THE EITC MARRIAGE TAX AND EITC REFORM†

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Abstract

The Earned Income Tax Credit (EITC) provides marriage bonuses to some married couples and imposes marriage penalties on many others. The sources of these bonuses and penalties are the EITC eligibility rules, its non-linear benefit structure, and the phase-out of benefits at higher incomes. In this paper, we examine the source of the EITC marriage penalty, simulate the impact on the EITC marriage penalty of the reform included in the Economic Growth and Tax Relief Act of 2001, and then propose and examine additional reform that would both provide further relief from the EITC marriage penalty and improve labor supply incentives at the same time.
The “marriage tax” has been a controversial economics and political issue in the 1990s and into the early 2000s, and one that occupied an important place in Leslie Whittington’s professional life; see, for example, Alm and Whittington, 1995, 1996, 1997, 1999, 2001, 2002; Alm, Dickert-Conlin, and Whittington, 1999; Whittington and Alm 1997. A marriage tax exists whenever married couples end up paying more in taxes than they would if they were single, i.e. \( T(Y_i) + T(Y_j) < T(Y_i + Y_j) \). It is a natural feature of a tax system like the U.S. that is both progressive and treats a married couple as the tax-paying unit.

Marriage tax issues also appear in the transfer system. In this paper, we focus on the Earned Income Tax Credit (EITC), a transfer program that has replaced AFDC and TANF as the largest U.S. cash transfer program for low- and moderate-income working families. It now distributes a total of approximately $30b to more than 19 million families; in contrast, in 2002 TANF served an average of 2.1 million families and provided approximately $12.5b to them (http://www.acf.dhhs.gov/news/stats/index.html). Like the positive tax system, the EITC both provides marriage bonuses to some married couples and imposes marriage penalties on others. As the program became more generous in the mid-1990s, these impacts have become larger. The source of the bonuses and penalties is somewhat different than in the usual tax context, reflecting EITC eligibility rules, its non-linear benefit structure, as well as the phasing out of benefits at higher incomes.

During the 2000 presidential campaign, both candidates promised to address the marriage tax. The Economic Growth and Tax Relief Act of 2001 included a set of provisions intended to accomplish that. Beginning in 2005 and fully phased in by 2008, the standard deduction and the upper income limit of the 15% tax bracket for married couples will be increased to twice that for a single-person. The Joint Committee on Taxation estimates that these two provisions will cost approximately $8.5b annually when fully phased in (Joint Committee, 2001). The EITC benefit schedule will also be adjusted by creating for the first time a separate married-couple schedule, beginning in 2002 and fully effective in 2008.
In this paper, we examine the EITC from the perspective of the family. We first examine how EITC marriage bonuses and penalties arise, using the EITC program as it existed in 2001 to construct a set of illustrative examples. We then consider how large these marriage bonuses and penalties are in practice, drawing on a set of studies that use representative national data rather than illustrative cases. We then simulate the impact of the change made by the 2001 tax reform by considering what impact it would have had, if it had been in place in 2001. Finally, we consider a further EITC reform that would ameliorate, though not eliminate, the marriage reform, as well as provide improved work incentives. We simulate the impact of both reforms using data from the Panel Study of Income Dynamics.

MARRIAGE BONUSES AND PENALTIES IN THE EITC PROGRAM

To understand how marriage bonuses and penalties arise, it is necessary to appreciate the basic benefit structure and eligibility requirements of the EITC program. The EITC operates through the income tax system to provide a cash transfer—technically, a refundable tax credit—to low-and-moderate income working households with earned income. Benefits are based on earnings, but are reduced on the basis of income, which means that households with low earnings but high unearned income receive substantially reduced amounts. Unlike a typical transfer program, such as AFDC, TANF, or Food Stamps, benefits are initially increasing in earnings through some earnings threshold. Benefits then remain constant through a second threshold and finally phase out, as in a standard means-tested transfer program. Benefits increase with the number of “qualifying children”\(^1\) through two children, via both increases in the phase-in (subsidy) rate and the earnings level to which the subsidy applies. Because the EITC

\(^1\) A qualifying child may be a natural child, stepchild, grandchild, or foster or adopted child of the taxpayer. The child must have the same place of abode as the taxpayer for more than half the taxable year and must be under age 19 (age 24 for a full-time student) or be permanently and totally disabled.
is received through the tax system, benefits are based on the earnings and income of the tax-filing unit—usually a single individual or a married couple—rather than the earnings and income of an individual. As has been documented (see Burkhauser, Couch, and Glenn, 1996), this makes the EITC far better targeted on low-income families than, for example, the minimum wage.

The EITC benefit structure for 2001 is summarized in Table 1.² (We use 2001 because this is the latest year for which all EITC parameters are known at this time.) Individuals or families without children are eligible for a very small subsidy, applied only to the first $4,760 of earnings, and fully phased-out at an income of $10,710.³ One child increases the phase-in rate from 7.65% to 34% and the income to which it applies by $2,380. As a result, the maximum credit increases by more than $2,000 to $2,428. A second child increases the phase-in rate by another six percentage points, and the applicable income by almost $3,000, thereby increasing the maximum credit to more than $4,000. After the second child, however, there are no further benefits. No distinction is made between married and unmarried households—only the number of children triggers the different benefit schedules. Note also that the phase-out rate is increased as the number of children increases, from 7.65% for families with no children, 15.98% for families with one child, and 21.06% for families with two or more children. This reduces the maximum income at which the EITC is received and thereby limits the number of qualifying families. The phase-out rate functions exactly like a tax, so on the phase-out range, a taxpayer’s net marginal tax rate is the sum of the individual income tax and the EITC phase-out range.

Table 2 provides a set of examples that identify the sources and magnitudes of EITC

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² For a survey of the economic impact of the EITC, see Hoffman and Seidman, 2003.

³ This credit is available only to single individuals between ages 25 and 64.
marriage bonuses and penalties. In all of these cases, we describe the situation as one involving a marriage of two single persons with the specified characteristics, but the analysis is identical for a divorce that would yield the same earnings and demographic configurations. (Cast in terms of marriage, some of the examples imply dividing children across households, which may be unrealistic in practice.) All of the examples are static, in the sense that they assume no changes in earnings or fertility when marital status changes.

The first row shows a case of EITC neutrality. If a single low-wage worker with children marries a non-worker without children, there are no EITC changes, precisely because the benefit formula is independent of marital status and because earnings are unchanged. The second row shows an EITC marriage bonus for the case of a single childless full-time year-round minimum wage earner ($5.15 per hour x 2000 hours) who marries a non-earner with two children. Given the EITC benefit structure, the two single individuals are eligible for just $31 and $0, respectively, while as a married couple with two children, their income places them in the plateau region where they collect the maximum benefit of $4,008. Thus, they receive an EITC marriage bonus of $3,977. The third row illustrates the case of two low-income workers each with one child. They receive a much smaller marriage bonus that arises from the difference between the credit rate and the maximum incomes on which the credit can be earned for families with one and two children. Individually, each receives a credit of $1,700 (.34 x $5,000), while together they are eligible for a credit of $4,000 (.40 x $10,000). The breakeven income in this kind of situation under 2001 EITC parameters is $5,894. Beyond that, a marriage of equal earners each with one child generates EITC penalties. As a practical matter, bonuses arising from this cause are likely to be relatively rare, given the very low earnings

\[ .34 \times 5,894 \times 2 = 4,008, \text{ which is the credit that would be received by a family with two children and a joint income between } 10,020 \text{ and } 13,090. \text{ At higher individual incomes, the combined single credits exceed the credit if married.} \]
levels at which these bonuses are received.

Rows four through six illustrate EITC marriage penalties. In the first of these, the same childless minimum wage worker now marries a minimum wage worker with two children. As two single tax-paying units, they are eligible for payments of $31 and $4,008, respectively. Jointly, by virtue of their higher income, they are eligible for only $2,426 ($2,426= $4,008 - .2106 x ($20,600-$13,090)), which yields a penalty of $1,613. In the next case, if both individuals had two children, they would each receive payments of $4,008 if they were single, but only $2,426 together if married for a total penalty of $5,590 —more than 25% of their earned income. For two single individuals, each with two children and each earning an income exactly equal to the maximum income on the plateau region of the EITC, the marriage penalty would reach its maximum of $6,765. This case is illustrated in row (6).

Finally, EITC penalties can also exist among some moderately high income families, as long as one of the partners has an EITC-eligible income. Row (7) shows a case like this in which a worker with two children and earnings of $20,000 marries a worker with an income of $50,000. Individually, they receive an EITC of $2553 and $0, respectively. Together, their combined income of $70,000 greatly exceeds the EITC earnings cut-off level. Indeed, very high income families can receive EITC penalties as long as one of the workers in the family has earnings that would otherwise make him/her EITC-eligible.

In general, potential marriage bonuses exist for some low-income single earners especially if one party (or both) is EITC-ineligible as a single individual. Marriage penalties exist among two-earner couples with combined earnings that places them well into the phase-out range (or beyond it) and especially those with two or more children. Since the EITC begins to phase-out at $13,090 for families with children, most dual earner families will typically face EITC

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5 If single, each would receive the maximum year 2001 EITC of $4,008 for a total of $8,016. If married, their EITC would equal $1,251 = $4,008 - .2106 x ($26,180-$13,090).
penalties.

Figure 1 shows how the marriage penalty varies over a wider range of cases defined by earnings and the number of children. In each case, we assume that each single person/marriage partner earns an equal dollar amount (shown from $5,000 to $20,000) and has the number of children indicated. The hypothetical married couple thus has earned income equal to twice the single earner amount. (Again, these cases could be reinterpreted as the bonus or penalty for a married couple with equal spouse earnings and the corresponding division of children in the event of marital dissolution). There is a very short range of small ($300-$600) EITC bonuses for individuals with earnings of $6000 or less and with either 0/1 child, one child each, or one child/two children. The bonus comes from the higher subsidy rate for families with more children, at earnings levels low enough that the phase-out of benefits for the combined married-couple earnings does not yet bite. Thereafter, penalties are received throughout the remainder of the EITC range. The penalties rise with earnings, reaching a maximum at earnings equal to either one-half of the maximum couple earnings ($14,140 and $16,060 for earners with one/one and one/two children, respectively) or at the beginning of the phase-out range (earners with two/two children). Above these earnings levels, the penalties decrease, reaching zero when both earners are EITC-ineligible. Holding earnings constant, the EITC penalty also rises with the number of children involved—each successive penalty schedule is shifted downward. The maximum penalty rises by about $1,400-$1,700 per child and ranges from $2,240 in the no children/one child case to almost $5,400 in the one child/two children case and $6,765 in the two children/two children case.

Figure 2 shows the EITC marriage tax from a different perspective. In this case, we show the marriage tax faced by a couple, potential or actual, consisting of one person with two children and own earnings of $10,000, and a partner with earnings that range from $5,000 to $25,000 and with either no children, one child, or two children. The resulting married couple
thus has earnings from $15,000 to $35,000 and from two to four children. In this situation, there are no instances of EITC marriage benefits, since the minimum married couple earnings of $15,000 puts the family on the EITC phase-out range, while at the underlying constituent incomes, the individuals are either on the phase-in or stationary range. As shown, the EITC marriage penalty ranges from a minimum of about $750, if the spouse has no children and earnings of $5,000, to a maximum of more than $6,000, if the spouse has two children and earnings between $13,090 and $22,121. (The maximum penalty is lower in this case than in Figure 1, because the earnings of one of the partners is fixed at $10,000). Even at partner earnings of $5,000- $10,000, corresponding to couple earnings of $15,000-$20,000, the penalties are quite substantial—from $750-$1,500 if the partner has no children, $2,000-$3,875 if the partner has one child, and $2,400-$5,500 if the partner has two children.

The marriage penalty rises with partner earnings and with the number of children, reflecting the differences in the phase-in and phase-out rates and income thresholds that are applicable to the different family sizes. If the partner has no children or one child, the penalty is maximized when the partner’s earnings would leave the married couple just at the EITC earnings eligibility maximum. In these cases, this is earnings of $22,121, since $32,121 is the earnings maximum for adults with two children. If the partner has two children, the maximum penalty is reached at earnings of $13,090, the end of the stationary range. Beyond there, EITC benefits fall at the same 21.06% rate for both the partner’s family with its two children and the married-couple family with four children, so the penalty is unchanged.

The examples in Table 2 and Figures 1 and 2 are simply illustrative and do not by themselves provide information about how important and widespread either bonuses or penalties are. It is most likely, given the very low earnings level at which bonuses exist, that penalties are more common. But the actual distribution of bonuses and penalties depends on the distribution of households across wage and demographic categories.
Determining the actual importance and distribution of these EITC marriage bonuses and penalties is not a straightforward exercise, because it requires observing or imputing an alternative marital status for each household in order to compute likely EITC benefits in the two marital statuses. There are two major empirical approaches to measuring EITC marriage bonuses and penalties. One, which is similar to what is done in most studies of marriage tax penalties, begins with a sample of currently married couples, “divorces” them in order to create a counterfactual marital status, makes assumptions about custody of children and other financial details in the divorced status, and then computes and compares taxes in the two marital statuses. The analysis is usually static in the sense that it assumes no labor supply response to the change in marital status; for example, individual income is assumed to be unchanged when marital status changes, just as in the illustrative examples in Table 2. The other approach uses longitudinal data on individuals in order to compare EITC benefits before and after a change in marital status. In this case, bonuses and penalties are computed inclusive of behavioral changes that accompany a change in marital status. If, for example, a couple has a child following marriage, this will increase their EITC under most circumstances, thus yielding both more situations of bonuses and also larger bonuses.

Ellwood (2000) uses the latter approach, with data from the PSID for marriages that occurred between 1983 and 1991. EITC benefits in the first full year after marriage are computed, inclusive of any changes in labor supply and fertility, and compared to EITC benefits

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6 It is more complex yet if the bonuses and penalties affect marriage decisions. If large bonuses encourage marriage and large penalties discourage it, then a sample of currently married couples will over-represent households with large potential bonuses and under-represent households with potential penalties, precisely because the bonus and penalties affect which households are married. The limited available evidence suggests that marriage decisions are not affected, but this is far from definitive (Dickert-Conlin and Houser, 2002).

7 The alternative is to begin with a sample of single individuals and “marry” them. But this requires a method for assigning spouses to single persons. Because that is complex and arbitrary at best, most studies follow the “divorce” approach.
in the last full year prior to marriage. The standard “divorce” approach is adopted by the Congressional Budget Office (CBO, 1997) and by Holtzblatt and Rebelein (1999, 2000). CBO and Holtzblatt and Rebelein use data from the IRS Statistics of Income, a data source that is derived directly from tax returns and which is particularly detailed and accurate.

Estimates from the “divorce” studies necessarily depend on assumptions about residence, custody of children, and many smaller issues, all of which may affect the EITC and other taxes that the married couple would face if they were divorced. The CBO study assumes that divorcing parents with two or more children will divide the children between their households, thereby enabling each to have the qualifying children needed for more substantial EITC benefits. This assumption will almost certainly increase the estimated EITC receipt of divorcing households and thus ought to increase both the number of married couples for whom EITC marriage penalties are found and the total dollar amount of the penalties. The underlying assumption of children being divided across households is empirically questionable. Holtzblatt and Rebelein examine a set of alternative divorce scenarios in which: 1) children are allocated to the higher income spouse, 2) children are allocated to the lower income spouse, and 3) children are allocated in order to minimize taxes. The first case will likely lead to fewer divorced households receiving EITC, because fewer “divorced” persons will have both sufficiently low earnings and children. Thus, fewer married couples will be found to have EITC marriage penalties. In the second case, there will be more divorced households receiving EITC, because now more families have both low earnings and children. Thus, more married couples will be found to have EITC marriage penalties and aggregate penalties will be larger. For the third case, it is not possible to predict how estimated bonuses and penalties will be affected.

While these studies include a great deal of useful and interesting information about the

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8 They also present a case involving the allocation of unearned income across the individuals.
EITC, none of them provide a particularly helpful estimate of the proportion of EITC recipients receiving bonuses and penalties. Ellwood’s findings have an upward bias toward finding bonuses that arise from post-marriage changes in fertility and labor supply. CBO and Holtzblatt and Rebelein are biased downward for both penalties and bonuses, because their approach to EITC impacts is marginal, conditioned on all other taxes. These two studies first compute the impact of all taxes that change with marital status except the EITC and then compute the marginal impact of the EITC on whether a household has a net marriage bonus or penalty and on the amount of the bonus or penalty. As a result, a married couple is identified as receiving an EITC bonus or penalty only if the EITC changes its net marriage bonus or penalty status. This approach does not, however, affect estimates of the total dollar impact of EITC bonuses or penalties, and since the data itself are particularly good, the studies are very useful for that purpose.

Based on these studies, we draw the following tentative conclusions about EITC marriage penalties and bonuses:

• While the methods used do not allow us to make a precise estimate, it seems clear that, in practice, the EITC penalizes marriage much more often than it rewards it. Ellwood finds that 16% of married couples received a penalty and 11% received a bonus, with more than half of the bonuses due to post-marriage changes in fertility and labor supply that increased EITC benefits. Holtzblatt and Rebelein’s marginal impact analysis implies that the proportion of married couples receiving an EITC penalty ranges from 4% to 12% and the proportion with a bonus ranges from 0.5% to 1.3%, depending on the underlying assumptions. The CBO estimates suggest that 6% of married couples receive penalties and 4% receive bonuses. Adjusting Ellwood’s figures by eliminating bonuses created by post-marriage behavioral changes (i.e. fertility) suggests that married couples with penalties outnumber married couples with bonuses by at least a two-to-one margin and probably more than that.

• Marriage penalties and bonuses can be large. Average penalties among married couples who are penalized certainly exceed $1000 and may be as high as $1500. Average bonuses for married couples with bonuses are also large, though probably somewhat smaller than average penalties.

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9 For Methods 2 and 3, we rely on Holtzblatt and Rebelein (1999).
10 The figures presented here for Holtzblatt and Rebelein differ from the net impacts presented in their papers. For example, Holtzblatt and Rebelein (2000) use Method 1 to derive a net change in marriage penalties due to the EITC of $3.1b; the $3.7b figure we report includes the $0.59b decline in net marriage bonuses created by the EITC. Similarly, they report a $9.9b net penalty using Method 2, to which we add the $10.9b decline in bonuses shown in their table. Since a decline in bonuses is exactly equivalent to an increase in penalties, this is an appropriate adjustment. We treat the computation of bonuses in a parallel way.
terms which fully characterize the benefit schedule: let \( p_i = \) the phase-in rate, \( p_o = \) the phase-out rate, \( E_m = \) the maximum income on which a credit is earned, and \( E_b = \) the beginning of the phase-out range. the maximum income at which benefits are received, is a function of these parameters; \( E_e = E_b + \left(\frac{p_i}{p_o}\right)E_m.\)

Selective changes in any of these parameters can provide EITC marriage tax relief, although some changes are clearly better targeted than others. For example, an increase in \( p_i \) for married couples only would reduce marriage penalties by increasing their EITC benefits relative to EITC benefits for single households, but it would also provide additional benefits to married couple families on the phase-in and stationary ranges who are unlikely to be facing EITC marriage penalties. Parameter changes that benefit married-couple families on the phase-out range are far better targeted for this purpose. Thus, changes in \( E_b \) and \( p_o \) are the obvious candidates.

EGTRRA 2001 changed only \( E_b, \) the income level at which benefits begin to phase out. The beginning point of the phase-out range is increased by $1,000 in 2002-2004, $2,000 in 2005-2007, and $3,000 in 2008 and thereafter for all married couples, both those with and without children.\(^{11}\) There are no changes in phase-in or phase-out rates or in the income to which the phase-in rate applies. Maximum benefits go to families who are on the phase-out range between the new beginning income level and old ending income. When fully phased in, these benefits equal $3000p_o, no matter where along the old phase-out range they are. Benefits increase with the number of children even though the extension of the plateau range is $3,000 for all groups, because the phase-out rate increases with the number of children, and the benefit arises because of the deferral of the phase-out. Thus, the maximum benefit in 2008 is $229.50 for families with no children, $479.40 for families with one child, and $631.80 for families with two children.\(^{11}\)

\(^{11}\) After 2008, the phase-out income level is indexed to inflation. The changes are currently slated to be eliminated in 2011, although few observers expect this to happen.
families with two or more children. The reform also provides smaller additional benefits to newly-eligible married couple families with incomes between the old and new maximum family income level.

In general, this is a reasonably well-focused reform in terms of the EITC marriage tax since it offers additional benefits to families on the phase-out range where penalties often exist without providing additional benefits to families on the phase-in and plateau regions. One weakness is that it provides additional benefits to married couples with no children or only one child, who bear little or no marriage penalty in the current EITC regime. It also provides equal relief to all families along the phase-out range, even though, as shown by Figures 1 and 2, the marriage penalty is increasing in earnings along the phase-out range (i.e., from single earners with approximately $6,500 through $16,000 in Figure 1 and partner earnings of $5,000 to $10,000 in Figure 2). For example, in Figure 1 a married couple with two children and two equal $7,000 earners near the beginning of the phase-out has a marriage penalty of less than $2000, while the same married couple with equal $10,000 earners has a marriage penalty of nearly $6,000.

There are clearly alternative ways in which EITC marriage-tax reform could be achieved. A reduction in the phase-out rate is a particularly attractive option for two reasons. First, like the extension of the plateau region, it provides benefits only to families on the phase-out region where the penalty exists. Unlike the extension, however, it provides its greatest benefit to families further out along the phase-out region where marriage penalties are greatest. The benefits from a reduction in the phase-out rate are \( p_o(E_i - E_b) \) for \( E_e > E_i > E_b \) where \( E_i \) is a family’s income. These additional benefits are clearly increasing in \( E_i \) and reach their maximum

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12 In 2002, the $1,000 increase in the beginning of the phase-out range will increase EITC benefits by a maximum of $76.50, $159.80, and $210.60 for families with no, one, and two or more children, respectively.

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when $E_i = E_a$. Additional, smaller benefits also accrue to newly EITC-eligible families.

In addition, a lower phase-out rate improves labor supply incentives. Recent empirical work (Eissa and Hoynes, 1998; Ellwood, 2000) suggests that the EITC phase-out rate has had a negative impact on labor force participation among secondary earners in married-couple families. A decrease in the phase-out rate generates an increase in the marginal after-tax wage rate and an increase in income via the EITC itself. This generates potentially conflicting income and substitution effects; the substitution effect of the higher wage is a work incentive, while the higher credit received (holding labor supply constant) is a disincentive. While, the theoretical impact is indeterminate, the empirical literature suggests that impacts on labor force participation by secondary workers are likely to be positive (Eissa and Hoynes, 1998). In contrast, the expansion of the plateau region—as in the EGTRRA 2001 reform—generates only an income effect deriving from the higher EITC benefits (the phase-out rate is unchanged), and thus has a determinate negative impact on family labor supply.

As a specific proposal for further EITC marriage tax reform, consider the following. We take as a starting point the reforms already adopted, i.e., the extension of the plateau region. We consider the following two additional changes to address both the marriage tax and the labor supply disincentives that continue even after the present reform, especially for larger married couple families: 1) reduce the phase-out rate for a married couple family with two children from its current 21.06% to 18.52%, which eliminates half of the increase in the phase-out rate from the 15.98% that applies to a family with one child; and 2) further reduce the phase-out rate to the one-child rate for married couple families with three or more children.\(^\text{13}\) This latter provision has the virtue of providing additional benefits to families with more than two children.

\(^{13}\) Other EITC reform proposals have been proposed by the Gore-Lieberman presidential campaign (Gore-Lieberman, 2000), Sawhill and Thomas (2001), Cherry and Sawicky (2000, 2001), Ellwood and Liebman (2000,) and Hoffman and Seidman (2003).
who get no additional benefits under the current or reformed EITC and who face particularly large EITC marriage penalties (see Figure 1).

Figures 3a and 3b illustrate the impact of the 2001 reform and this additional reform in terms of the equal-earner cases illustrated previously in Figure 1. Both reforms offer benefits only for families on the old phase-out range, so there are no additional benefits for equal earning couples with earnings below $6545. Part (a) shows the EITC marriage tax relief provided for equal earners with one child each, while part (b) does the same for equal earners with two children each. To assess the impact of the fully phased-in 2008 reform in 2001, we deflate by 2.5% annually between 2001 and 2008, so the $3000 increment is then equivalent to about $2,500 in 2001. In each case, we show the change in the EITC marriage penalty for a marriage of equal earners with the specified number of children, relative to the pre-reform EITC.

As can be seen in both figures, the 2008 reform provides a uniform maximum benefit to all families on the old phase-out range. In the two cases shown, this amount is $527 (=.2106 x $2,500), since both married couples would have at least two children. In the alternative reform, benefits increase with both earnings along the phase-out range and the number of children. In both cases, the peak relief is at earnings of $16,050.50, which is half the $32,121 earnings at which EITC eligibility would be lost for a married couple with two or more children under the pre-reform EITC. This is exactly the earnings at which the EITC marriage penalty is at its maximum in Figure 1. The maximum EITC penalty relief equals $943 in Fig. 3a and $1,366 in Fig. 3b. While these are substantial amounts, they still leave most of the EITC marriage penalty in place. The remaining penalty still exceeds $3,000 in the one child/one child case and $5,600 in the two children/two children case.

The actual impact of any EITC reform depends on the distribution of workers across demographic and earnings categories. To assess the likely impact, we need a nationally-representative sample with sufficient information to estimate likely EITC benefits. Using data
from the Panel Study of Income Dynamics (PSID), we compare the pending EITC marriage reform and the extension we propose with the actual EITC in 2001. We use the PSID because it provides a nationally representative data across all age ranges and sufficient personal data to compute EITC eligibility. Our data are for 1996, the most recent year for which the PSID is currently available. To convert 1996 data to 2001 EITC parameters, we scale all incomes to 2001 dollars using the CPI.\footnote{Equivalently, our procedure reflects what the 2008 provision would have meant to 1996 EITC recipients.}

There are some inherent complications in using the PSID or any household survey to construct national EITC estimates. First, like other data sources used to analyze the EITC (including the CPS), the PSID does not include information about actual EITC receipt. It does, however, include the information (income, earnings, marital status, age, and number of dependent children) needed to compute EITC eligibility and the credit amount a household would receive.\footnote{Lack of direct information on EITC income is not necessarily bad. Given the way the EITC is received via the 1040 tax form, it is very unlikely that individuals could accurately report the amount of the EITC they received (rather than the refundable amount).} Second, a single household may contain multiple tax-filing units, such as subfamilies, other adult relatives, and/or teenagers. In 1996, for example, there were approximately 100 million households in the U.S., but 120 million tax returns. Households in the PSID may include other family members whose income and or/earnings are typically combined with those of the primary family to produce an estimate of total family income. In computing EITC eligibility, however, we have assumed that other family members file separate tax returns, and have included only the earnings and income of the primary adult(s) as part of that household’s income for tax and EITC computation purposes.\footnote{There is no need to take explicit account of the other family members because the PSID sample, when weighted, is nationally-representative of all households. This means that individuals like them are already appropriately accounted for in the PSID sample and thus in our estimates. For example, they may be the primary householders in a PSID household.} This is probably a good
We find that, once we make allowance for ineligible receipt and eligible non-recipients, the PSID estimates are very close to those derived from IRS data. For 1996, IRS tabulations show that the EITC was received by 19.5 million taxpayers or about 16.3% of the 120 million returns it received. Based on earnings, income, age, and the number of dependent children as reported by households in the PSID, we estimate that 13.1% of all households were eligible to receive the EITC in 1996. It is estimated that one-quarter to one-third of EITC recipients may be ineligible and that 10-15% of eligibles may fail to file (Scholz, 1994; Stratton, Glenn, and Donmoyer, 2000). Adjusting the IRS figure for these estimates, the resulting proportion of households eligible for the credit ranges from 12.8% if one-third are ineligible and 15% are non-filers to 13.4% if 25% are ineligible and 10% are non-filers. In our view, these are reassuring estimates and suggest that, given the unavoidable differences in what is being measured, the PSID is consistent with the IRS tabulations.

Third, because the PSID has no direct information about EITC receipt, we necessarily assume that all eligible taxpayers receive the credit and that no ineligible families do so. Thus, estimates of EITC receipt from the PSID (and also from the CPS, SIPP, etc) will naturally differ from estimates of EITC receipt derived from IRS tabulations, since the latter includes ineligible recipients and excludes eligible non-recipients. Estimates of EITC participation from the PSID are, therefore, best regarded as an estimate of the population for which the EITC is intended rather than the population that actually receives the EITC.17

Table 3 summarizes our analysis of the EITC program in 2001, the 2008 reform, and the further reform we propose. We do not attempt to estimate the EITC marriage penalty directly along the lines of Holtzblatt and Rebelein; that effort requires more detailed data than is available in the PSID. Rather, we estimate how EITC benefits would change as a result of the two reforms, for recipient subgroups that have been clearly identified from previous research and our own illustrative analyses as bearing the largest EITC marriage penalty.

We estimate that the 2008 reform would increase the proportion of eligible households from the current 13.1% to 13.8% and increase total expenditures by just under 10%. The average EITC credit received would increase by about 4% ($61). The further reform increases receipt by another 0.7% to 14.5% and total expenditures by 5.4% to an estimated $35.4b.

A better measure is how the two EITC reforms affect the current EITC 2001 recipient

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17 We find that, once we make allowance for ineligible receipt and eligible non-recipients, the PSID estimates are very close to those derived from IRS data. For 1996, IRS tabulations show that the EITC was received by 19.5 million taxpayers or about 16.3% of the 120 million returns it received. Based on earnings, income, age, and the number of dependent children as reported by households in the PSID, we estimate that 13.1% of all households were eligible to receive the EITC in 1996. It is estimated that one-quarter to one-third of EITC recipients may be ineligible and that 10-15% of eligibles may fail to file (Scholz, 1994; Stratton, Glenn, and Donmoyer, 2000). Adjusting the IRS figure for these estimates, the resulting proportion of households eligible for the credit ranges from 12.8% if one-third are ineligible and 15% are non-filers to 13.4% if 25% are ineligible and 10% are non-filers. In our view, these are reassuring estimates and suggest that, given the unavoidable differences in what is being measured, the PSID is consistent with the IRS tabulations.
population, since both alternatives expand eligibility and thus include some newly-eligible families who often receive very small amounts. The bottom panel in Table 3 provides information on this. For these families, the average benefit increases by $133 (8.9\%) under the 2008 reform and $190 (12.7\%) under the additional reform. Married households who were already eligible under the 2001 schedule will gain $326 (20.8\%) under the 2008 reform and $466 (29.7\%) under the additional reform. The average gains increase with the number of children, from $89 for childless married couples under both plans to $354 and $618 for married couples with three or more children under the two reform plans. The average is slightly misleading in comparing the two reforms, since, as we saw in Figures 3a and 3b, the 2008 reform offers the same benefit to all households on the phase-out range with a particular number of children while the reduction in the phase-out concentrates more of its benefits at the higher end of the phase-out range where the marriage penalty is greater.

Both reform plans are designed so that all of the additional benefits go to families on the phase-out range. For these families, EITC benefits increase from $1447 under the 2001 EITC to $1652 and $1740 under the two reforms. We also find that benefits increase much more sharply for families with two earners than one earner. This is especially true of the reduced phase-out rate reform, which increases average EITC benefits only $19 for single earner EITC families and $178 for dual earned married couples. This further suggests that most of the additional EITC benefits are going to families who have a marriage penalty.

Another way to assess the impact of the EITC plans is to re-examine the examples presented in Table 2. The current reform reduces the marriage penalty in 2001 by $526.50 in Rows 4-6, leaving an EITC marriage tax of $1086, $5063, and $6238, respectively. (This is based on a $2,500 extension of the plateau region and equals .2106 x $2,500; these cases all receive the maximum additional benefit since their income places them on the original phase-out range). With a further reduction of the phase-out rates, these four cases gain an additional
$127, $255, and $538, respectively. Taken together, the two reforms reduce the EITC marriage penalty by 40%, 14%, and 16%.

SUMMARY

Like much of the rest of the tax system, the EITC imposes its own set of marriage penalties. The penalties arise from the non-linear benefit structure that caps benefits at two children and also from the inevitable phase-out of benefits as family income rises. It is simple to construct examples with marriage penalties of $3000 to $5000; with 2001 parameters, the maximum penalty can be as high as $6765. EITC marginal marriage tax rates for equal-earner couples can be as high as 61%, if the equal earners each have two children, and 55% if the equal earners each have one child. The recent reform of the EITC provided some marriage penalty relief by extending the plateau region of the EITC for all married couples by $3000 in 2008 when the provision is fully effective. This increases benefits for all families on the phase-out range of the EITC by an amount proportional to the phase-out rate they current face. Families with two children will gain a maximum of $631.80 when the reforms are in place.

This particular reform is reasonably well-focused, but does have two weaknesses if its goal was to address marriage penalties rather than provide additional income to EITC recipients. First, it provides benefits to families with no children who face very small penalties at present, precisely because they receive few benefits. Second, it provides equal benefits to all families of a particular size with earnings that place then along the phase-out range, even though marriage penalties are concentrated at the high end of the phase-out range. It also leaves much of the marriage penalty untouched. Using a simulation based on 2001 parameters using data from the PSID, we find that the reform increases benefits for married-couple families with two or more children by $350-$400.
If there is interest in further marriage penalty reform, consideration should be given to reductions in the phase-out rate for larger families. That rate, currently at 21.06% for families with two or more children, is a primary source of the marriage penalty and the source of some documented labor supply disincentives, as well. Currently, families with one child face a phase-out rate of 15.98%. We propose cutting the phase-out rate for families with two children to 18.52% -- half of the current difference-- and to 15.98% for families with three or more children, giving these larger families an additional benefit for the first time. A reduction in the phase-out rate concentrates additional benefits at the higher end of the phase-out range where the marriage penalty is greater, as well as provides improved labor supply incentives. These changes would provide a maximum additional benefit of nearly $500 for married couples with two children and nearly $1000 for married couples with three or more children. Our simulations suggest that these changes would increase average EITC benefits by an additional $200 to $250 for married couples with two and three children, respectively. We estimate that total EITC benefits would increase by $3b for the already-implemented 2008 reform and an additional $1.8b with the reduction of the phase-out rate.

Much of the marriage penalty in the EITC would remain even after both sets of changes. Given the current magnitude of the EITC marriage penalty, eliminating the penalty is not a realistic option at this point. But further reform that would also have potentially beneficial labor supply impacts may well be an attractive option.
Figure 1. EITC Marriage Tax, 2001, by Number of Children and Individual Earnings for Spouses with Equal Earnings
Figure 2. EITC Marriage Tax, 2001, by Partner Earnings and Number of Children, for Marriage to Partner with Two Children and $10,000 Earnings
Figure 3a. EITC Marriage Tax Relief by Earnings, Single Earners, One Child Each

Figure 3b. EITC Marriage Tax Relief by Earnings, Single Earners, Two Children Each
Table 1. EITC Benefit Schedule, 2001

<table>
<thead>
<tr>
<th>Number of Children</th>
<th>Phase-In Rate</th>
<th>Income at Which Phase-In Ends</th>
<th>Maximum Credit</th>
<th>Income at Which Phase-Out Begins</th>
<th>Phase-Out Rate</th>
<th>Income at Which Phase-Out Ends</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Children</td>
<td>7.65%</td>
<td>$4,760</td>
<td>$364</td>
<td>$5,950</td>
<td>7.65%</td>
<td>$10,710</td>
</tr>
<tr>
<td>One Child</td>
<td>34.0%</td>
<td>$7,140</td>
<td>$2,428</td>
<td>$13,090</td>
<td>15.98%</td>
<td>$28,281</td>
</tr>
<tr>
<td>Two or More Children</td>
<td>40.0%</td>
<td>$10,020</td>
<td>$4,008</td>
<td>$13,090</td>
<td>21.06%</td>
<td>$32,121</td>
</tr>
</tbody>
</table>

Table 2. Illustrative EITC Marriage Bonus or Penalty, 2001

<table>
<thead>
<tr>
<th>Situation</th>
<th>EITC Marriage Bonus (+) or Penalty (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) EITC Eligible worker with Children Marries Childless Non-worker</td>
<td>$0</td>
</tr>
<tr>
<td>(2) Childless Minimum Wage Worker Marries Non-worker with Two Children $^a$</td>
<td>+$3977</td>
</tr>
<tr>
<td>(3) Worker with $5000 Earnings and One Child Marries Worker with $5000 Earnings and One Child</td>
<td>+$600</td>
</tr>
<tr>
<td>(4) Childless Minimum Wage Worker Marries Minimum Wage Worker with Two Children $^a$</td>
<td>-$1613</td>
</tr>
<tr>
<td>(5) Minimum Wage Worker with Two Children Marries Minimum Wage Worker with Two Children $^a$</td>
<td>-$5590</td>
</tr>
<tr>
<td>(6) Worker with Two Children Earning Maximum Income on EITC Plateau Marries Worker with Two Children Earning Maximum Income on EITC Plateau $^b$</td>
<td>-$6765</td>
</tr>
<tr>
<td>(7) Worker with Two Children Earning $20,000 Marries Worker Earning $50,000.</td>
<td>-$2553</td>
</tr>
</tbody>
</table>

$^a$ Minimum wage worker @ $5.15/ hour x 2000 hours.
$^b$ EITC Earnings Maximum in 2001 = $13,090.
Table 3. EITC Benefits, 2001, with 2008 Reform, and with Reduction in Phase-out Rate for Married Couples with Two or More Children

<table>
<thead>
<tr>
<th></th>
<th>(1) Current EITC (2001)</th>
<th>(2) 2008 EITC (in $2001)</th>
<th>(3) 2008 EITC plus lower phase-out rate for married couples with two or more children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Households Eligible</td>
<td>13.1%</td>
<td>13.8%</td>
<td>14.5%</td>
</tr>
<tr>
<td>Total Credits(^a)</td>
<td>$30.6b</td>
<td>$33.6b</td>
<td>$35.4b</td>
</tr>
<tr>
<td>Average Credit Per EITC Household</td>
<td>$1492</td>
<td>$1553</td>
<td>$1560</td>
</tr>
<tr>
<td>Married EITC Household</td>
<td>$1570</td>
<td>$1700</td>
<td>$1704</td>
</tr>
<tr>
<td>Average Credit Per Pre-Reform EITC-Eligible Household</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>$1492</td>
<td>$1625</td>
<td>$1682</td>
</tr>
<tr>
<td>Married</td>
<td>$1570</td>
<td>$1896</td>
<td>$2036</td>
</tr>
<tr>
<td>No children</td>
<td>$186</td>
<td>$275</td>
<td>$275</td>
</tr>
<tr>
<td>One child</td>
<td>$1262</td>
<td>$1556</td>
<td>$1556</td>
</tr>
<tr>
<td>Two children</td>
<td>$1830</td>
<td>$2246</td>
<td>$2434</td>
</tr>
<tr>
<td>Three or more children</td>
<td>$2162</td>
<td>$2516</td>
<td>$2780</td>
</tr>
<tr>
<td>By EITC Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase-in</td>
<td>$1128</td>
<td>$1128</td>
<td>$1128</td>
</tr>
<tr>
<td>Stationary</td>
<td>$2776</td>
<td>$2776</td>
<td>$2776</td>
</tr>
<tr>
<td>Phase-out</td>
<td>$1447</td>
<td>$1652</td>
<td>$1740</td>
</tr>
<tr>
<td>By Number of Earners</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>$1507</td>
<td>$1589</td>
<td>$1618</td>
</tr>
<tr>
<td>Two</td>
<td>$1482</td>
<td>$1848</td>
<td>$2026</td>
</tr>
</tbody>
</table>

\(^a\) Total dollar figures are calibrated based on IRS estimate of EITC benefits for 2001.
References


