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Source: *National Tax Journal*, Vol. 35, No. 2 (June, 1982), pp. 223-228

Published by: The University of Chicago Press

Stable URL: <https://www.jstor.org/stable/41862437>

Accessed: 20-01-2022 02:52 UTC

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PERVERSE EFFECTS OF PARTIAL TAXATION OF UNEMPLOYMENT BENEFITS**

JOHN H. BECK*

In the Revenue Act of 1978, Congress enacted partial taxation of unemployment compensation benefits. One of the goals sought by those favoring this policy was to increase the incentive for unemployed people to find and accept jobs.¹ This incentive depends on the *marginal* net replacement rate, the ratio of the additional after-tax income one receives if one remains unemployed one more week to the additional after-tax income one receives from working one more week. Unemployment benefits are set as a fraction of a worker's weekly wage, with this gross replacement rate being higher for workers with low wages but in no cases greater than .67. It would thus appear that a person will be considerably better off if he takes a job rather than remaining on unemployment. However when, as under prior tax law, unemployment benefits are fully excluded from taxable income, the marginal net replacement rate is equal to the gross replacement rate divided by one minus the marginal tax rate. The marginal tax rate will vary not only with the individual's labor income but also with his income from other sources and with his spouse's income if married. Table 1 shows illustrative marginal net replacement rates at various marginal tax rates and gross replacement rates when unemployment benefits are not taxable.²

As is well known, when unemployment benefits are not taxable, marginal net replacement rates may be more than .67. In three of the cases shown in Table 1 the marginal net replacement rate even exceeds 1.0. The person would have a larger after-tax income if he remained unemployed one more week than if he accepted a job. Obviously a person in this circumstance has no economic incentive to accept employment at his previous wage rate as long as he remains eligible to re-

ceive unemployment compensation benefits. Given that people place some value on leisure, even marginal net replacement rates below 1.0 will discourage recipients of unemployment benefits from finding and accepting jobs. Synthesizing the results of several recent empirical studies, Hamermesh (1981) estimates that each .1 increase in the net replacement rate increases the average duration of unemployment by one half week.

The effect of taxing unemployment compensation benefits *in full* as ordinary income would be to *reduce* the marginal net replacement rate, making it equal to the gross replacement rate. This increased incentive for the unemployed to find jobs would reduce unemployment. However, Congress enacted a formula for *partial* taxation of unemployment benefits, limiting this taxation to higher income taxpayers and imposing a lighter tax burden on those households which derive a larger share of their income from unemployment compensation. Under certain circumstances this formula has the perverse effect of *increasing* the marginal net replacement rate.

Current tax law provides that taxpayers include in adjusted gross income the lesser of

- 1) total unemployment compensation
- 2) half the amount by which adjusted gross income (excluding unemployment compensation) plus unemployment compensation exceeds a "base amount" (\$20,000 on single returns, \$25,000 on joint returns, zero for married filing separately).³

To express this algebraically, let Y be annual adjusted gross income excluding unemployment compensation, U be total unemployment compensation benefits received in a year and B be the "base amount." Adjusted gross income including *taxable* unemployment compensation is the lesser of

$$Y^* = Y + U \quad (1)$$

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TABLE 1

Marginal Net Replacement Rates When Unemployment Compensation is Not Taxable

AGI	Statutory Marginal Tax Rate*	At Gross Replacement Rate of:			
		.1	.3	.5	.67
\$25,000	.28	.139	.417	.694	.931
\$30,000	.32	.147	.441	.735	.985
\$35,000	.37	.159	.476	.794	1.063
\$40,000	.43	.175	.526	.877	1.175
\$50,000	.49	.196	.588	.980	1.314

$$Y^* = Y + .5(Y + U - B)$$
$$= 1.5Y + .5U - .5B \tag{2}$$

Equation (2) will be applicable if

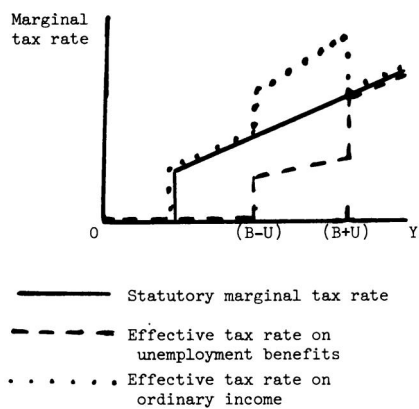
$$B - U < Y < B + U \tag{3}$$

Note that when equation (2) applies, an increase in earned income of an amount ΔY will increase adjusted gross income by $1.5\Delta Y$, but an increase in unemployment benefits of ΔU will increase adjusted gross income by only $.5\Delta Y$. Therefore, if the statutory marginal tax rate is t , the effective marginal tax rate on earned income is $1.5t$ and the effective marginal tax rate on unemployment compensation is $.5t$. Figure 1 illustrates the resulting effective marginal tax rates on ordinary income and on unemployment compensation for a statutory marginal tax rate which increases as shown by the solid line.

The marginal net replacement is now the gross replacement rate multiplied by one minus the effective marginal tax rate on unemployment benefits and divided by one minus the effective marginal tax rate

on ordinary income. For taxpayers whose other income is greater than $(B + U)$, the current tax law has the desired effect of reducing the marginal net replacement rate, making it equal to the gross replacement rate. But for taxpayers with other income between $(B - U)$ and $(B + U)$, the marginal net replacement rate is raised to $\frac{(1 - .5t)R}{(1 - 1.5t)}$ where R is the gross replace-

Figure 1. Effective Marginal Tax Rates.



ment rate. Some illustrative numerical examples are shown in Table 2.

The increases in the marginal replacement rates vary from .009 to .307 above the comparable ratios in Table 1. The marginal net replacement rate is higher the larger the gross replacement rate and the higher the marginal tax rate. Gross replacement rates are higher for secondary workers with low weekly wages, and marginal tax rates are higher for taxpayers with large family incomes. Therefore the incentives to accept a job will be least for a secondary worker receiving unemployment compensation whose family income is high. Indeed, it would appear that the marginal net replacement rate would equal 2.0 for a maximum marginal tax rate of .50 and gross replacement rate of .67. However, the marginal net replacement rates in Table 2 are based on equation (2), which is applicable only on tax returns with an adjusted gross income *excluding* unemployment compensation less

than $(B + U)$. For a couple filing a joint return with one spouse receiving \$200 per week in unemployment benefits for the extended period of 39 weeks, $(B + U) = (\$25,000 + \$7800) = \$32,800$. The maximum adjusted gross income (*including* taxable unemployment benefits) for which equation (2) might apply would be $\$32,800 + \$7800 = \$40,600$. This is admittedly an extreme case. Therefore Table 2 only shows examples for cases with an adjusted gross income up to \$40,000.

The question remains, how many taxpayers find equation (2) applicable to themselves? The *Statistics of Income Bulletin* (1981) contains some data which, although they do not answer this question, allow us to make some crude approximations. These data for tax returns reporting Adjusted Gross Income (AGI) between \$20,000 and \$40,000 (the range in which it is most likely that equation (2) applies) are reported in Table 3. In the \$20,000–25,000 AGI class there are

TABLE 2

Marginal Net Replacement
Rates Under Formula (2)

AGI	Statutory Marginal Tax Rate*	At Gross Replacement Rate of:			
		.1	.3	.5	.67
\$25,000	.28	.148	.445	.741	.993
\$30,000	.32	.162	.485	.808	1.082
\$35,000	.37	.183	.549	.916	1.227
\$40,000	.43	.221	.663	1.106	1.482

*Using 1980 rates for joint returns assuming \$4,000 in personal exemptions and excess itemized deductions. The effects of all taxes other than the federal personal income tax are ignored in these calculations.

TABLE 3

Unemployment Compensation Reported
on 1979 Income Tax Returns

	Adjusted Gross Income Class		
	\$20,000	\$25,000	\$30,000
	<u>-25,000</u>	<u>-30,000</u>	<u>-40,000</u>
Number of returns reporting unemployment compensation	663,951	430,922	412,881
Amount (thousands of dollars) of unemployment compensation reported	611,289	382,062	439,150
Number of returns including unemployment compensation in AGI	144,484	417,735	407,708
Amount (thousands of dollars) of unemployment included in AGI	70,414	299,805	423,157

Source: "Individual Income Tax Returns, 1979: Income, Deductions, Residential Energy Credit", Statistics of Income Bulletin, 1, (Summer 1981).

663,951 returns reporting \$611,289,000 in unemployment compensation but only 144,484 returns including \$70,414,000 of unemployment benefits in AGI. In this income range unemployment compensation may not be taxed on joint returns. Unfortunately the available data are not broken down into joint and single returns. There is no way to tell how much of the difference between reported unemployment compensation (row 2 of Table 3) and unemployment compensation included in AGI (row 4 of Table 3) is attributable to unemployment compensation received by married couples below the \$25,000 base amount, and how much is attributable to singles who exclude part of their unemployment benefits from AGI because equation (2) applies to them. In the \$30,000–40,000 AGI class there is little difference between the \$439,150,000 reported unemployment compensation and the \$423,157,000 included in AGI. This suggests that for most taxpayers in this group, unemployment compensation is taxed in full and the disincentives created by equation (2) will not arise. Therefore

our focus is on the data reported for the \$25,000–30,000 income class.

In the \$25,000–30,000 AGI class there is an \$82,257,000 difference between reported unemployment compensation and the amount included in AGI, all of which (except for computational and reporting errors by taxpayers) is attributable to the partial exclusion of unemployment benefits under equation (2). However the data do not reveal how many taxpayers find themselves in this situation. A crude estimate may be made by first noting that, if other income is above \$25,000, at least half of unemployment benefits must be included in AGI. Therefore the taxpayers who excluded \$82,257,000 of unemployment benefits may have received total unemployment compensation of more than twice that amount, or \$164,514,000. The average unemployment benefits reported on all tax returns reporting benefits in the \$25,000–30,000 AGI class is \$886.62. Thus a crude estimate of the number of taxpayers in the \$25,000–30,000 AGI class who are taxed on only a fraction of unemployment benefits un-

der equation (2) is $164,514,000 \div 886.62 = 185,553$.⁴

Equation (2) only applies to taxpayers for whom U is greater than $(Y - B)$. Thus the average unemployment compensation received by those to whom equation (2) is applicable may be greater than the average of \$886.62 for all tax returns in the \$25,000–30,000 AGI class. This possible error would tend to create an upward bias in the above estimate. On the other hand, the taxpayers to whom equation (2) applies may have received much more than \$164,514,000 in total unemployment compensation, so the use of that number in the above calculation may impart a downward bias to the estimate. Since there are some singles in the \$20,000–25,000 AGI class and even perhaps a few taxpayers in the \$30,000–40,000 AGI class to whom equation (2) applies, one may conclude that this disincentive may have applied to 185,000 of the 92,616,213 tax returns filed for 1979.

There are really two distinguishable disincentive effects as a result of the increased effective marginal tax rate on earned income. First, it raises the marginal net replacement rate. This makes finding a job less attractive relative to continuing to receive unemployment benefits and thus reduces serious job search activity. Second, even for the person who is no longer eligible for unemployment benefits or who is denied continued benefits because of refusal to accept a "suitable" job, the increased effective marginal tax rate on earned income remains in effect. This reduces the relative price of leisure and provides an incentive for the person to leave the labor force for the remainder of the year.

The same increase in the effective marginal tax rate applies to the earnings of the spouse of a recipient of unemployment benefits if they file a joint return. Thus the partial taxation of unemployment benefits has disincentive effects for the spouse of the unemployed person unless they file separate returns. The option of filing separate returns does not provide a means to reduce this tax burden because the "base amount" for a person living with spouse and filing a separate

return is reduced to zero. Thus all unemployment benefits received will be taxable as well as other possible disadvantages if couples file separate returns.

Summary and Policy Recommendations

By taxing only a fraction of unemployment benefits and making that fraction an increasing function of other income, current tax laws have created circumstances in which the effective marginal tax rate on earned income is greater than the statutory rate. In these cases the marginal net replacement rate is actually greater than it would be if unemployment benefits simply were not taxed. This has the perverse effect of reducing the incentives for some recipients of unemployment compensation to obtain employment. Simply taxing unemployment compensation in full would increase the incentive to find a job for all recipients and would have the added advantage of increasing tax revenues by an estimated \$1.9 billion in fiscal year 1983 (Congressional Budget Office, 1982, p. 196). If it is feared that full taxation of unemployment compensation would place too great a tax burden on low income recipients, part of unemployment compensation might be left tax exempt. However, the amount of exempt unemployment compensation should be independent of the amount of income from other sources in order to avoid disincentive effects similar to those under the current law.

FOOTNOTES

⁴This paper was completed while the author was a Visiting Assistant Professor at Michigan State University. I am grateful to Daniel Hamermesh for helpful comments but remain solely responsible for any errors.

⁵The "Report of the Committee on Ways and Means" (1978, p. 48) included among the "reasons for change" in the treatment of unemployment compensation the committee's belief "that the present total exclusion of unemployment compensation benefits paid under government programs tends to create a work disincentive in that it increases the incentive to remain unemployed, the length of unemployment and the consequent cost of maintaining unemployment coverage."

²Table 1 ignores factors other than the federal personal income tax which might affect the marginal net replacement rate. For example, Social Security, state and local income taxes all might raise the marginal net replacement rate.

³If adjusted gross income including unemployment benefits is less than the base amount, unemployment benefits simply are not taxed. Thus the following discussion assumes adjusted gross income including unemployment benefits exceeds the base amount. The discussion also ignores the treatment of the disability income exclusion.

⁴There will be some taxpayers whose other income is less than \$25,000 but whose AGI including the taxable part of unemployment compensation is above \$25,000. For such taxpayers in the \$25,000–30,000 AGI class, at least one third of unemployment compensation is included in AGI. Thus the extreme lower bound on total unemployment benefits received by those in the \$25,000–30,000 AGI class who excluded \$82,257,000 of unemployment benefits from AGI is \$123,385,500. Dividing this number by \$886.62 gives

an estimate of 139,164 taxpayers for whom equation (2) applies.

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