

Commentary on Brewer, Saez, and Shephard, ‘Optimal Household Labor Income Tax and Transfer Programs: An Application to the UK’

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“Optimal Household Labor Income Tax and Transfer Programs”
by Mike Brewer, Emmanuel Saez and Andrew Shephard

Commentary

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Taxing the Family

1. Introduction and Summary

The chapter by Brewer, Saez and Shephard examines the optimal design of income tax systems. Their work addresses the substantive policy issues while simultaneously making important contributions to the literature; it will be well cited and influential. They begin by providing an overview of the income tax system in the UK and reviewing the impacts on labor supply. In so doing, they provide new empirical estimates of the effects of top marginal tax rates on taxable income. They present the optimal tax analysis and perform simulations using data from the UK and elasticities from the literature. They conclude by providing a proposal for reforming the UK tax system based on the lessons from their work.

The focus in this commentary is “taxing the family.” Brewer, Saez and Shephard consider optimal taxation in a model with a single decision maker and an individual taxation system. Yet economic models typically consider two potential decision makers—for example the husband and wife in the case of married couples—and some features of the UK tax system apply to joint rather than individual incomes. I will explore the issues that arise in the optimal tax framework when accounting for issues around taxing the family such as the impact of tax policy on labor supply when labor supply decisions are “joint” (depend on husband and wife’s

* I wish to thank Andrew Shephard for tabulations of the UK data and Alan Barreca for tabulations of the US data.

preferences), and the impact of taxation on family structure decisions such as the decision to marry, cohabit and have children.

I begin with a conceptual discussion of individual versus joint taxation and implications for equity and efficiency of the tax system. Here I contrast the primarily individual based tax system in the UK with the pure joint tax system in the US. I then go on to provide an empirical setting for the importance of taxing the family showing that there are substantial differences in labor supply by family type and the magnitude of tax-based penalties and subsidies to marriage. Finally, I summarize what is known about the likely efficiency costs of individual versus joint taxation, focusing on the distortions to marriage and secondary earner labor supply.

2. Taxing the Family: Conceptual Discussion

Tax systems across countries vary in many ways. One important way they vary is whether they are individual or joint. A system of individual taxation is one where the tax basis and the tax schedule are individual based. In that case, a worker would owe the same taxes regardless of the earnings of their partner (married or otherwise). A system of joint taxation is one where the tax basis and tax schedules are applied to joint income. In that case, married couples are taxed jointly on their total income.

The tax system in the UK, while typically characterized as individual based, is actually a hybrid of the joint and individual systems. The assignment of the tax schedule and tax rates is individual based, but tax credits (importantly the WFTC/WTC) are assessed based on family income and earnings. In addition, in the UK and most other countries, income conditioned transfers are family based. In contrast, the U.S. has a “pure” joint system. The assignment of the

tax schedule and tax rates is joint, as are all tax credits (importantly the EITC) and income conditioned transfer programs.

The choice between an individual and joint tax system reflects preferences over appropriate notions of equity and concerns over efficiency consequences of taxation. All tax systems strive for fairness or equity—with commonly stated goals of treating equal individuals equally (horizontal equity) and expecting those with a greater ability to pay to bear greater tax burdens (vertical equity). Yet notions of “equals” and consequent implementation of horizontal equity can vary from one country to the next. Individual based tax systems embody horizontal equity at the individual level—one’s tax burden should depend on one’s own income and not the income of their spouse. Joint tax systems reflect beliefs that the ability to pay is a family concept and therefore horizontal equity should be applied to joint tax units.

There are also efficiency costs to consider in the choice between individual and joint tax systems. In a joint tax system, a family’s total tax burden will (typically) differ depending on whether they are married or not. This creates a possible distortion to family structure decisions, generating an adverse efficiency cost of taxation. In addition, with joint taxation and progressive marginal tax rates, tax rates on secondary earners are necessarily higher than on primary earners which can generate important efficiency costs.

It is well known, that a tax system can not simultaneously achieve progressivity, horizontal equity based on family income, and marriage neutrality (Rosen 1977). By marriage neutrality, it is meant that the total tax burden for a couple with the same total income should not change upon marriage. In the UK, the tax system is progressive and is marriage neutral but does not satisfy notions of horizontal equity based on family income. In the US, the tax code is progressive, and maintains horizontal equity based on family income but is not marriage neutral.

2. Family Labor Supply and Marriage Tax Penalties

To illustrate the importance of taxing the family, and in particular to understand the potential connections between family structure, labor supply and tax systems, here I present some basic statistics on family labor supply and the tax penalties of marriage.

Descriptive Statistics on Labor Supply

Table 1 presents employment rates by marital status, gender and presence of children. The first two columns present statistics for the UK based on the sample of men and women ages 20 to 54 in the 2005/2006 Family Resource Survey.[†] The first column presents the employment rate and the second column presents the percent of “families” (from the universe of single men, single women, and married couples who are between the ages of 19 and 54) accounted for by this gender-marital status-presence of children subgroup. The table illustrates the considerable variation in labor supply across demographic groups. Overall employment rates are lower for women, and especially for women with children. Employment rates for women vary from 0.58 for single women with children, 0.68 for married women with children, to 0.78 for single women without children and 0.83 for married women without children. There is less variation for men with employment rates varying from 0.75 for single men without children and 0.82 for single men with children, to 0.91 for married men.

The remaining columns of Table 1 provide similar tabulations for the U.S. The statistics for the U.S. are based on the sample of men and women ages 19 to 54 in the 2006 March Current

[†] The Family Resources Survey is an annual demographic file of approximately 24,000 households. Respondents are asked a wide range of questions about their current circumstances. These include occupation and employment, together with highly detailed measures of income and state support received. Throughout our analysis, we restrict our sample to include persons between the ages of 19 and 54. We restrict the sample in this way because we do not want to address issues of early retirement and exit from the labor market. We use reported current employment status as our measure of work. This measure captures both employees and the self-employed, and includes individuals who are temporarily away from work but who have a job.

Population Survey.[‡] In comparing the labor supply variables across the U.S. and U.K., the striking difference is the much higher employment rates among single mothers with children in the U.S. (0.71) compared to their counterparts in the U.K. (0.58). This difference is likely attributable to U.S. policies which increased the incentives to work due to welfare reform and the expansion in the Earned Income Tax Credit (Eissa and Hoynes 2006). In fact, between 1992 and 1999 alone the employment rate of single women with children in the U.S. increased by about 15 percentage points. In the UK, the expansion of the WFTC was offset somewhat by the coincident expansions in the welfare system (Blundell and Hoynes 2004). It is also notable that married women with children have higher employment rates in the UK, while a larger fraction of married couples with children have neither parent working compared to their counterparts in the U.S. In terms of the relative size of these family types, single parents with children make up a larger share of families in the UK, while married couples with children make up a larger share in the US.

Figure 1 shows trends in the employment rates for women by marital status and presence of children in the UK over the period 1978 to 2005.[§] This shows that there is little change over time in the employment rates of women without children. There is a steady increase in employment rates for married women with children starting in early 1980s, while the increase for single women with children is more muted and does not begin until the mid 1990s. Figure 2 shows the trend in the percent of married couples with children where neither adult is employed. These “workless couples” increased between 1978 and 1987 peaking at about 10 percent of

[‡] The March Current Population Survey is an annual demographic file of between 50,000 and 62,000 households. For each individual in the household, the survey contains information on labor market status last week as well as detailed labor market information for the previous calendar year. We use a sample of persons between the ages of 19 and 54 and the labor market measure is work status last week.

[§] The results we present here use the Family Expenditure Survey from 1978-1994, and the Family Resources Survey (FRS) from 1995/96-2004/05. The Family Expenditure Survey (FES), which has about 6,500 respondents each year and is used for years when the FRS was not available.

couples with children. It has steadily declined since the late 1980s, and now represents about 6 percent of married couples with children.

There are many reasons for the variation in labor supply across these groups and over time—reflecting differences in labor market opportunities, tax and transfer policies, and preferences and fixed costs for work. Further, there are likely many explanations for the differences between the UK and US. For the purposes of this discussion, however, it is important to point out that there is substantial variation across demographic groups that may both influence tax policy and be causally impacted by tax policy.

Descriptive Statistics on Marriage Penalties and Subsidies

The UK tax system is largely an individual tax system, applying tax schedules and tax rates to individual earnings and income levels. However, tax credits such as the WFTC or WTC, which redistributes to lower income families, are based on joint income. In a joint tax system, such as the US, tax schedules and tax rates apply to the joint income of the husband and wife. With joint income taxation and progressivity, the tax system will not be “marriage neutral”. In other words, a couple will have a different tax burden if they are married than if they were single and filed as two taxpayers. While this is often referred to as a “marriage penalty”—in practice a joint tax system creates marriage tax *subsidies* for some and marriage tax *penalties* for others. Importantly, as discussed in Eissa and Hoynes (2000), two-earner couples generally experience tax penalties (tax-induced costs to marriage) while single earner couples experience tax subsidies (tax-induced gains to marriage).

To gain perspective on the equity and efficiency considerations in choosing a tax system, it is useful to illustrate the potential tax penalties and subsidies in a joint system. The goal of this

section is to illustrate the magnitude of possible penalties and subsidies to marriage. I rely here on the US calculations to illustrate what would happen in a jointly assessed system.

Eissa and Hoynes (2000) show that in 1997 about 55 percent of couples had marriage tax penalties, with the average annual penalty of \$1,300. About 35 percent of couples had marriage tax subsidies, with the average annual subsidy of about \$2,200.** Further, Eissa and Hoynes found that increases in the share of two-earner couples and tax policy acted to increase tax penalties in the US over the 1990s. Figure 3 summarizes these trends for the U.S.

Anderberg, Kondylis and Walker (2007) perform a similar analysis for the UK. Figure 4, from Anderberg et al, shows the tax penalties and subsidies due to tax credits. In 2004, about 70 percent of couples are penalized, with an average penalty of £55 per week. About 25 percent are subsidized with an average weekly subsidy of £30 per week.

3. Efficiency Costs under Joint versus Individual Taxation

The above analysis shows that there are substantial differences in the tax cost of marriage that are generated by the joint tax system in the US and the tax credits in the UK. This illustrates how the tax system can affect the financial incentive to form and maintain two-parent families.

How important are the distortions to marriage? There is an extensive literature, mostly using US data, which examines the impact of tax and transfer systems on marriage. Overall, the research finds tax effects on marriage that are consistent with the theoretical predictions but are small in size (see review of the literature in Eissa and Hoynes 2003). Anderberg (2007) finds a

** To calculate the marriage tax cost, Eissa and Hoynes simulate a “separation” of the couple. In particular they assume that the children will reside with the mother, the husband and wife each keep their earned income (which is assumed to be unchanged with separation), and unearned income is shared equally between the two persons. These same assumptions are used in the UK calculations, from Anderberg et al (2007).

similar result in his analysis of UK marriage penalties and subsidies. Thus the estimated elasticities with respect to the tax-induced financial incentives to marry (and divorce) are small.^{††}

Secondary earners, typically married women, face higher marginal tax rates compared to primary earners under a system of joint taxation. How important are the distortions to labor supply? Here, the elasticities especially on the participation or employment margin, tend to be quite large. For example, Eissa (1995) finds that married women increased employment substantially in response to the reduction in marginal tax rates with the Tax Reform Act of 1986. Eissa and Hoynes (2004) also find substantial response to employment with tax reform—in their case low educated married women responded by reducing employment in response to the higher tax rates from the Earned Income Tax Credit.

4. References

Anderberg, Dan, Florence Kondylis and Ian Walker (2007). “Partnership Penalties and Bonuses Created by Two Major UK Benefit Programs.” Working Paper.

Anderberg, Dan (2007) “Tax Credits, Income Support and Partnership Decisions.” Working Paper.

Blundell, Richard and Hilary Hoynes (2004). “Has In-Work Benefit Reform Helped the Labour Market?” in *Seeking a Premier Economy: The Economic Effects of British Economic Reforms, 1980-2000*, edited by David Card, Richard Blundell and Richard Freeman. University of Chicago Press: Chicago.

Eissa, Nada (1995). “Taxation and Labor Supply of Married Women: The Tax Reform Act of 1986 as a Natural Experiment” *NBER Working Paper* 5023.

Eissa, Nada and Hilary Hoynes (2000). “Explaining the Fall and Rise in the Tax Cost of Marriage: The Effect of Tax Laws and Demographic Trends, 1984-1997,” *National Tax Journal*, Volume 53, Number 3, Part 2, pp. 683-711, September 2000.

^{††} Another source of government induced changes in the financial costs of marriage operates through income support programs. Almost universally, income support programs assess joint incomes in determining eligibility and benefits. Thus, income support programs have unambiguous negative incentives to form and maintain two parent families. The empirical literature examining this issue also finds small elasticities of marriage with respect to these financial factors (e.g. see Hoynes 1997 for a review).

Eissa, Nada and Hilary Hoynes (2003). "Good News for Low Income Families? Tax-Transfer Schemes and Marriage." Mimeo.

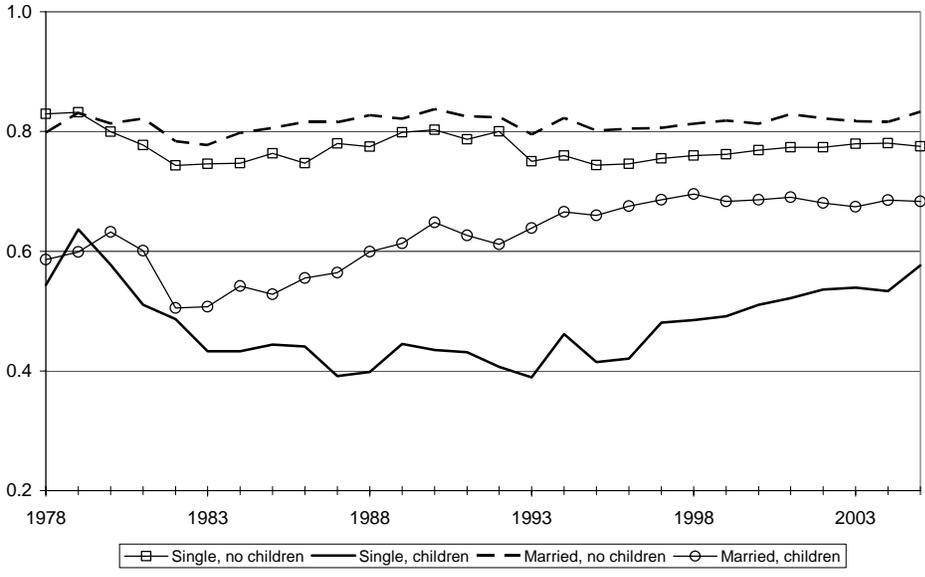
Eissa, Nada and Hilary Hoynes (2004). "Taxes and the Labor Market Participation of Married Couples: The Earned Income Tax Credit," *Journal of Public Economics*, Volume 88, Number 9-10, pp. 1931-1958, August 2004.

Eissa, Nada and Hilary Hoynes (2006). "Behavioral Responses to Taxes: Lessons from the EITC and Labor Supply," *Tax Policy and the Economy* Volume 20, pp. 74-110. MIT Press.

Hoynes, Hilary (1997). "Work, Welfare, and Family Structure: What Have We Learned?" in *Fiscal Policy: Lessons from Economic Research*, edited by Alan Auerbach. MIT Press: Cambridge, Mass, 1997, pages 101-146.

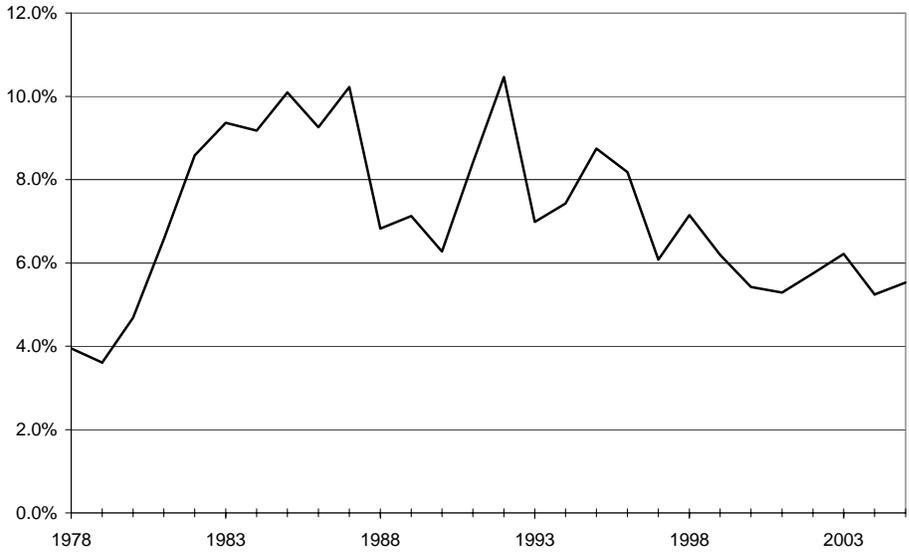
Rosen, Harvey (1977). "Is it Time to Abandon Joint Filing?" *National Tax Journal*, 30:423-428.

Figure 1
 Female Employment Rates by Marital Status and Presence of Children
 UK, 2005/2006 Family Resource Survey



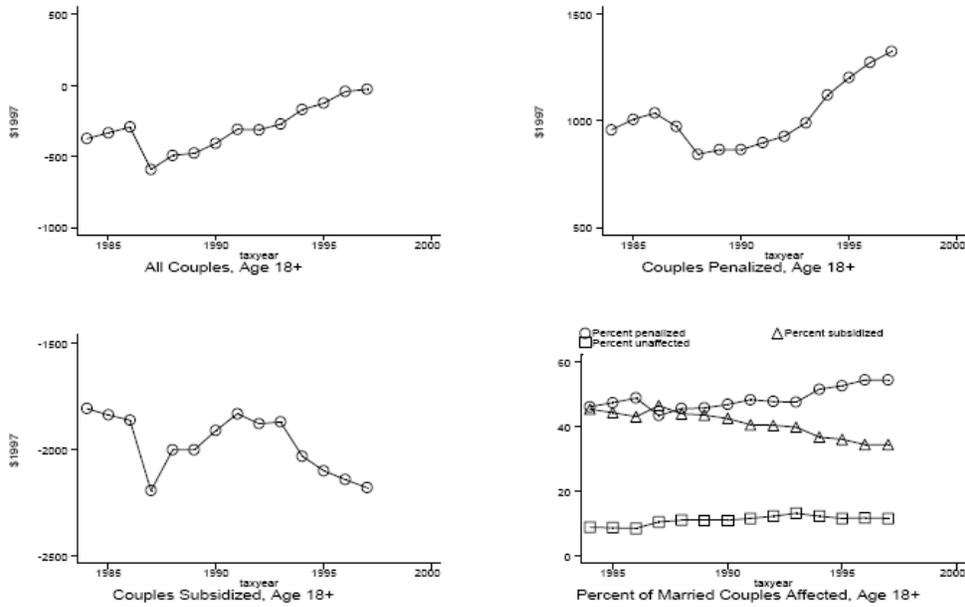
Source: Tabulations of FES and FRS.

Figure 2
 Percent of Married Couples with Children with No Working Parent
 UK, 2005/2006 Family Resource Survey



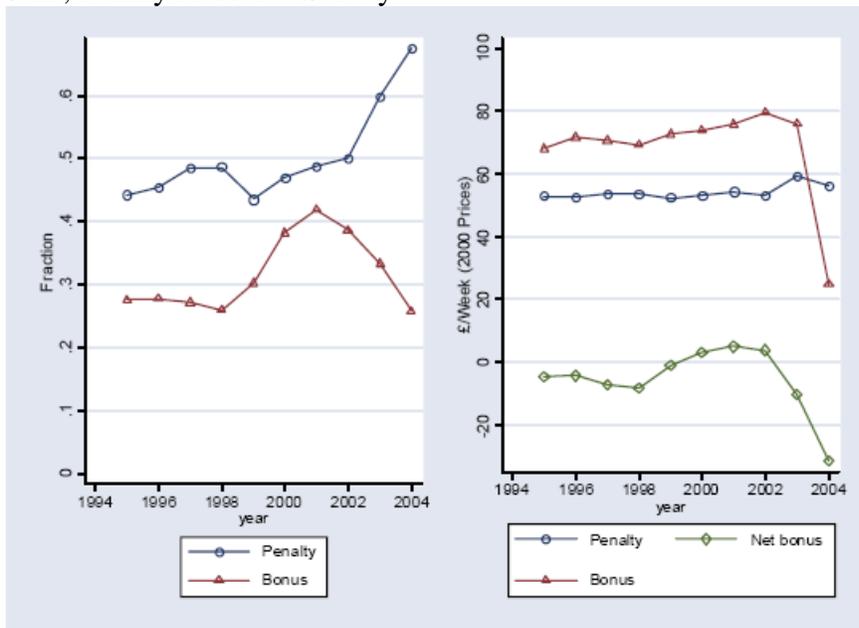
Source: Tabulations of FES and FRS.

Figure 3
 Average Marriage Tax Cost: Married Couples 1984-1997
 U.S., March Current Population Survey



Source: Eissa and Hoynes (2000). Figure 1.

Figure 4
 Average Marriage Tax Cost: Couples with Children, 1994-2004
 U.K., Family Resource Survey



Source: Anderberg et al (2007), Figure 4.

Table 1
 Employment Rates by Marital Status, Gender and Presence of Children

Definiton of employment:	U.K., 2005-2006 FRS		U.S., March CPS 2006	
	<i>Current Employment</i>		<i>Employed this week</i>	
	Employment Rate	Percent of Total Families	Employment Rate	Percent of Total Families
Single, no kids				
Women	0.775	21.6%	0.709	20.7%
Men	0.752	30.6%	0.742	31.2%
Single, kids				
Women	0.576	12.1%	0.710	11.2%
Men	0.817	4.6%	0.810	2.9%
Married couples, no kids				
Women	0.833	11.3%	0.781	8.2%
Men	0.907		0.886	
Neither work	0.044		0.047	
Married couples, kids				
Women	0.683	19.8%	0.675	25.7%
Men	0.911		0.929	
Neither work	0.055		0.025	

Source: Tabulations of 2006 March CPS and 2005/2006 FRS.