UNEMPLOYMENT COMPENSATION: ADVERSE INCENTIVES AND DISTRIBUTIONAL ANOMALIES

MARTIN FELDSTEIN*

The current system of unemployment compensation entails very strong adverse incentives. For a wide variety of "representative" unemployed workers, unemployment benefits replace more than 60 per cent of lost net income. In the more generous states, the replacement rate is over 80 per cent for men and over 100 per cent for women. Most of the $5 billion in benefits go to middle and upper income families. This anomaly in the distribution of benefits is exacerbated by the fact that unemployment compensation benefits are not subject to tax.

TWO myths prevent the development of a rational policy for unemployment compensation. First, it is generally but incorrectly believed that unemployment compensation replaces only a small fraction of the lost income of the unemployed worker. Second, it is widely assumed that those who collect unemployment compensation are poor or would otherwise be poor. From these incorrect perceptions follows a failure to recognize the adverse incentives and distributional anomalies in our current system of unemployment compensation. I hope to provide in this paper enough quantitative information about the relevant magnitudes to dispel these damaging myths. Although the full implications of a correct perception of unemployment compensation will not be developed, one step toward a more rational policy — making unemployment insurance benefits part of taxable income — will be specifically considered.[1]

*Harvard University. I am grateful to Benjamin Okner and Joseph Pechman for providing data used in sections 3 and 4 and to Virginia Ambrosini for assistance with the calculations. This research is part of a larger study of the effects of fiscal policies on the accumulation of capital and the distribution of income financed by the National Science Foundation.

[1]For a general discussion of unemployment compensation in the context of the current labor market and an analysis of its impact on the unemployment rate, see Feldstein (1972) and section 5 of Feldstein (1973). The history and current structure of the unemployment compensation system are described in Haber and Murray (1966); more specialized studies by Becker (1972), Lester (1962), Munts (1973) and Warden (1967) are also useful. For a more general discussion of the adverse incentives implied by current income transfer programs, see Green (1967) and U.S. Congress, Joint Economic Committee (1972).

The relative size of unemployment compensation is usually grossly underestimated. The most common assertion is that the benefits provide only about *one-third* of the individual's usual pay.[2] A more appropriate description is that the benefits generally replace *two-thirds* or more of the lost net income. In some cases the individual may receive more income by being unemployed than by returning to work at the previous wage. The incorrect perception of the relative level of unemployment compensation reflects a failure to recognize the impact of the high marginal tax rates currently paid by individuals in the middle and low income ranges. The combination of federal and state income tax and the social security payroll tax often makes the marginal tax rate of such individuals 30 per cent or higher.[3] The marginal net wage is then only 70 per cent of the gross wage. The majority of unemployment compensation beneficiaries receive benefits that are at least 50 per cent of their previous gross

[2]A *New York Times* editorial of 17 April 1973 cited this figure in praising a proposed increase in unemployment compensation: "Under the Nixon plan all states would be required to pay benefits under a Federal standard that would guarantee the great bulk of jobless workers at least half of their normal wage. *The present national average benefit of roughly $55 a week is just a little over one-third of usual pay, a gap that causes unfair hardship to many.*" (Italics added)

[3]A married man with $4,000 of taxable income has a marginal Federal income tax rate of 19 per cent. The employee's contribution for social security is 5.65 per cent. The marginal rate is therefore approximately 25 per cent plus state and local income taxes. In Massachusetts, the state tax brings the total to 30 per cent. With a $2,000 taxable income, this marginal rate only falls to 27 per cent.

wage.[4] Since these benefits are not taxed, a 30 per cent marginal tax rate on earnings implies that benefits that are 50 per cent of the gross wage are more than 70 per cent of the net wage.

The observation that average benefits are only about one-third of average covered wages is misleading for two reasons. First, the ratio of one-third is a ratio of benefits that are *disposable* income to gross wages that are before tax. Second, the average benefit refers to those who become unemployed while the average wage refers to all covered workers. Since the lower paid workers are more likely to become unemployed, the average wage overstates even the gross earnings of the unemployed. Stein (1963) found that in 1961 the unemployed had earned only 77 per cent of the average weekly wage. Gordon (1973) estimated that changes between 1961 and 1971 in the demographic composition of the unemployment compensation beneficiaries would lower this fraction to 69 per cent. This implies an average previous wage for the insured unemployed of $98.31 in 1971. The average weekly benefit of $54.49 therefore replaced approximately 55 of the *gross* wage. A 30 per cent marginal tax (for federal and state income tax and employee social security contribution) implies that the $98.31 gross wage corresponds to a net wage of $69. The average weekly benefit of $54.49 therefore replaced approximately 79 per cent of lost net income for this worker.

Section 1 examines the nature and extent of net income replacement in more detail. Two different measures of the implied adverse incentives are discussed. In section 2, estimates of these adverse incentives are presented for different income levels and family types. Because unemployment compensation rules differ among the states, the national average and the range of variation among the states are both evaluated.

While many of those who receive unemployment insurance benefits are poor, most of the benefits go to middle and upper income families. The evidence presented in section 3 implies that in 1970 half of the benefits went to households with income above $10,000. Approximately 15 per cent of benefits went to families with income below $5,000 and another 15 per cent to families with incomes over $20,000.

These anomalies in the distribution of benefits are exacerbated by the fact that unemployment compensation benefits are not subject to income or payroll taxes. Section 4 analyzes the distribution among income classes of the more than $850 million loss of federal income taxes that occurs because unemployment benefits are not taxed. The effect on adverse incentives of taxing these benefits is also examined.

There is a brief concluding section that summarizes the analysis and suggests that the inefficiencies created by the adverse incentives in the current system of unemployment compensation could be reduced without sacrificing the achievement of any distributional objectives.

1. *Adverse Incentives*

To understand the adverse incentive effects of unemployment benefits, it is useful to think of unemployment compensation as imposing a very high rate of tax on the income that the individual would earn if he were not unemployed. Two different tax rates can be distinguished. The *net tax rate* is the ratio of unemployment compensation to the net earnings that an individual would receive if he were employed. It measures the extent to which unemployment compensation replaces prospective net earnings. The *gross tax rate* is the ratio of unemployment compensation plus taxes (federal and state income taxes and the social security tax) to the *gross* wage that an individual would earn if he were employed. The gross tax rate therefore measures the wedge between the individual's marginal social product and the additional net income that he would receive if he worked.

A detailed example will illustrate these

[4] In 1970, somewhat more than half of the beneficiaries received less than the maximum level of benefits paid in their state. Below the maximum, beneficiaries generally receive at least 50 per cent of their base period earnings. About one-third of covered workers are also eligible for dependents benefits in addition to the 50 per cent of base period earnings. Dependents' benefits can bring total compensation to more than fifty per cent.

concepts and indicate the very high net and gross tax rates implied by the unemployment compensation system. Consider a worker in Massachusetts in 1973 with a wife and two children. He earns $500 per month or $6,000 per year if he experiences no unemployment. She earns $350 per month or $4,200 per year if she experiences no unemployment. If he is unemployed for two months he loses $1,000 in gross earnings but only $128 in net income. How does this occur? A loss of $1,000 in annual earnings reduces his federal income tax by $162, his social security payroll tax by $56 and his Massachusetts state income tax by $50. The total reduction in taxes in $268. Net *earnings* therefore fall by $732. Unemployment compensation is 50 per cent of his previous gross wage plus dependent's benefits of $6 per week for each child. Unemployment benefits are therefore $604.[5]

The net tax rate for the individual is therefore 83 per cent; unemployment benefits ($604) replace 83 per cent of net wages ($732). The gross tax rate is 87 per cent; the $128 of additional net income that the individual would receive if he works is only 13 per cent of his gross earnings.[6] Even this 87 per cent understates the gap between the individual's potential social marginal product and the additional real income that he would receive if he were employed. The employer pays a 5.65 per cent social security tax and the individual pays additional taxes in the prices of the goods and services that he buys.

If the man does not become unemployed but his wife loses her job, the implied marginal rate may be even higher. If she is unemployed for two months, her gross earnings fall by $700 but the family's net income may fall by less than $60. The fall in earnings reduces taxes by $187 while the unemployment compensation provides $350 in regular benefits and $104 in dependents' benefits[7] The unemployment benefits of $454 therefore replace 88 per cent of the lost net earnings of $513. The corresponding gross tax rate is 91 percent.[8]

If the family has three children instead of two, the family's net income is actually higher if the woman is unemployed than if she is working. An additional month of unemployment depresses gross wages by $350 and lowers net earnings by $216. Since unemployment benefits are $227, net income actually rises by $11. The net tax rate is 105 per cent and the gross tax rate is 103 per cent.

These astounding figures are not very sensitive to the specific details of the family in the example. The marginal net and gross tax rates are very high for single as well as married workers and for a wide range of earnings. These high marginal tax rates obviously provide very strong adverse incentives. For those who are already unemployed, it greatly reduces and often almost eliminates the cost of increasing the period of unemployment.[9] More generally, for all types of unsteady work — seasonal, cyclical and casual — it raises the net wage to the employee relative to the cost to the employer. This encourages employers and employees to organize production in ways that increase the level of unemployment by making the seasonal and cyclical variation in

[5]This ignores a one week waiting period during which no benefits are paid. Allowing for this reduces the unemployment compensation from $604 to $534. I will continue to use the $604 in the text in order to emphasize the *marginal* rate that actually prevails after the first week of unemployment. The implications of the waiting period will be indicated in subsequent footnotes.

[6]Because of the waiting period, these are *marginal* rates. Allowing for the waiting period makes the average net rate 73 per cent and the average gross rate 80 per cent. After the one week waiting period, it is the marginal rate that is relevant for the decisions of the individual and the firm.

[7]In Massachusetts a wife may collect dependents' benefits when her husband is still employed if she has previously listed the children as income tax dependents.

[8]Allowing for the one week waiting period makes the average net rate 78 per cent and the average gross rate 84 per cent.

[9]Even if the unemployed worker places no value on his leisure, this encourages him to search or wait for a new job for a much longer period than is *socially* optimal. This is developed in Feldstein (1973); see also R. J. Gordon (1973), Appendix A. In some industries, the adverse incentive is strengthened by "supplementary unemployment benefits" paid directly by the employer.

unemployment too large and by making casual and temporary jobs too common.[10]

2. *Differences among States*

The unemployment compensation system is actually a set of state programs governed by individual state laws.[11] It is important therefore to look beyond the example for Massachusetts and to calculate the marginal net and gross tax rates for each state. The national average of these rates and the minimum and maximum values are presented in this section. The analysis considers unemployed persons at a variety of income levels and in several different family situations.

Before describing the results, it is useful to examine which factors differ among the states in ways that influence the magnitudes of the adverse incentives. Four important aspects can be distinguished: 1) the ratio of benefits to gross wage; 2) the maximum weekly benefits; 3) the payment of dependents' allowances; and 4) the state income tax rates. Although the particular rules differ among states, almost all states provide at least 50 per cent of previous earnings up to some weekly maximum.[12] The maximum weekly benefit (excluding dependents allowances) varied substantially; in 1972 the low was $49 and the high of $105. But the absolute maximum is less relevant than the relation between the level of unemployment compensation in the state and the level of wages in the state. States with high levels of unemployment benefits are generally also those with high wage levels. However, the association is far from perfect. As a result, a worker with a given relative level of earnings (e.g., the median for his state) will be eligible for maximum benefits in some states but not in others. For workers whose benefits are constrained by the maximum, the marginal tax rates are reduced.

Although dependents' allowances are paid in only 11 states, these states contain 33 per cent of the insured unemployed. Dependents generally include children under 18 and may also include a nonworking spouse. Because dependents' allowances can generally be paid in addition to the usual maximum weekly benefit, the availability of these allowances increases the net and gross tax rates. Since the allowances are either a fixed amount per dependent or an amount that is higher for individuals with low earnings, the dependents' allowances can easily make the total unemployment compensation greater than the net wage that would be earned if the individual worked. The importance of the dependents' allowance should not, however, be exaggerated. In the example of section 1, an unemployed Massachusetts man with dependents' allowances for two children had a net tax rate of 83 per cent and a gross tax rate of 87 per cent. If no dependents' allowances were paid, the marginal rates would still be 68 per cent and 77 per cent.

A high rate of state income tax raises both the net and the gross rates of tax implied by the unemployment compensation benefits. State laws differ substantially. The marginal rate of state income tax at each income level varies substantially among the states. Although these tax rates are generally low, they can have a significant effect on the net and gross tax rates implied by the state's unemployment benefits.

These sources of variation are summarized by equations 1 and 2 that relate the marginal net tax rate (NTR) and marginal gross tax rate (GTR) of an individual to his level of basic unemployment benefits (BEN), his dependents' allowance (DEP), his wage rate (W), and his marginal rates of federal income tax (TAXF), state income tax (TAXS) and social security payroll tax (TAXSS):

[10]Sections 4 and 5 of Feldstein (1973) provide some evidence and further analysis of these adverse incentives. It is significant to note that approximately 80 per cent of workers laid off by manufacturing firms are subsequently rehired by the same firm.

[11]For a recent comparison of state unemployment insurance laws see U.S. Department of Labor (1972).

[12]The most common provision is a fraction between 1/19 and 1/27 of total wages in the 3 month period with highest earnings during the base period. For states relating benefits to average weekly wage, the range is between 50 and 67 per cent. These figures are based on U.S. Department of Labor (1972), Table 304.

$$NTR = \frac{BEN + DEP}{(1 - TAXF - TAXS - TAXSS)\,W} \quad (1)$$

$$GTR = \frac{BEN + DEP + (TAXF + TAXS + TAXSS)\,W}{W} \quad (2)$$

The net tax rate and gross tax rate were evaluated for unemployed persons at different income levels in each state. To study comparable workers in the different states, the same *relative* income level was used in each state. For example, one analysis compares men with the median income in their state. Income at 70 per cent of the median and at 130 per cent were also studies. Similar points on the income distribution of women were also identified. More specifically, the income data for each state was obtained from the 1970 Census and refers to income in 1969.[13]

In addition to examining unmarried individuals at these income levels, the analysis considers a number of different family types: a man with median income and a wife who is not in the labor force; a man with median income and a wife whose income is 70 per cent of the woman's median; etc. Each such family was assumed to have two children. In families with two earners, the unemployment of husbands and of wives were both considered. For each family situation, the marginal rates of federal income tax, social security tax and state income tax were calculated. The unemployment benefits and dependents' allowances were evaluated using each state's benefit schedule and maximum benefit.[14] All unemployment compensation rules and tax rates refer to 1970.

Table 1 presents the results of this analysis for 13 different types of unemployed workers. For each situation, the first three columns present data on the distribution among the states of net tax rates: the national average;[15] and the maximum and minimum of the observed range. The next three columns present similar data for the gross tax rates. The final column shows the proportion of states in which the unemployed person is eligible for the maximum weekly benefits.

The net and gross tax rates are very high. For single men with median earnings the average net rate is 63 per cent and the average gross rate is 74 per cent. These high rates occur even though in 90 per cent of the states these men received the maximum benefit. The standard deviations (not shown) of 10 percentage points and 8 percentage points imply that for most of the states the net rate and gross rate are close to the national average. The net rates range from 40 per cent to 84 per cent and the gross rates from 56 to 90 per cent.

For married men whose wives are not in the labor force, the net and gross tax rates are slightly lower than for single men. This reflects a balancing of the dependents' allowances in some states and the lower combined federal and state income taxes in all states.[16] For lower paid men the implied tax rates are slightly higher while for higher paid men the reverse is true. Even though men earning 30 per cent more than the state's median received maximum benefits in every state, the average net tax rate was 46 per cent and the average gross rate was 59 per cent. If the man is unemployed but his wife works, the net and gross rates

[13]Individuals with income of less than $1,000 were eliminated before the median was calculated. Although the remaining distributions contain individuals who would not be eligible for unemployment benefits, this is not relevant since the only purpose of using the distributions is to select generally comparable incomes for the different states.

[14]The calculations assume that all income for the individual was covered earnings.

[15]This is an unweighted average of the individual rates for the 48 contiguous states and the District of Columbia. Since the states with larger populations usually have more generous benefits, a weighted average would probably show even higher implied tax rates.

[16]Because the average gives equal weight to all states, the effect of dependents' allowance is understated; while only ten of the contiguous states have dependents' allowances, these states account for one-third of covered workers.

are slightly higher because her earnings raise the marginal rates of federal and state income tax.

For women workers the net and gross tax rates are even higher. For single women with median female earnings the mean net rate is 72 per cent and the mean gross rate is 79 per cent. The lowest net rate is 64 per cent and the lowest gross rate is 73 per cent. The maximum net and gross rates of 95 and 96 per cent indicate that the woman receives almost no additional net income by working instead of collecting unemployment compensation. Very similar results are obtained for women with lower and higher earnings.

Even more striking are the implied tax rates for unemployed married women with working husbands. The final three rows of Table 1 refer to families in which the husband has the median male earnings and the wife is unemployed. If the wife normally has the median earnings, the average net tax is 77 per cent and the average gross tax is 84 per cent. The minimum net and gross rates are 64 and 74 per cent. Very similar results are obtained for women earning 70 per cent and 130 per cent of the state median. In some states, the net and gross rates exceed 100 per cent. A net rate of 109 per cent means that the woman receives 9 per cent more net income from unemployment benefits than she would earn after tax. For women at 70 per cent of the state median, the net rate reaches a high of 119 per cent.

These adverse incentives for both men and women are exacerbated for those with large families. The current figures are based on families with two children and the implied tax rates rise rapidly with family size. The unemployed Massachusetts man of

TABLE 1

MARGINAL "TAX" RATES OF UNEMPLOYED PERSONS, 1970

Family Type and Beneficiary	Earnings: Percentage of Median by Sex	Net Tax Rate Unemployment Compensation as Percentage of Net Earnings			Gross Tax Rate Unemployment Compensation plus Taxes as Percentage of Gross Earnings			Maximum Benefit: Percentage of States
		Mean	Min	Max	Mean	Min	Max	
Single Man	M = 100	63	40	84	74	56	90	90
Married Man	M = 100	60	43	81	70	57	85	90
Married Man	M = 70	69	59	87	76	68	90	20
Married Man	M = 130	46	31	61	59	46	69	100
Working Couple, Man Unemployed	M = 100 F = 100	62	41	83	73	55	87	90
	M = 100 F = 70	62	41	83	72	55	87	90
	M = 100 F = 130	63	43	83	73	58	88	90
Single Woman	F = 100	72	64	95	79	73	96	0
Single Woman	F = 70	69	61	90	76	70	92	0
Single Woman	F = 130	72	62	96	79	72	97	10
Working Couple, Woman Unemployed	M = 100 F = 100	77	64	109	84	74	106	0
	M = 100 F = 70	78	64	119	84	73	114	0
	M = 100 F = 130	77	64	102	83	73	101	10

section 1 had two children and a marginal net tax rate of 83 per cent. With three children his net rate rises to 97 per cent while with four children his net income is 15 per cent higher when he is unemployed than when he works.

It is clear that the net and gross tax rates implied by the unemployment benefits are very high for nearly all workers who earn less than 130 per cent of the state median for their sex, i.e. for workers who are in approximately the first 70 per cent of their state's income distribution. For median male earners, the unemployment benefits imply an average net tax rate over 60 per cent and an average gross tax rate over 70 per cent. For married women, these rates are approximately 75 per cent and 85 per cent. Although there is substantial variation among the states, even the minimum rates are quite high. The rates near the maximum almost completely remove any financial incentive to return to work or to avoid a spell of unemployment.

3. *Distributional Anomalies*

This section shows that middle and upper income families receive most of the unemployment compensation. More specifically, the number of families receiving unemployment compensation and the value of benefits received is distributed among income levels in approximately the same proportions as the population as a whole. Half of the benefits go to the families in the top half of the income distribution. Fifteen per cent of benefits in 1970 went to the 18 per cent of families with incomes over $20,000. Only 17 per cent of benefits went to families with incomes under $5,000.[17]

At first, such results are very surprising. We are accustomed to thinking of the unemployed as poor and of the poor as most likely to suffer unemployment. Why then do the poor receive such a small share of unemployment benefits while those with relatively high incomes receive a substantial share? There are several possible reasons. When the poor are unemployed, they are often ineligible for unemployment benefits. They are more likely to work in uncovered occupation, to have worked too little to qualify for benefits or to have quit their last job. Moreover, the poor may also be more likely to remain unemployed long enough to exhaust their benefits. In contrast, middle and upper middle income persons are more likely to work in covered employment and to have earned enough to qualify for benefits for the maximum duration. The unemployment for this group is often a temporary lay-off followed by recall to the same firm. The individual's weekly benefit is generally higher in this group. Moreover, since middle and upper income families often contain two earners, there is greater exposure to the risk of unemployment.

These explanations are advanced as possible hypotheses for future research. The current study is concerned with establishing the distributions of beneficiaries and of benefit amounts. The analysis is based on the well known 1967 Survey of Economic Opportunity (SEO). The survey was conducted by the U.S. Bureau of the Census. Interviews of about 30,000 households obtained income information (including unemployment compensation receipts) for 1966 and supplemental demographic and financial information as of the date of the interview. Benjamin Okner, in collaboration with others at the Brookings Institution, has recently combined the SEO data with the Internal Revenue Service Tax File for 1966.[18] The Tax File contains a stratified sample of data from close to 87,000 individual federal income tax returns.

The MERGE File, as the combined data set has been called, offers several advantages for the current study. First, in addition to the usual Census definition of income, the MERGE File contains a more broadly defined measure of "adjusted family income" that corresponds more closely to an economic definition of income: consumption (including imputed rents) plus taxes paid plus the net increase in the value of assets. Second, corrections have been made for the

[17]The term "family" includes the Census category "single individuals" as well as "families"; see below for more information on the definitions and sample.

[18]See Okner (1972) and Pechman and Okner (1972) for descriptions of the process by which the two sets of data have been combined.

TABLE 2

DISTRIBUTION OF UNEMPLOYMENT COMPENSATION

Adjusted Family Income, excluding Unemployment Compensation 1	Families Receiving Unemployment Compensation (thousands) 2	Unemployment Compensation (millions) 3	Cumulative Proportional Distributions to beginning of income interval: Families Receiving Unemployment Compensation 4	Unemployment Compensation 5	All Families 6
$0—	454	$279.4	—	—	—
3,000—	716	457.4	0.07	0.06	0.16
5,000—	803	536.3	0.18	0.17	0.28
7,000—	1196	803.4	0.30	0.29	0.39
10,000—	772	490.6	0.48	0.48	0.53
12,000—	843	568.0	0.60	0.59	0.61
15,000—	837	568.8	0.73	0.72	0.71
20,000—	447	305.1	0.86	0.85	0.82
25,000+	489	325.8	0.93	0.82	0.89
All Families	6557	4334.8	—	—	—

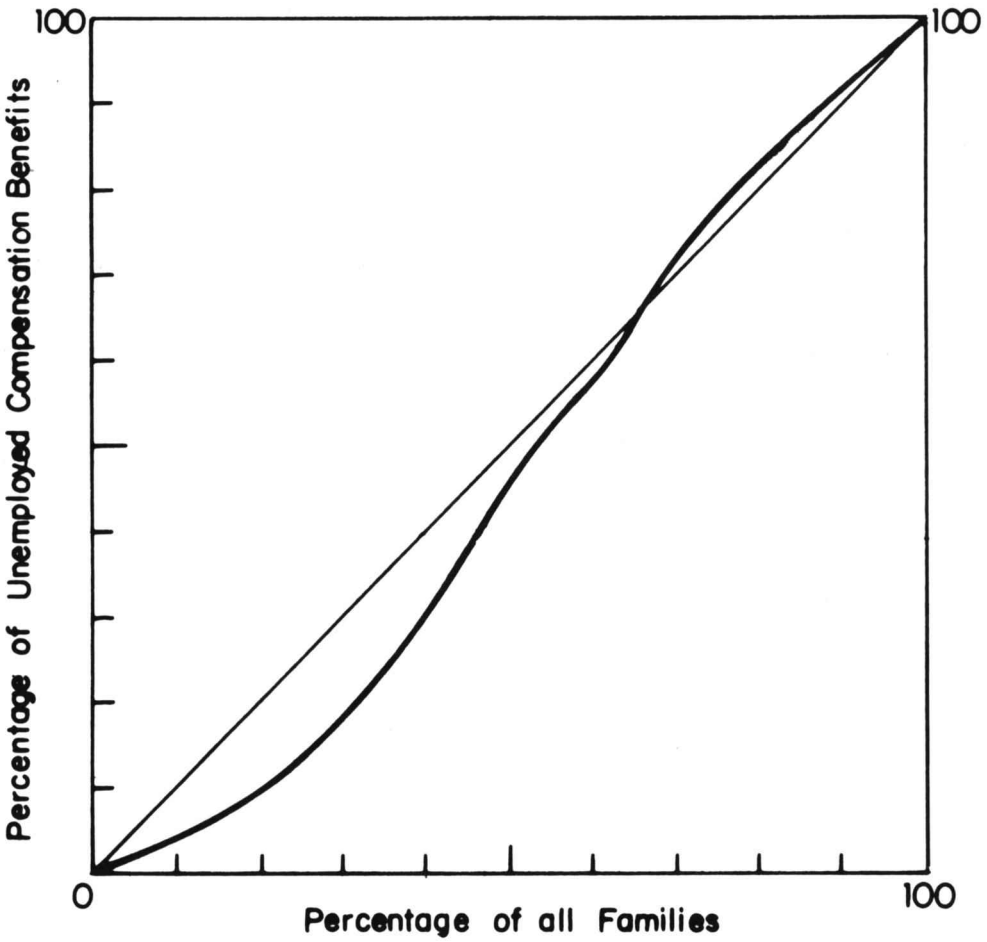
underreporting and nonreporting of factor incomes and transfer payments. In particular, the nonreporting and underreporting of unemployment compensation was taken into account by imputing missing amounts stochastically to MERGE File units based on various characteristics of the survey unit. The adjustments were designed to make the national aggregates implied by the MERGE File correspond to aggregate data obtained from the Office of Business Economics, the Internal Revenue Service, and other sources.[19] Third, the individuals within each SEO family are grouped into taxpayer units and taxable incomes are calculated. This information is used in the next section to examine the distributional effects of excluding unemployment compensation from taxable income. Finally, all of the data has been adjusted to correspond to 1970 income, population and asset values.

Table 2 shows the distribution of families receiving unemployment compensation (column 2) and the amount of unemployment benefits (column 3). The income classes are defined in terms of adjusted family income *exclusive* of unemployment compensation benefits. This exclusion is important for low income families; it permits the analysis to assess the extent to which unemployment benefits go to those who would otherwise be relatively poor. It is clear that a substantial number of recipients are in high income families while surprisingly few are in low income families. Approximately 1.8 million families with incomes over $15,000 received unemployment benefits while less than 1.2 million families with incomes under $5,000 did.[20] Since higher income individuals receive larger benefits, the distribution of benefits is even more heavily weighted in favor of upper income benefits. Families with incomes over $25,000 received more benefits than families with incomes under $3,000. The benefits of $1.2 billion to families with incomes over $15,000 are substantially greater than the benefits of $0.7 billion to families with incomes under $5,000.

These figures can be placed in better perspective by comparing the proportional distributions of recipients and of benefits with the distribution of families. Column 4 presents the cumulative proportional distribution of recipients. The corresponding distributions for total dollar benefits and for the number of families in the population appear in columns 5 and 6. A compari-

[19]More details about this process and about the derivation of adjusted family income are given in Okner (1971a, 1971b, 1972).

[20]The exact dollar amounts reflect the method by which the original 1966 data adjusted for nonreporting and then projected to 1970. The MERGE File implies total 1970 benefits of $4.33 billion in comparison to actual benefits of $4.18 billion.



son of columns 4 and 6 shows that lower income families are a smaller fraction of unemployment compensation recipients than of the population. For example, the lowest 28 per cent of families account for only 18 per cent of benefit recipients. Similarly, comparing columns 5 and 6 shows that this lowest 28 per cent receives only 17 per cent of benefits. The regressive nature of the distribution of recipients and benefits continues until family income exceeds about $13,000. The top 30 per cent of families receive approximately 30 per cent of benefits but within this group less benefits go to those with the highest incomes. Nevertheless, while only 10 per cent of the families have incomes over $25,000, this group receives 8 per cent of the benefits.[21]

These distributions of benefits and families (columns 5 and 6) are also compared in Figure 1. The curve relating the cumula-

[21]This may even underestimate the benefits received by high income families. The Brookings MERGE procedure did not use the SEO data for families with adjusted gross incomes above $30,000. No unemployment compensation is attributed to these families. Although the small proportion of benefits going to families with incomes under $5,000 may reflect a large number of retired families in this group, this does not alter the fact that most of the benefits go to families with incomes over $10,000 and that one-fourth of the benefits go to those with incomes over $15,000.

tive percentage of benefits to the cumulative percentage of all families lies below the diagonal line until approximately the 65th percentile (about $13,000). Below this level there is an unequal distribution of benefits in favor of higher income families. Above this level, the two distributions nearly coincide with some inequality in favor of the lower income families.

4. *Exclusion from Taxable Income*

Despite the very substantial flow of unemployment compensation benefits to families with relatively high incomes, these benefits are excluded from income taxable under the federal income tax. The current section shows how this exclusion disproportionately benefits higher income families. The tax saving for unemployment compensation recipients is nearly twice as high in families with incomes above $25,000 as in families with incomes under $5,000.

The decision not to tax unemployment compensation was made by the Treasury in 1938[22] under very different economic conditions. The unemployment rate was 19.0 per cent, durations of unemployment were very long and the unemployed were generally very poor. The income tax was very small and restricted to high income families: in the 1930's only 4 per cent of the total population was covered by taxable returns and the tax rate at the 1938 median taxable income was only 4 per cent.[23] Today a very small fraction of the labor force is unemployed at any time, durations of unemployment are short and, as section 3 showed, many of those with unemployment also have high incomes. The role of the income tax has also changed dramatically. By 1970 the percentage of the population covered by taxable returns had increased from 4 per cent to over 80 per cent. The tax rate at the median taxable income was over 19 per cent plus a 9.6 per cent social security payroll tax. Despite this radical change in the nature of unemployment and in the tax status of unemployment compensation recipients, the question of taxing unemployment compensation appears to have received no direct attention.[24]

To calculate the income tax savings that accrue to families because unemployment compensation is excluded from taxable income, the families in the MERGE File were cross-classified by adjusted family income, taxable income, and type of return.[25] The average taxable income was found for each category and a marginal rate of income tax based on the relevant tax table was used.[26] This marginal rate was applied to the total unemployment benefits received by families in the category to find the tax saving that resulted from excluding unemployment compensation from taxable income.[27] These tax savings were then summed to obtain the total tax saving for each adjusted family income class.

Table 3 presents the distribution of tax savings by each income class. Column 2 shows that more than one-third of the total tax savings of $856 million went to families with incomes over $15,000. Tax savings

[22]Revenue Ruling I.T. 3230, 1938-2, Cum. Bull. 136.

[23]The figures are derived from data in U.S. Bureau of Internal Revenue (1942) and Goode (1964).

[24]The more general issue of extending the tax base to a much more comprehensive definition of "taxable income" than at present has received considerable attention, e.g. Bittker et al. (1967), Pechman (1957), Pechman and Okner (1972), and Surrey (1970). The only previous estimate of the distribution of tax savings from excluding unemployment benefits (Cohen, 1973) was apparently not based on an analysis of individual data.

[25]Returns were classified as joint, single and "other." Although the "other category" includes some "surviving spouse" returns, it consists primarily of "head of household" returns.

[26]The tax rate for the open-ended categories of taxable income above $20,000 were based on a taxable income of only $20,000. This very much understates the tax savings in the highest income families. All returns that were not joint returns or single returns were treated as head of household returns.

[27]No allowance was made for (1) the effect of an increased standard deduction if unemployment compensation were included in adjusted gross income and (2) the higher marginal rate that would result in some cases when taxable income increased by the amount of unemployment benefits.

TABLE 3

DISTRIBUTION OF INCOME TAX SAVINGS FROM EXCLUSION OF UNEMPLOYMENT BENEFITS

Adjusted Family Income, Excluding Unemployment Compensation (1)	Tax Saving (millions) (2)	Tax Saving per recipient (3)	Equivalent gross compensation (millions) (4)	Equivalent gross compensation per recipient (5)	Cumulative Proportional Distributions to Beginning of Income Interval		
					All Families (6)	Tax saving (7)	Equivalent gross compensation (8)
$0—	$ 49.4	$109	$ 339	$748	—	—	—
3,000—	79.4	111	554	773	0.16	0.06	0.06
5,000—	93.9	117	650	810	0.28	0.15	0.16
7,000—	140.9	118	975	815	0.39	0.26	0.28
10,000—	89.9	116	601	779	0.53	0.42	0.46
12,000—	109.3	130	704	835	0.61	0.53	0.57
15,000—	122.2	146	727	867	0.71	0.66	0.70
20,000—	75.1	167	406	907	0.82	0.80	0.83
25,000+	96.3	201	464	970	0.89	0.89	0.90
All Families	856.4	131	5420	827	—	—	—

per family receiving unemployment benefits (column 3) rise sharply above $12,000.[28]

These tax savings suggest a different way of analyzing the distribution of unemployment benefits. Since the levels of these benefits are based on the individual's *gross wages,* it is useful to restate the benefits in terms of equivalent *gross benefits,* i.e. the amount of taxable unemployment benefits that each family would have to receive in order to have the same *net* benefits that it currently receives. These "equivalent gross benefits" are calculated in essentially the same way as the current tax savings. The distribution of equivalent gross benefits is presented in column 4; the total of $5.4 billion is approximately 26 per cent more than the total of net benefits shown in Table 2. For incomes over $20,000, the difference is approximately 37 per cent. Column 5 shows the resulting distribution of average "equivalent gross benefits" per recipient family in each income class. These average benefits rise from $748 in the lowest income class to $970 in the highest.[29]

Columns 6 through 8 compare the proportional distributions of tax savings and of equivalent gross benefits with the distribution of all families. Families with incomes under $7,000 constitute 39 per cent of all families but receive only 26 per cent of the tax savings and 28 per cent of the equivalent gross benefits.

Including unemployment compensation in taxable income would eliminate the tax loss of nearly one billion dollars and would make the distribution of net benefits progressive instead of regressive. It would also eliminate the inequity that currently arises when two identical families with the same gross income pay different amounts of tax, with the smaller tax paid by the family which did less work and received part of its income in the form of unemployment benefits.[30] Moreover, it would reduce the adverse incentives created by the current high rates of unemployment compensation. In particular, it would eliminate the current possibility that an individual can have a

[28]The total tax saving of $856 million is similar to the Treasury estimate for 1971 of $800 million.

[29]The $970 is an underestimate because of the low marginal rate assumed for this group; see footnote 26.

[30]It might be objected that this comparison ignores the fact that the family with the lower tax payment probably has a smaller income than it would in a "normal" year. While a general equity argument might be made for taxing those with temporarily depressed incomes more lightly than those who are permanently at that level, the case for this is certainly not overwhelming. The current income tax law has just the *opposite* feature; through income averaging it taxes those with temporarily increased incomes more lightly than those who are permanently at that level.

higher net income from unemployment benefits than from earnings at his customary wage rate.

Table 4 compares the net and gross tax rates implied by unemployment benefits under the current system in which these benefits are untaxed with corresponding implied tax rates if those benefits are included in federal and state taxable income.[31] Columns 1 through 3 present the mean net tax rate (i.e. unemployment benefits as a percentage of potential net earnings) and the range of tax rates among the states under the current system; these were previously shown in Table 1. Columns 4 through 6 provide the corresponding values if unemployment benefits are taxed. The differences are quite substantial. Including unemployment benefits in taxable income lowers the implied net tax rates by between one-fifth and one-fourth of their current values. For example, the mean rate for single men earning the median wage is reduced from 63 per cent to 46 per cent. The maximum for this group falls from 84 per cent to 61 per cent. For single women with median earnings, the average falls from 72 per cent to 56 per cent while the maximum falls from 95 per cent to 71 per cent. The married woman with median earnings and two dependents receives an average of 59 per cent instead of 77 per cent; the maximum falls from 109 per cent to 82 per cent. In general, the mean tax would be between 45 and 60 per cent instead of the current 60 to 80 per cent. Except for married women, the extremes are cut to between 60 and 70 per cent instead of the current 80 to 90 per cent. In short, taxing unemployment benefits would still leave quite high net tax rates

[31]For these calculations, including unemployment benefits in taxable income is equivalent to taxing them at the individual's current marginal rate.

TABLE 4

EFFECTS OF TAXING UNEMPLOYMENT COMPENSATION

Family Type and Beneficiary	Earnings Percentage of Median by Sex	Net Tax Rate: Net Unemployment Compensation as Percentage of Net Earnings*						Gross Tax Rate: Net Unemployment Compensation plus Taxes as Percentage of Gross Earnings*					
		Now			Unemployment Compensation Taxed			Now			Unemployment Compensation Taxed		
		mean	min	max	mean	min	max	mean	min	max	mean	min	max
Single Man	M = 100	63	40	84	46	29	61	74	56	90	63	49	74
Married Man	M = 100	60	43	81	48	34	67	70	57	85	61	50	74
	M = 70	69	59	87	57	48	70	76	68	90	67	60	77
	M = 130	46	31	61	36	24	49	59	46	69	51	41	59
Working Couple Man Unemployed	M = 100 F = 100	62	41	83	47	32	67	73	55	87	62	48	75
Single Woman	F = 100	72	64	95	56	50	71	79	73	96	68	63	80
Working Couple Woman Unemployed	M = 100 F = 100	77	64	109	59	50	82	84	74	106	71	63	87
	M = 100 F = 70	78	64	119	60	50	93	84	73	114	71	63	95
	M = 100 F = 130	77	64	102	58	50	72	83	73	101	70	63	82

*_Net_ unemployment compensation is now the same as _gross_ unemployment compensation. For the alternative "Unemployment Compensation Taxed", the net unemployment compensation is net of federal and state income tax at the individual's current marginal rate.

but they would be substantially below the current levels. The traditional goal that unemployment benefits should replace 50 per cent of lost wages would, at least on average, be more nearly achieved.

The final six columns of Table 4 show the effects on the gross tax rates (i.e., net unemployment benefits plus taxes as a percentage of gross earnings) of including the unemployment benefits in taxable income. The distorting effects are reduced but the changes are relatively small. For the single man with median earnings, the implied gross rate only falls from 74 per cent to 63 per cent. More generally, the average gross rates are reduced from between 70 and 80 per cent to between 60 and 70 per cent. Maximum rates for men are generally above 70 per cent. While the maximum rates for married women still exceed 80 per cent, the extreme cases of gross rates above 100 per cent are eliminated.

5. *Concluding Comments*

This paper has shown the current system of unemployment compensation entails very strong adverse incentives. For a wide variety of "representative" unemployed workers, unemployment benefits replace more than 60 per cent of lost net income. For women who are unemployed, the replacement rates are close to 80 per cent. These rates are national averages of all the states. In the more generous states, the replacement rate or "net tax rate" is generally over 80 per cent for men and over 100 per cent for married women.

The "gross tax rates," i.e. the ratio of unemployment compensation plus taxes as a percentage of gross earnings, are typically higher than the net tax rates. A married man who normally has median earnings has a gross tax rate of 70 per cent: his additional net earnings are only 30 per cent of his gross wage. Because of employer payroll taxes and personal excise taxes, the total distortion between marginal social product and net real wage is even greater. Again, 70 per cent is an average. In the more generous states, the implied gross tax rates are usually above 85 per cent and, for low wage married workers and for those with large families, typically exceed 100 per cent.

A program with such large adverse incentives is likely to distort substantially the allocation of resources.[32] The only justification for such allocative inefficiency would be that the program achieves important distributional objectives.[33] It is therefore very significant that only a small fraction of benefits go to low income families. The benefits are distributed quite uniformly among income classes with somewhat less than a proportional share going to the lowest income groups.

Including unemployment compensation in taxable income would reduce the adverse incentives and direct a larger share of the total net benefits to families with lower incomes. It would also end the current inequity of a tax system that, at each income level, taxes earned income more heavily than the unemployment benefits received without working. However, it is clear that even if unemployment benefits were included in taxable income, the current system of unemployment compensation would still imply quite high net and gross tax rates.

This is not the place to consider the range of possible reforms of unemployment compensation. The size of the unemployment compensation program and its potential impact on the economy make this an important task for future research.

[32]For a discussion of the forms of distortion and some very rough estimates of the possible magnitudes of the effects, see section 5 of Feldstein (1973).

[33]The argument that unemployment compensation reduces unemployment because it automatically increases government spending when unemployment rises is largely irrelevant. The same fiscal stimulus could be provided by other expenditure increases or tax cuts on either a discretionary or formula basis. The primary effect on aggregate unemployment of our current system of unemployment compensation is not its contribution to aggregate demand but its adverse impact on the incentives of employees and employers.

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