers, we build a microsimulation model of the U.S. tax system to explore the distributional implications of moving to independent taxation. We start with raw data from the 2010 NBER Taxsim Model,

[5] See Fullerton and Rogers (1993) for a description of the potential income approach. While we acknowledge the Kleven, Kreiner, Saez (2009) point that households may vary on dimensions other than their potential earnings and that observed earnings may contain information about these other dimensions, in practice our data do not contain information on fixed costs of work or skill in home production, so we stick to the conventional approach of evaluating the distributional consequences of a tax reform in a framework where heterogeneity comes from differences in labor productivity (wages).

[6] To be precise, this example assumes that marginal rates rise either between $30,000 and $50,000 or between $50,000 and $70,000 or both.

[7] In some models, different wage levels between spouses provide opportunities for specialization that are not available to spouses with equal earnings. In assuming away that feature, this analysis below understates the gains to independent taxation.

the latest available when we began this research. These data are largely the same as the Statistics of Income (SOI) public use file. We augment these data by imputing the share of earnings accruing to each spouse and the hours worked of each spouse using information from the March 2011 Current Population Survey, which contains data corresponding to the 2010 tax year. Imputing the share of earnings accruing to each spouse allows us to overcome the fact that the SOI-based data for married couples provide only the combined earnings of the two spouses. Imputing hours worked allows us to calculate a potential income measure for each household that becomes our main measure of ability to pay. We follow a hot-deck imputation procedure within married-couple earnings deciles: for each married joint tax return we randomly draw an observation from the same earnings decile in the CPS and assign the secondary earnings share and hours worked data from that observation to the tax return.[8] We measure potential income as the sum of household asset income and the earnings that would accrue if each spouse had worked 2000 hours during the year.[9] The data are aged from 2010 to 2017 by growing each income component at the growth rate of the mean value of that component in the aggregate SOI tables from 2010 to 2015 and then at the growth rate of nominal GDP from 2015 to 2017.

To compare joint and independent taxation, we model taxes paid by married joint filers under the 2017 joint tax system as well as the taxes these couples would pay under a reformed system with independent taxation. Our model of the 2017 tax system includes standardized and itemized deductions, personal and dependent exemptions, differential tax rates for dividends and capital gains, and the EITC and Child Credit. We do not model the alternative minimum tax.

[8] Annual hours worked are calculated by multiplying usual weekly hours by weeks worked.
[9] For non-working spouses (for whom we do not observe wage levels), we impute their wage level using a simple wage regression with education and age as explanatory variables.

For simplicity, we also drop observations with negative AGI from our sample.[10] We discuss our system of independent taxation in further detail below.

4. Studying the Impact of Independent Taxation in a Simplified, Earnings-Only, Setting

To focus on the "pure" effects of a change to independent taxation, it is helpful to start by studying a scenario in which the only component of income is earnings. For this analysis, we use our same microsimulation sample, but simply ignore all of the components of income other than wage earnings. Since approximately 70 percent of the income reported on personal income tax returns is wage earnings, this simplified analysis is still quantitatively relevant.

To do this analysis, we need to select a tax schedule for the independent taxation system. Table 1 presents the 2017 U.S. tax schedules for married joint, married separate, and single filers. The married separate brackets are half as wide as the married joint brackets. A married couple filing jointly in which both spouses earned the exact same amount would pay the same tax if they filed separately under the married separate bracket. However, a married couple with unequal earnings would pay more tax if it filed separately under the married separate bracket because the higher earner would be further into the higher marginal tax rate brackets. Put another way, relative to filing jointly (or a system that permits earnings splitting), there would be unused space in the lower brackets for the lower earner. The top panel of Figure 1 illustrates for different primary earner shares of total household earnings, the increase in taxes that would occur if a married couple filed separately.

[10] Because the personal income tax changes implemented in the December 2017 budget reconciliation law are temporary, we chose to do our analysis relative to the 2017 income tax provisions so as to keep our analysis relevant for the long term. A set of tables relative to 2018 are available from the authors upon request.

Table 1 shows that the first two brackets for single taxpayers match the brackets for married separate files, while the others result in lower liability for single filers than for married separate filers. Up until 1969, the U.S. brackets for unmarried single filers were set to be half as wide as the married joint brackets – as the married filing separate brackets are today. This meant that the tax system had exclusively marriage bonuses and no marriage penalties. However, concerns that single filers were paying much higher taxes than one-earner married couples let to the creation of brackets for singles where the widths were between those of married separate and married joint. This resulted in a system in which some couples (those with disparate earnings) had their taxes go down when they became married while others (those with similar earnings) had their taxes go up. The last few tax reform acts have been gradually moving back in the direction of having the tax brackets for married couples be twice as wide as those for singles. Marriage bonuses have been growing, and, as of 2018, there are no marriage penalties for any couples with joint earnings below $600,000.

In modeling a system of independent taxation, the most obvious bracket to use is the married separate one that is half as wide as the married joint bracket. However, a switch to that bracket would raise approximately 15 percent more revenue. To keep the reform revenue neutral, we maintain the married separate brackets, but scale down all of the marginal tax rates by multiplying by .85. In essence, we convert the inframarginal marriage bonuses of the current system into reductions in marginal rates. In this simplified model, we further assume that each spouse claims one personal exemption, and that the standard deduction for the independent taxation system is half of the 2017 married joint standard deduction. We ignore all other exemptions, deductions, and credits. The bottom panel of Figure 1 shows that the effects of shifting to this independent taxation vary with the primary earner share of household earnings.

Under this illustrative independent taxation system, one-earner households pay higher taxes, while those in which the higher earner earns 70 percent or less of the total pay lower taxes.[11]

The impact on horizontal equity of the shift to independent taxation is illustrated in Figures 2 and 3. Figure 2 plots average tax rates by income for each married couple in our microsimulation sample, where income is measured as the sum of the *actual* earnings of the two spouses in the household. The top panel shows the results for the current system where all married couples are assumed to file as married joint filers. Because the current system assesses taxes based upon total income, there is no dispersion in average tax rates at a given level of income (remember that in order to highlight the underlying difference in tax structures, our simplified earnings-only model deliberately eliminates all of the other sources of heterogeneity that would lead to heterogeneity in average tax rates at a given level of income). The bottom panel shows the result for the independent taxation system. Because the amount of tax paid by the couple varies with the percentage of total earnings that is earned by each spouse, there is now heterogeneity in the average tax rates paid by couples at a given level of total couple earnings. Couples in which earnings are split equally face the lowest average tax rates while one-earner couples face the highest rates. At most income levels the range between the taxpayers paying the highest average tax rates and those paying the lowest is between 4 and 6 percentage points. If actual earnings were the appropriate basis upon which to rank households, then it would be clear that independent taxation does worse than joint taxation on horizontal equity – as it results in greater dispersion in average tax rates for otherwise similar tax filing units.

[11] At higher household earnings levels than those shown in the figure, even one-earner households receive a tax cut under independent taxation, as the tax savings from lower marginal rates eventually outweigh the increase in taxes from narrower inframarginal brackets.

Figure 3 shows that this conclusion is far less clear once we switch to potential earnings. For both the joint taxation system (top panel) and the independent taxation system (bottom panel) there is significant dispersion in average tax rates. In both systems, variation in hours worked among households with the same potential income is leading to a wide spread in tax rates. Since leisure/home production is untaxed, households with lower paid work hours have lower average tax rates.

But the pattern is different for the two tax systems. In subsamples with little variation in hours (for example couples in which both spouses work full time) but significant variation in wage levels, and therefore in the fraction of the household's earnings earned by each spouse, there is a greater dispersion in average tax rates in the independent taxation system since these households are taxed equally under joint taxation but disparately in the independent taxation system. This is illustrated in appendix figure 1 for the subsample in which both spouses work between 1800 and 2200 hours. In subsamples in which there is significant variation in the hours worked by secondary earners, but relatively little wage variation between the spouses, there is greater variation in average tax rates under joint taxation (which taxes one-earner couples relatively lightly) than under independent taxation. This is illustrated in appendix figure 2 for the subsample in which the primary earner works between 1800 and 2000 hours, and the secondary earner works fewer than 1800 hours.

To more formally assess horizontal equity under the two systems, we adopt the approach of Auerbach and Hassett (2002). In a utilitarian social welfare framework, there is welfare loss when the tax system causes otherwise equivalent households to have different after-tax incomes. The concavity of the utility function implies that the sum of the utilities will be lower when there

is a range of after-tax incomes than when everyone in a group receives the group average after-tax income. Following Auerbach and Hassett, we calculate social welfare as:

$$W = \left[\sum_i \sum_j \left(Y_i - T_{ij}\right)^{1-\gamma} \right]^{\frac{1}{1-\gamma}}$$

where i indexes groups of individuals with a given level of potential income, j indexes all of the individuals within the income group, and γ is a parameter that can be interpreted either as reflecting the curvature of the utility function (in a strictly utilitarian approach to social welfare) or alternatively as reflecting the social planner's distaste for violations of horizontal equity.[12]

To implement this approach numerically in our data, we estimate the average of taxes paid at each level of potential income using a kernel regression. Then we calculate our measure of horizontal inequity by comparing the social welfare achieved if every household paid the average tax for its potential income level to the social welfare at the actual (dispersed) levels of taxes paid. We do this separately for the joint taxation system and the independent taxation system. Finally, we convert this to a money metric by asking how much would average tax rates need to be reduced for each individual at the dispersed income level to raise average utility to the utility level achieved when everyone pays the average tax.

Table 2 displays the results of this horizontal equity calculation using our simplified earnings-only framework. We set γ at 2 to match Auerbach and Hassett's central parameter value. Under joint taxation, the cost of horizontal inequity is equivalent to 0.2 percentage points of income per married couple. Under independent taxation, it is 0.4 percentage points per couple. While the cost of horizontal inequity is approximately twice as high under independent

[12] Kaplow (2000) argues that horizontal equity's main value is as a proxy for potential welfare gains from equalizing marginal utility among similar individuals.

taxation, the overall losses associated with the dispersion in taxes at a given level of potential income are small. Thus even small gains from independent taxation on efficiency, simplicity, or other equity dimensions would outweigh the advantage of joint taxation on horizontal equity. Put another way, at a given level of potential income there are some taxpayers paying taxes above the average for that level of income and some paying below. The first order effect of the differences on utility is zero - if utility were linear in consumption there would be no social welfare gains from reducing horizontal equity. For the relatively small differences in taxes paid we see in our sample, the welfare effects due to the curvature of the utility function are small.

While the focus of this analysis is on the equity implications of independent taxation, it is worth noting the efficiency gains that come from the shift as well. Using the earnings-only microsimulation sample, it is possible to calculate deadweight using the standard Harberger-Browning formula. The dollar weighted marginal tax rate on secondary earners falls from 22.9 under joint taxation to 17.3 percent under independent taxation. This implies a reduction in DWL from taxing secondary earners of 43 percent. Marginal rates on primary earners rise only slightly from 22.2 to 22.7 (recall that our reform has the effect of converting inframarginal marriage subsidies into reductions in marginal rates, so that reductions in secondary earner marginal tax rates are not offset with equivalent increases in primary earner marginal tax rates). If we assume that the secondary earner earnings elasticity is twice that of the primary earner, then this reform reduces the overall DWL from taxing earnings by 19 percent.

Some policy makers may not simply aim to eliminate marriage penalties, they may want to subsidize marriage. In a return-free independent taxation system, the IRS could accomplish this by mailing a check to each married couple on the couple's wedding anniversary. Table 3 illustrates the amount of deadweight loss reduction achievable when some of the extra revenue

from switching to independent taxation is used to provide a marriage subsidy rather than to reduce marginal rates. With a $500 per household marriage credit, the deadweight loss reduction falls to 11 percent. With a $1000 per household marriage credit, the deadweight loss reduction is only 3 percent. If all of the additional revenue from independent taxation is used to provide a marriage credit of $1729, then deadweight loss rises by 10 percent relative to joint taxation. Even though the simulation assumes that the earnings elasticity of secondary earners is twice as high as that of primary earners, the fact that secondary earnings are only 25 percent of total earnings means that the impact of the increase in primary earner marginal tax rates that occurs when none of the incremental revenue is used to reduce marginal rates outweighs the impact of the decline in secondary earner marginal tax rates and produces higher deadweight loss on net.

5. Analyzing a More Comprehensive Independent Taxation System

Having clarified the underlying tradeoffs by studying the earnings-only model, we now turn to modeling a more complete independent taxation system. Specifically, we now include child-related benefits, capital income, and deductions. Our purpose is to illustrate what such a system could look like and assess whether it is possible to design such a system that approximately preserves the current distribution of taxes paid by income decile. We also want to examine horizontal equity in this more complete model of the tax system. In modeling an independent taxation system, we aim for simplicity and do not aim to precisely calibrate the system to minimize the number of taxpayers who win or lose.

For our illustrative independent taxation system, we need to specify how we tax earnings and income from capital, as well as what child-related tax benefits to provide, and how deductions will be handled.

Taxation of Earnings. As in the simplified, earnings-only, model, we begin with the 2017 married filing separate tax schedule with each bracket half as wide as the married joint brackets. We include a zero bracket that is the value of a single personal exemption ($4050) plus half the married filing joint standard deduction ($6350). As we did in the earnings-only model, we reduce the marginal rates proportionately so that the total tax collected on earnings equals that under the joint taxation system.

Taxation of Income from Capital. We assume that all income from capital – dividends, interest, and capital gains – is taxed at a flat 20 percent rate. The flat rate would facilitate withholding at source and make the allocation across spouses irrelevant. This approach results in higher taxes on dividends and capital gains and lower taxes on interest than in the current system. The assumption is that this approach would be accompanied by a more symmetric treatment of interest and dividends at the corporate level. This rate would also be an increase for lower-income taxpayers who currently have the returns to their savings taxed at a lower rate. If policy makers wanted to hold retired taxpayers harmless from this change, they could do so by providing a small increase in Social Security benefits. If policy makers wanted to offset the impact of this policy for younger taxpayers, they could do so by making matching payments into retirement savings accounts.

Deductions

In the current U.S. tax system, the amount a taxpayer saves from a deduction in proportional to the taxpayer's marginal rate. A $100 deduction is worth $15 if the taxpayer is in the 15 percent marginal tax bracket and $35 if the taxpayer is in the 35 percent tax bracket. Many analysts have proposed substituting tax credits for tax deductions so as to provide equal tax savings at different levels of income. In a return-free system in which taxes on earnings are collected

through exact withholding and taxes on capital were collected at source, there would be no 1040 tax form to report deductions on and no direct way to have the value of deductions vary with income. Instead, subsidies for activities such as charitable giving, mortgage interest, and state and local taxes paid would be at a flat rate, independent of income. This would have a similar distributional effect as would converting deductions into credits. Instead of millions of taxpayers reporting deductions on their tax returns, charitable organizations, mortgage lenders, and state governments could simply report aggregate payments received (or taxes paid) and receive the tax subsidy directly from the federal government, greatly reducing reporting requirements for individuals. In our independent taxation simulation, we model the curtailing of deductions as a tax credit equal to 15 percent of the household's itemized deductions in excess of the standard deduction.

Child-Related Tax Benefits

We replace dependent exemptions, the EITC, the child credit, and child care deductions with a $1000 per child benefit that would be paid to each family independent of income. $1000 per child is approximately the value of the $4050 dependent exemption in the 25 percent bracket. In the current system, the EITC and child credit provide no benefit to a household without earnings and phase in as a household's earnings increase. In a system with a child benefit independent of income, even households with no earnings would receive the benefit, so the child benefit would not only replace the existing child-related provisions in the tax code, it could also replace a portion of SNAP and TANF as well. To avoid large losses from this reform among the EITC population, it would be necessary to supplement this proposal with a separate income-related process for applying for the EITC. The UK has used such a system for its EITC equivalent. In

our modeling, we assume that all EITC recipients with an EITC amount greater than $1000 receive the different between their EITC amount and $1000 from this supplementary programs.[13]

We present three sets of results from our simulation exercise. The first shows how the distribution of the tax burden by income level changes from the reform. The second shows the distribution of tax increases and tax cuts under the reform. The third shows how the two systems compare on horizontal equity. Our analysis is performed at the married couple level; under independent taxation we calculate the separate tax due from each spouse and then aggregate back to the couple level for comparison with the existing joint tax system.

Vertical Equity

Given that there are several free parameters to be set in designing the system of independent taxation (including the width of the tax brackets, the tax rate on capital income, the rate at which deductions will be permitted, and the generosity of child benefits), one would expect that it would be straightforward to find a set of parameters that can approximately match the distribution of the current tax burden by income percentile. Only if the separate allocation of wage earnings had widely disparate impacts at different parts of the income distribution would this not be the case.

Table 4 shows that our rather arbitrary set of parameter choices comes quite close to matching the current distribution of the married couple tax burden.[14] The first two columns show the percentage of taxes paid by each potential income decile, under the current joint taxation system and under the hypothetical independent taxation system. In both systems, the top

[13] In 2017, the maximum EITC was $3400 for tax filing units with one child, $5616 for tax filing units with two children, and $6318 for those with three children.
[14] Note that the married couple tax burden is skewed more to higher percentiles than is the overall tax burden.

two deciles pays 74 percent of taxes, and the percentage paid by each decile is quite similar under the two systems. The remaining 5 columns show the distribution of tax changes that would occur within each tax decile from a switch to independent taxation. For the median taxpayer within each decile, the change is negligible. In most deciles 80 percent of taxpayers would experience a change in average tax rates of less than 3 percentage points.

The lesson of these initial results is that independent taxation does not create any insuperable problems with regard to vertical equity. Even with an arbitrary set of parameters for the new system, we have come quite close to matching the distributional burden of the current tax system by AGI decile. By tinkering with the parameters further it should be possible to mimic the current distribution of the tax burden even more closely.

Horizontal Equity

With capital income included, the question of which households should be treated as equivalent for the purpose of assessing horizontal equity becomes more complicated. We could define potential income as the sum of capital income and potential earnings. With that approach we will see wide dispersions in average tax rates at a given level of potential income depending on the portion of total income that is capital income. We could also interpret the lower tax rate on capital income (for taxpayers facing marginal rates above 20 percent) as reflecting a view that only a portion of capital income should be taxed and include only a portion of capital income in our measure of potential income (for example a portion equal to .2 divided by the top marginal rate). This would lead to less dispersion in average tax rates at a given level of potential income. Or one could take a consumption tax perspective and simply look at taxes paid relative to potential earnings. While this latter approach would be plausible in a lifetime model, it would

lead to odd results in a single period model as individuals with capital income but no earnings would face an infinite average tax rate.

In practice, we present results under the first two approaches. While neither provides a fully satisfactory measure of ability to pay, the comparisons between joint taxation and independent taxation are nonetheless illuminating.

Table 5 contains the results . . .

The analysis in this paper has taken an annual approach to assessment of horizonal equity. This is likely to be an upper bound on the actual amount of horizontal equity because some of the variations in hours of work and in wage levels result from different people being at different places in the life cycle. For example, if every household had a secondary earner who reduced labor supply for several years for childcare purposes, this would show up as variation across households in hours worked in an annual cross sectional analysis that contains workers of different ages, but there would be no actual difference in hours worked if it were possible to compare lifetime hours worked. It is unclear how a lifetime perspective would affect the relative horizontal equity of joint vs. independent taxation. Conceptually, it is likely that the single-year approach overstates the advantage of joint taxation in accounting for positive assortative mating, and it overstates the advantage of independent taxation in accounting for variations in hours of work.

5. Conclusion

Because it produces marriage neutrality and low marginal tax rates for secondary earners, and would facilitate return-free filing, independent taxation has long been seen as an attractive alternative by some analysts. But detractors have complained that such a system is inequitable because households with the same incomes but different allocations of earnings between the two

spouses would pay different amounts of tax. We have shown that when viewed from a potential earnings perspective, an illustrative independent taxation system and the current personal income tax system do not differ much in aggregate horizontal equity. Independent taxation is more equitable in the treatment of households with different amounts of labor effort while joint taxation is more equitable in the treatment of households with the same labor effort but different spouse wage levels. Given the relatively small differences between the two systems in horizontal equity, the other benefits of independent taxation are likely to outweigh the horizontal equity cost – something that a large share of OECD countries appear to have already figured out.

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Table 1
2017 Tax Brackets

	Married Joint	Married Separate	Single
10	$0 to $18,650	$0 to $9,325	$0 to $9,325
15	$18,650 to $75,900	$9,325 to $37,950	$9,325 to $37,950
25	$75,900 to $153,100	$37,950 to $76,550	$37,950 to $91,900
28	$153,100 to $233,350	$76,550 to $116,675	$91,900 to $191,650
33	$233,350 to $416,700	$116,675 to $208,350	$191,650 to $416,700
35	$416,700 to $470,700	$208,350 to $235,350	$416,700 to $418,400
39.5	$470,700 and above	$235,350 and above	$418,400 and above

Table 2
Measure of Average Loss from Dispersion in Average Tax Rates
Simplified Model with Earnings Only

Joint Taxation	0.2%
Independent Taxation	0.4%

Table 3
Marginal Tax Rate and DWL Reductions with Different Sized Marriage Credits

	Primary earner dollar weighted average MTR	Secondary earner dollar weighted average MTR	DWL relative to joint taxation
Joint Taxation	22.2	22.9	1.00
Independent Taxation, Marriage Credit =$0	22.7	17.2	0.81
Independent Taxation, Marriage Credit =$500	23.6	17.9	0.88
Independent Taxation, Marriage Credit =$1000	24.5	18.6	0.97
Independent Taxation, Marriage Credit =$1500	25.5	19.3	1.06
Independent Taxation, Marriage Credit=$1729	26.0	19.7	1.11

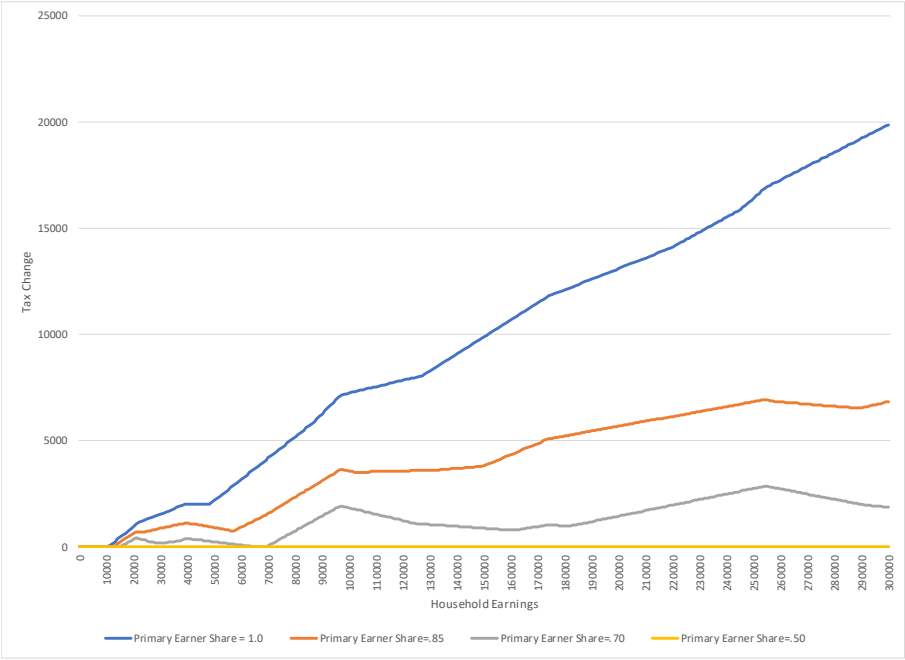
Note: Deadweight loss calculations assume secondary earner elasticity is twice as large as primary earner elasticity.

Table 4
Vertical Equity and ATR Changes

	% of total taxes paid		Change in average tax rate (reform-current) percent				
Deciles	Current (joint taxation)	Reform (independent taxation)	10th percentile	25th percentile	Median	75th percentile	90th percentile
1	<0	<0	-3.4	0.0	0.0	0.4	1.3
2	<0	<0	-2.9	-0.6	0.5	2.2	3.0
3	0.5	0.6	-3.0	-1.4	0.2	2.2	3.3
4	1.8	1.6	-2.9	-1.7	-0.4	1.3	2.2
5	3.3	3.0	-2.8	-2.1	-0.9	1.0	2.0
6	4.9	4.6	-2.7	-2.0	-1.1	1.0	2.3
7	6.6	6.7	-2.3	-1.7	-0.7	1.7	2.8
8	9.1	9.3	-1.9	-1.4	-0.4	1.7	3.3
9	14.0	14.5	-2.0	-1.4	-0.3	2.1	4.1
10	59.9	59.7	-2.2	-1.3	0.0	2.2	3.7

Figure 1
Change in Taxes Paid By Primary Earner Share of Household Earnings

A.. Married Filing Separately



B. Independent Taxation

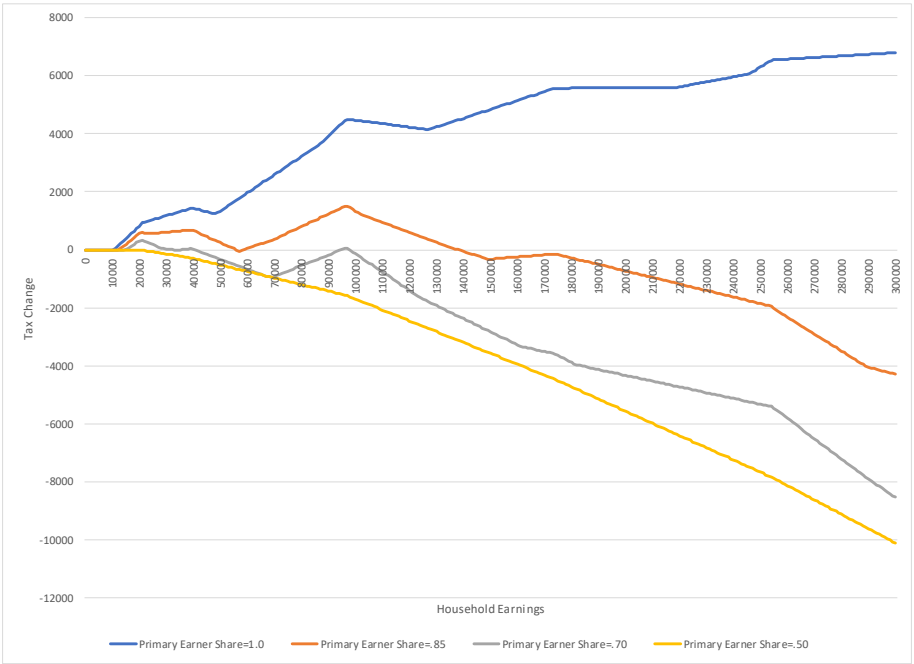
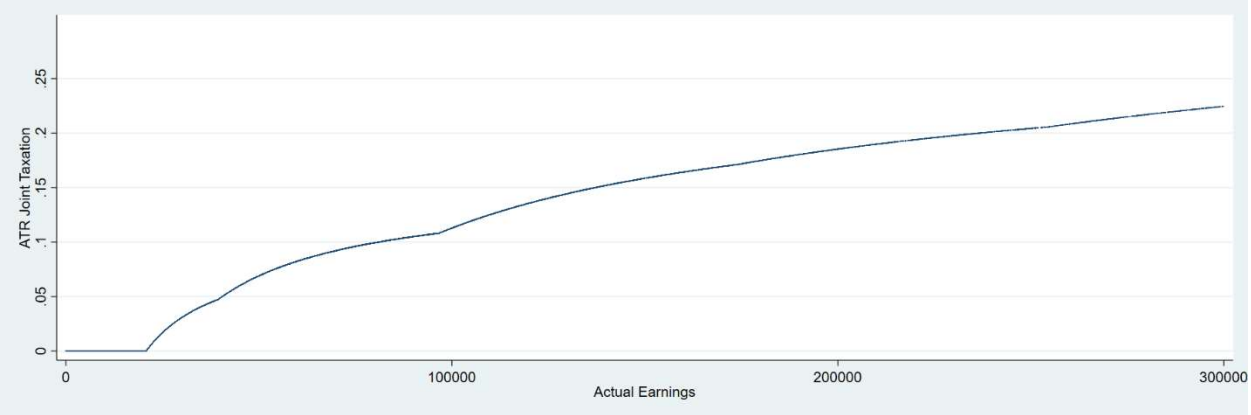


Figure 2
Dispersion in Average Tax Rates When Households Are Ranked by Actual Household Earnings

A. Joint Taxation



B. Independent Taxation

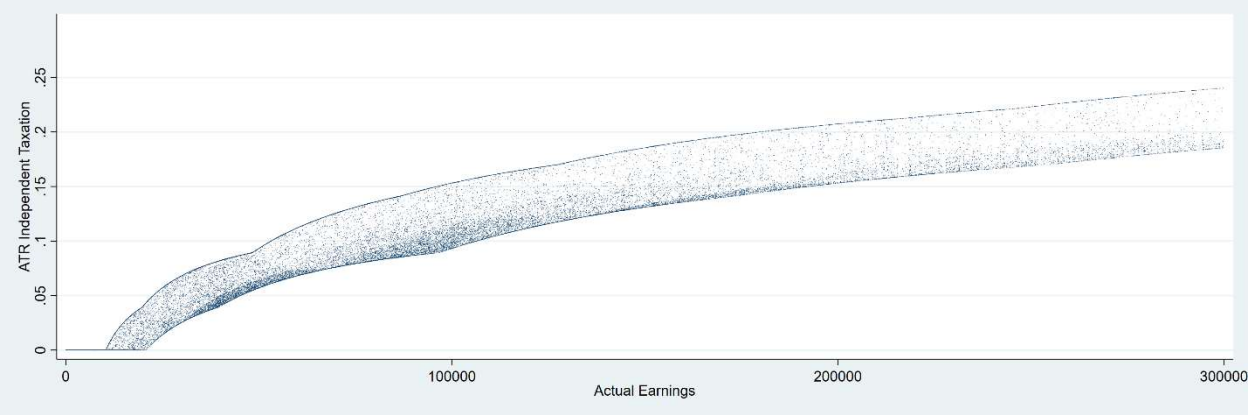


Figure 3
Dispersion in Average Tax Rates When Households Are Ranked by Potential Household Earnings

A. Joint Taxation

B. Independent Taxation

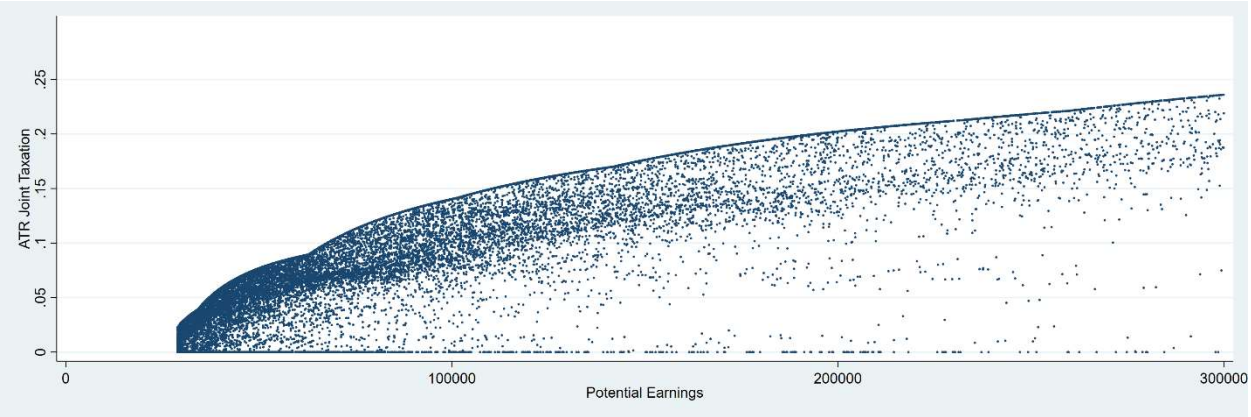
Appendix Figure 1
Subsample in Which Both Spouses Work Full Time

A. Joint Taxation

B. Independent Taxation

Appendix Figure 2
Subsample in Which Primary Earner Works Full Time
and Secondary Earner Works Less than 1800 Hours

A. Joint Taxation



B. Independent Taxation