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PARTIAL BENEFIT SCHEDULES IN UNEMPLOYMENT INSURANCE:
THEIR EFFECTS ON WORK INCENTIVE

Raymond Munts

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PARTIAL BENEFIT SCHEDULES IN UNEMPLOYMENT INSURANCE: THEIR EFFECT ON WORK INCENTIVE

Raymond Munts

The author is Professor of Social Work and a staff member of the Institute for Research on Poverty, University of Wisconsin. This study was supported with funds granted to the Institute pursuant to the provisions of the Economic Opportunity Act of 1964.

ABSTRACT

A person applying for unemployment insurance must show in various ways that he is in the work force. In addition he must be unemployed, though he need not be totally unemployed. If not altogether without work and if his earnings are below specified levels, he will qualify for partial benefits.

States differ considerably in their schedules of partial benefits. The great variation in how much the benefits are reduced with each increase in weekly earnings provides an opportunity to study the effects of partial benefit schedules on work behavior.

The analysis used is borrowed from studies of marginal tax rates. Since a worker's income from both unemployment benefits and earnings is changed by each earned dollar minus the amount of the benefit reduction, the dollar earned is worth something less than that to him. The amount that benefits are reduced for each dollar of increased earnings can be understood as a marginal tax on his earnings. The economic hypothesis is that work disincentive varies with this marginal tax rate.

The evolution of state partial benefit schedules leaves the distinct impression that incentive effects have been ignored or at least subordinated to administrative convenience and to outmoded concepts of what constitutes compensable unemployment. Most states use combinations of zero and 100 per cent marginal tax rates. Only three use a rate that falls between these extremes. A large number of states discontinue all benefits abruptly at some point, which is equivalent to applying an infinity marginal tax rate. Three states use switchback combinations of zero and infinity rates.

One reason states have ignored incentive effects is the lack of hard evidence that workers do have the opportunities to adjust their work week precisely enough to maximize their position. Such evidence has now become available in a sample of partial payments taken among Wisconsin beneficiaries. It shows that the structure of marginal tax rates does in fact affect the worker's attitude and work performance. Considered as a group, they apparently know from the schedule how to maximize their income with the least work. They are motivated to behave accordingly, and they have the necessary freedom to make the appropriate work arrangements. This economic behavior is apparently more consistently followed by workers among the lower paid occupations than those who are usually in higher paying positions.

These findings call into question the structure of partial payments as now applied in Michigan, Nebraska, and Wisconsin. In these states the administrative savings achieved through simplicity may be overshadowed by higher total benefit payments following as a result of severe disincentives built into the partial payments schedule.

Perhaps more significantly, these findings add to a growing body of evidence suggesting that the treatment of earnings under welfare and social insurance plans is one determinant of the beneficiaries' work experience.

PARTIAL BENEFIT SCHEDULES IN UNEMPLOYMENT INSURANCE: THEIR EFFECT ON WORK INCENTIVE

Introduction

Under state unemployment insurance laws, benefits are payable even while one receives earnings from part-time work. Depending on the amount of these earnings, the benefits remain the same or are decreased. Each state has a partial benefit schedule that establishes how this is done and there is considerable variation in these schedules among the states. The purpose of this investigation is to estimate the effect of these schedules on work incentive.

Do partial benefit schedules act to encourage or to discourage the search for work? Are workers actually influenced in their attitudes by the penalties built into the benefit schedules? Can they in fact manage their part-time work effort to take advantage of peculiarities in the schedules?

The conclusion reached is that workers can and do adjust their part-time work to serve their interests under these schedules. How they do this is not known. We do not know, for example, whether employers knowingly assist and if they do, to what extent. But just the fact that the amount of work can be adjusted has important

implications for the structure of benefit schedules. This is significant for states' laws where severe disincentives have been built into the schedules, and which are, therefore, inappropriate in a program that has always included a work test and emphasized the primacy of work incentives.

Total partial payments have varied from $100 million to $161 million annually from 1961 to 1967. While this is only 5 to 6 per cent of total benefit payments, there is considerable variation between states--from 2 percent in the lowest to 19 per cent in the highest. The savings potential of a more rationally structured system of partial payments cannot yet be estimated, but a benefit schedule that discourages work may be a costly feature for some states.

Marginal Tax Rates

The concern of this study is with a particular kind of work incentive question. Any cash transfer plan such as unemployment insurance may touch the beneficiary's motivation to work in different ways. One of these is the benefit formula used to calculate the amount of his entitlement from his previous earnings record. Another is the manner in which the program is administered and particularly whether there is a work test and how it is applied. But the interest here is only with the effect on work behavior when benefits are adjusted to changes in concurrent earnings. This focus is at the margin where earnings replace benefits in whole or in part. If an increase in earnings is

accompanied by a decrease in benefits this is a kind of "tax" against the additional earnings. We can use the analysis applied for studying the effects of positive tax rates on work incentive.

Some work has been done along these lines in other social security programs, for example, in public assistance. Assume the following benefits-earnings schedule:

Earnings	$ 0	10	20	30	40	50	60	70	80	90	100
Benefit	100	90	80	70	60	50	40	30	20	10	0
Net Income	100	100	100	100	100	100	100	100	100	100	100

The basic benefit of $100 is reduced by the amount of any concurrent earnings so that the net income is always $100. This reduction of $1 in benefits for each $1 of earnings amounts to a 100 per cent tax on earnings leaving no incentive to work. Until recently this situation characterized public assistance plans.[1]

Consider now another schedule:

Earnings	0	10	20	30	40	50	60	70	80	90	100
Benefit	100	100	100	93	86	79	72	65	58	51	44
Net Income	100	110	120	123	126	129	132	135	138	141	144

Earnings	110	120	130	140	150	160	170
Benefit	37	30	23	16	9	2	0
Net Income	147	150	153	156	159	162	170

(continued)

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[1]See Leonard J. Hausman, The 100% Welfare Tax Rate: Its Incidence and Effects, unpublished Ph.D. dissertation, Univ. of Wisc., 1967.

Here there is no reduction in benefits for the first $30 of earnings and only a $7 reduction for every ten dollars of earnings above that amount. The "tax" rate is zero for the first $30 and 70 per cent thereafter. This is close to the situation required by the 1967 Public Assistance Amendments (which is zero per cent on the first $30 and 67 per cent thereafter) to which state programs are now being adjusted. The hope is that this will discourage work less than the 100 per cent confiscatory tax rate.

When benefit-earnings schedules become complex, a diagrammatic presentation helps to conceptualize them. The technique can be illustrated by putting the two schedules above in this form (Diagrams 1 and 2). The dark line shows how earnings measured on the horizontal axis are related to net income as measured on the vertical axis. For any given amount of earnings, read up to the dark line; this vertical distance is the amount of net income. Net income will be composed of two parts: earnings (below the diagonal) and benefits (above the diagonal). The diagonal is a simple identity marker to indicate that earnings measured vertically equal earnings measured horizontally.

The slope of the income function--the dark line--indicates the marginal tax rate on earnings. A horizontal function indicates that benefits are reduced by the amount of earnings, a 100 per cent tax rate. A diagonal line indicates benefits are not reduced at all as earnings increase, a zero per cent tax.

Use of the diagrammatic representation will facilitate explanation of the variations in partial benefit schedules in

DIAGRAM 1

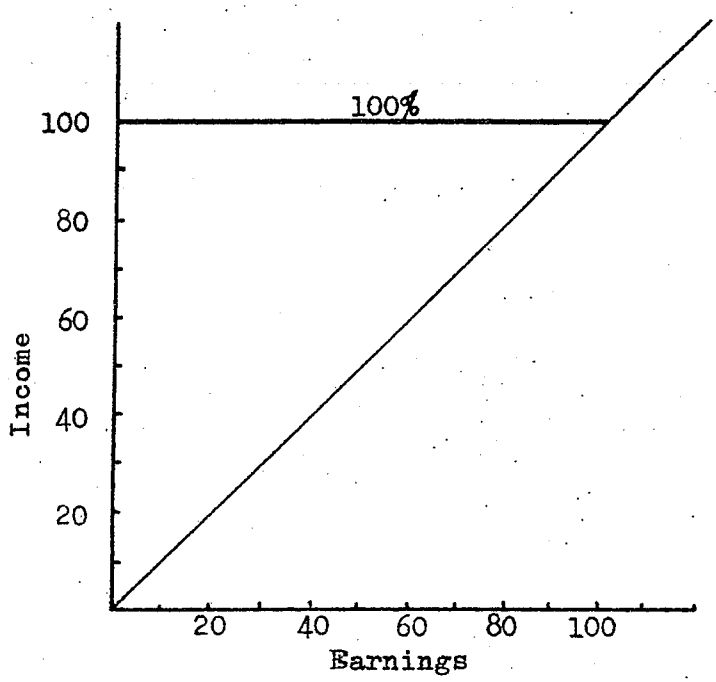
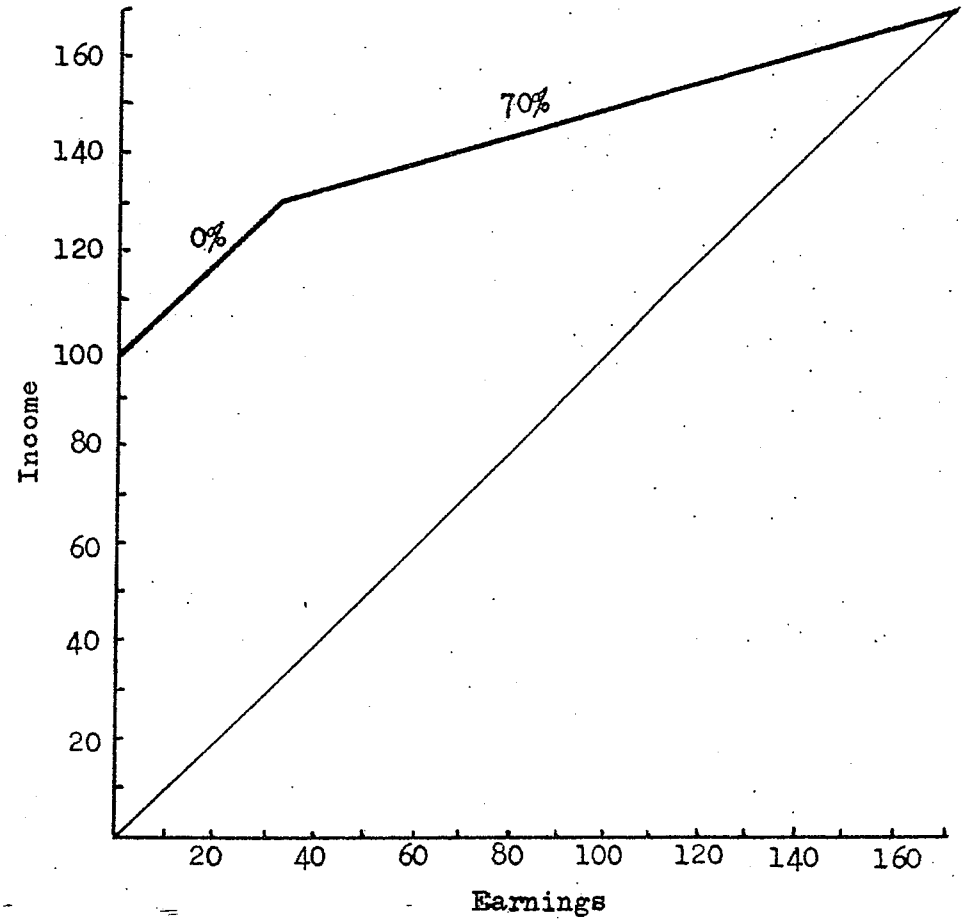


DIAGRAM 2



unemployment insurance laws. Before proceeding to these, however, it is worth looking at old age insurance benefits as they are affected by earnings.

Disincentives in Old Age Insurance

Under the "retirement test" in old-age insurance, the first $1,680 of earnings is exempt from any benefit reduction, a zero tax rate. The next $1,200 of earnings brings a reduction of fifty cents of benefits for each dollar of earnings, a 50 per cent tax rate. After $2,880 of earnings, benefits are reduced $1 for each $1 of earnings until all benefits are phased out, a 100 per cent tax rate. These marginal tax rates on earnings of 0, 50, and 100 per cent are illustrated in Diagram 3.

The impact of these differing tax rates on the work behavior of the aged has been studied by Sander. He used data from an earlier period when the breaking points were at lower amounts of earnings, but the conclusions probably apply to the current schedule since the "shape" of the schedule is the same. He shows a significant group of beneficiaries just under the earnings amount where the tax changes from 0 to 50 per cent. This change--to work for fifty cents on the dollar--appears to discourage additional work even though a person could maximize his income from benefits and earnings combined at a higher level. Apparently so far as the aged are concerned, the 50 per cent rate is an effective disincentive. At the point where the 100 per cent marginal tax begins, the grouping is barely observable even though it is

there that additional earnings produce no additional income. It would seem that those who want to hold down their total earnings are more likely to do so at levels well below where the tax becomes confiscatory.[2]

What marginal tax rates would adversely affect the work effort of the working population? This is the subject of a work incentive experiment currently being conducted in New Jersey.[3] It is designed to produce data for estimating response to different "tax" rates and benefit payments of individuals with varying kinds of attachment to the labor force.

The unemployment insurance program can generate data on incentive effects, but a survey of informed sources by the author in the fall of 1967 found no such data had been developed. Such a study was subsequently undertaken by the State of Wisconsin. Before summarizing those results, it will help to look at some different patterns in the state laws.

Marginal Rates in Original Statutes

It is paradoxical that for all the attention to work incentive in unemployment insurance, the role of partial payments has been

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[2]Kenneth G. Sander, "The Retirement Test: Its Effect on Older Worker's Earnings", *Social Security Bulletin*, Vol. 31, No.6 (June, 1968).

[3]Harold Watts, *Graduated Work Incentives: Progress Toward an Experiment in Negative Taxation*, Institute for Research on Poverty, University of Wisconsin, Discussion Paper 34-69.

virtually ignored. The program's legislative history abounds with suggestions for encouraging beneficiaries to look for suitable work and for stimulating employers to provide that work. The vitality of the work test is under continuous scrutiny. Eligibility and disqualification issues are frequently subjects for the yellow press. But because they are not understood or because there has been no hard evidence, the disincentives of partial payments has largely escaped attention. This has been true since the beginning of the state laws in the 1930s.

As with other benefit matters there are no federal requirements and each state sets its own benefit-earnings schedule for partial unemployment payments. Rather than describe these state by state, they will be typified by major characteristics, beginning with the simpler approaches and proceeding to the more complex. In a general way, this is also the sequence of historical development.

The starting point is the original laws in six states where any earnings at all were used to reduce benefits dollar for dollar. An example is shown in Diagram 4 where $25 is the amount of the weekly benefit for total unemployment. Benefits are reduced by the amount of earnings until all benefits are phased out when earnings reach $25. This equality between the amount of benefits for total unemployment and the amount of earnings that terminates any benefit is a consequence of a 100 per cent marginal tax.

Hereafter we shall call the weekly benefit amount for

total unemployment the "weekly benefit rate"[4] and designate it R on the vertical axis. On the horizontal or earnings axis there is a point at which the claimant's weekly earnings are just high enough that no compensable unemployment exists, designated by a slashed U (Ø). In these six original laws, R = Ø. The significance of this equality, as we shall see, is that it has been continued when it was no longer appropriate.

Except for these six states, all the others originally disregarded some earnings before reducing weekly benefits. The purpose was to simplify benefit calculations and to provide some incentive for a beneficiary to accept minor or temporary jobs. Some states (13) disregarded $2 of earnings before reducing benefits. Others (28) disregarded an amount of earnings equal to one-fifth the weekly benefit rate.[5] Both cases can be illustrated by Diagram 5 where E is the amount of earnings disregarded.

When some earnings are disregarded the definition of partial, compensable, unemployment has to be changed in order for there to be a smooth phasing out of benefits. Compensable unemployment must continue until earnings equal the weekly benefit rate plus the disregarded earnings, i.e., Ø must equal R plus E. But some

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[4]"Weekly benefit rate" is a less widely used term than "weekly benefit amount for total unemployment" but it is preferable in a discussion of partial benefits. "Weekly benefit rate" cannot be confused with the "weekly benefit amount" paid for partial employment.

[5]William Haber and Merril G. Murray, *Unemployment Insurance in the American Economy* (Homewood, Ill.: Richard D. Irwin, Inc., 1966), p. 111.

DIAGRAM 3

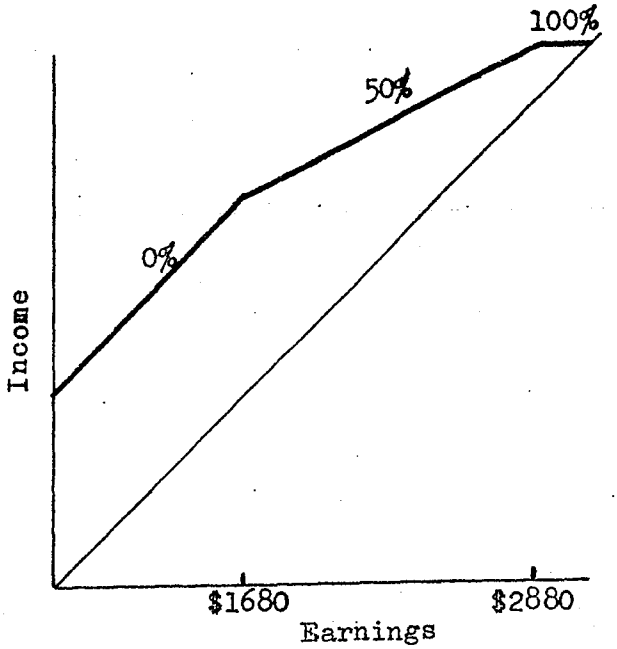


DIAGRAM 4

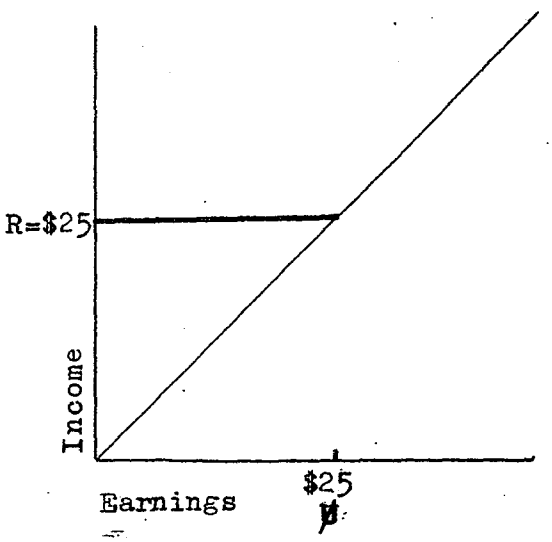
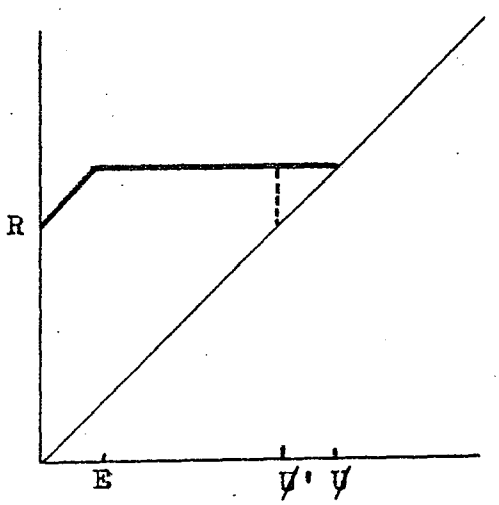


DIAGRAM 5



states simply terminated any remaining benefits when earnings reached the amount of the weekly benefit rate only, marked on the diagram as $\not{B}'$. This leads to an abrupt discontinuance rather than a smooth phasing out of benefits. It establishes points at which the tiniest increment in earnings cancels any remaining entitlement. If these abrupt discontinuities were not so frequent they could be regarded as oddities. Discontinuities appeared in some of the original laws and have since been added to others.

Marginal Rates in Current Statutes

Since the original enactments of the middle thirties, benefit amounts have been raised. Relative to these increases, the amount of earnings disregarded for partial benefits have been increased even more[6], but the general concepts for handling partial benefits have varied little. An extensive use of 0 and 100 per cent tax rates on earnings still continues, and thirty-three states today have the discontinuity in their schedule that abruptly terminates all remaining benefits when earnings reach the weekly benefit rate. The reason for this in some cases is oversight. When disregarded earnings were added, the states failed to redefine partial or

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[6]Twenty-nine states specify a dollar amount of earnings to be disregarded, from $2 to $20 depending on the state. Others specify some fraction of the weekly benefit rate as the amount of earnings to be disregarded, and still others use some combination of both approaches. See Comparison of State Unemployment Insurance Laws, U.S. Department of Labor, BES No. U-141, p. B-15.

compensable unemployment. Given the length of time these provisions have been kept in the statutes, the more general explanation must be a desire to hold down total benefit payments by stopping any payments where earnings exceed the weekly benefit rate. But may this not be a false economy? The continued prevalence of the early 100 per cent confiscatory tax rates and the discontinuities themselves may discourage work and be more costly than the saving sought.

There are only three states that have used marginal tax rates between zero and 100 per cent at some points in their schedules. South Dakota uses a 50 per cent tax rate on earnings up to half the weekly benefit rate, and then 100 per cent; Kentucky uses an 80 per cent rate on all earnings until they equal the weekly benefit rate; Connecticut uses a 66 2/3 per cent tax rate. These are shown in Diagram 6. The fact that only these states have tried other rates suggests that there is more inertia than experimentation going on in the state "laboratories." To our knowledge, no effort has been made to analyze the performance of the partial benefit schedules in these three states compared to others. For comparable claimants, would they show higher earnings?

Early approaches have been taken to extremes. To illustrate, we will look at the seven states that have gone furthest with the untaxed or disregarded earnings. North Carolina and Alaska permit one to earn an amount up to half his weekly benefit rate with no reduction in benefits, then apply a 100 per cent tax rate to phase out the rest

of the benefits. Partial unemployment here is defined as earnings below 1 1/2 times the weekly benefit rate.[7] The jurisdiction that goes furthest with untaxed earnings is Puerto Rico which puts no tax on earnings up to the weekly benefit rate and then abruptly discontinues all benefits. Only one benefit amount is paid--the full benefit rate for total unemployment.[8] This is shown in Diagram 8.

The search for administrative simplicity is apparent in the laws of Michigan, Nebraska, and Wisconsin, illustrated in Diagram 8. In these states, the beneficiary receives the full benefit rate, half of the rate, or no benefit at all depending on weekly earnings. Earnings up to half the weekly benefit rate are disregarded and the claimant gets the full weekly benefits. If his earnings are less than his benefit rate but at least half of it, he gets one-half the benefit rate.

Until this point, we have referred to the abrupt cancellation of benefits with a small increment in earnings as a "discontinuity." In the Michigan, Nebraska, and Wisconsin laws, we see discontinuities built into the program in large scale and with a double thrust. It is no longer any accident or oddity at the end of the schedule. It is a conscious tool of policy at both the end and at the middle.

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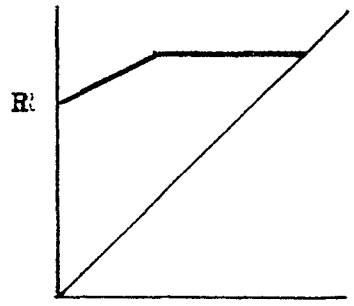
[7]The Alaska formula ignores 1/2 the weekly benefit rate (the "basic" rate exclusive of dependent allowances) or $10 whichever is greater. North Carolina requires that the work week be less than three customary scheduled full-time days as a condition of unemployment to exist.

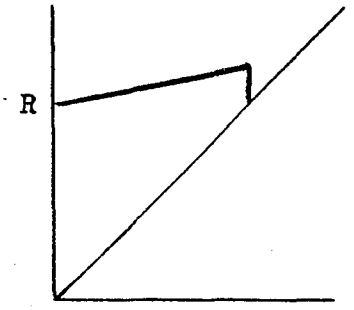
[8]It is true that in Montana the only benefit paid is the rate for total unemployment, but earnings have to be less than $15 a week before any benefit is paid. This almost dismisses the concept of partial unemployment altogether.

DIAGRAM 6

South Dakota



Kentucky



Connecticut

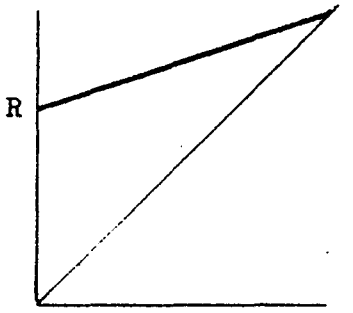
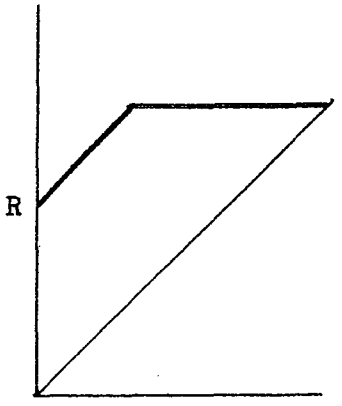


DIAGRAM 7

Alaska,
North Carolina



Puerto Rico

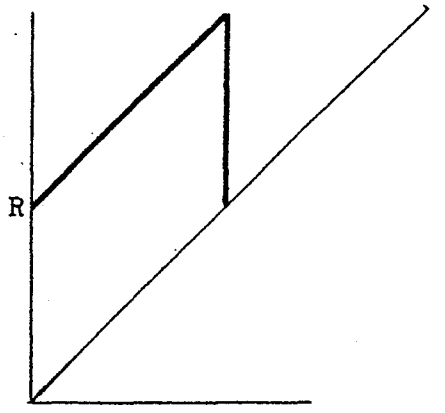
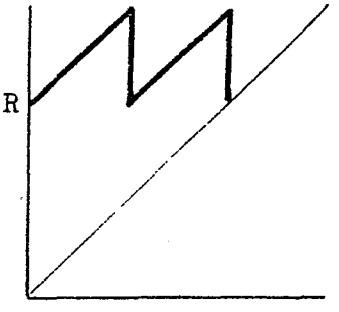


DIAGRAM 8

Michigan,
Nebraska,
Wisconsin



A new term seems appropriate to this level of significance.

A term is suggested by a close look at what occurs at these important turning points. At two different points, the worker at the maximum weekly benefit rate loses $31.99 in Wisconsin and $37.99 in Michigan with a one cent increase in earnings. In economic terms these are marginal tax rates between 3,000 and 4,000 per cent. Except for the indivisibility of the penny they would approach infinity per cent. For analytical purposes, it is justifiable to refer to them as infinity marginal tax rates.

The explanation for a system of switchbacks between zero and infinity marginal rates as practiced in these three states is administrative simplicity. Once the weekly benefit rate is determined, all subsequent payments are either that amount, half of it, or nothing.

Disincentive Effects of Infinity Tax Rates

Has not this concern for administrative simplicity obscured important incentive questions? The Wisconsin, Michigan, and Nebraska laws are two peaked combinations of zero and infinity marginal rates, with the maximum income at the top of the peaks. An economic hypothesis suggests that claimants would try to adjust their earnings to fall at the top of these peaks. Further, since only half as much work would be required to maximize income at the first peak, the heaviest grouping of individuals would be at the first peak with a relatively slighter grouping at the second peak.

Evidence comes from analysis of checks paid for weeks

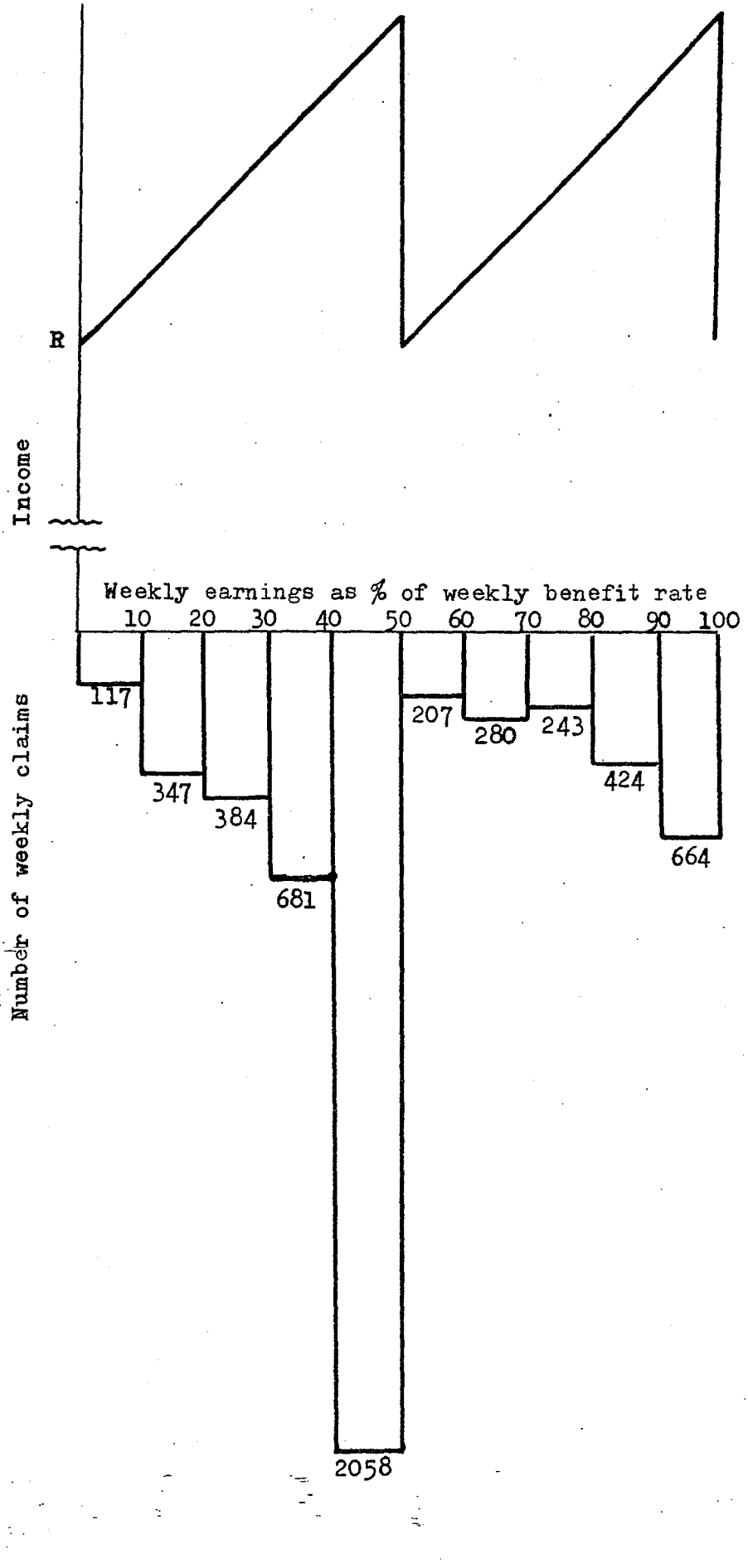
of partial unemployment in Wisconsin in 1967. A five per cent sample produced 5,435 weekly payments from 2,119 individuals, whose weekly benefit rates varied from $11 to $59, this being the maximum allowable in that year. Each claim was tabulated by weekly benefit rate and earnings for that week, by $1 increments. To simplify the presentation without obscuring central tendencies, the earnings have been converted from dollar amounts to percentages of the weekly benefit rate. The distribution is summarized in Table I.

The data clearly shows many more claims paid out at the peaks and a comparatively larger number at the first peak. The clarity of this pattern is indisputable confirmation of the disincentive hypothesis. The unemployed see which combinations of earnings and benefits will maximize their income with the least effort. Apparently the structure of the schedule is known to them, they are motivated to behave accordingly, and they actually have the necessary freedom to make the appropriate work arrangements. Of course, this generalization refers to a large number of people, some of whom do not or cannot behave in this way but more of whom do.

Is the disincentive effect of the Wisconsin partial benefit schedule the same for all classes of wage and salary earners? We can distinguish between these classes on the basis of their weekly benefit rates which reflect one's earnings classification when he is fully employed. (The weekly benefit rate in Wisconsin is set at approximately one-half one's full time earnings in a

TABLE 1

Number of Weekly Benefit Payments by Weekly Earnings as Percentage of Weekly Benefit Rate



previous "base year" or it is set at the state-wide maximum, whichever is lower.) By grouping the data according to the weekly benefit rate, it is possible to test the disincentive hypothesis by occupational classes. This is the purpose of the presentation in Table 2. By reading across the table, the disincentive effects of the infinity tax rates can be seen to affect all groups. But it should be noted that the higher paid classes are more likely to group at both the second and the first peak, whereas lower paid workers group mainly at the first peak.

What accounts for this different reaction of higher paid workers to economic incentives? Why do they not prefer the first peak where half as much work produced the same net income? Are they more honest in reporting earnings? Are there more primary family earners with more commitment to and status from their employment? Do the two peaks fall at particular breaks in the work week, such as one and two days particularly, for some proportionately large group of factory workers--autoworkers for example? Are the lower paid workers freer to set their work week because their partial employment is largely with other than their normal employer? These questions bear further investigation.

The Policy Decisions

The objective in scheduling partial benefits should be to minimize disincentives within a reasonable range of cost. Of course, this has to be consistent with administrative feasibility.

The devices for minimizing disincentive are (1) to disregard

Table 2

NUMBER OF WEEKLY PAYMENTS BY WEEKLY BENEFIT AMOUNT AND WEEKLY EARNINGS, 5% SAMPLE OF BENEFITS PAID FOR PARTIAL UNEMPLOYMENT, 1967, WISCONSIN

Weekly Benefit Rate ($)	Earnings as a Percentage of the Weekly Benefit Rate										Totals	
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	Wkly payments	Beneficiaries
59 only	48	148	153	257	944	76	123	84	257	472	2562	909
56-58	5	57	18	60	385	27	38	17	20	57	684	340
51-55	5	37	28	64	240	22	12	12	24	30	474	203
46-50	15	10	49	64	86	11	19	6	10	9	279	92
41-45	23	35	27	43	55	12	3	13	15	31	257	103
36-40	1	7	16	32	63	7	27	41	27	29	250	109
31-35	7	24	27	56	38	16	13	27	27	4	289	104
26-30	11	9	41	66	83	5	15	26	30	10	296	127
21-25	2	10	25	14	70	16	17	7	12	9	182	87
16-20	0	0	0	24	22	5	8	10	2	11	82	29
11-15	0	10	0	1	22	10	5	0	0	2	50	16
Total	117	347	384	681	2058	207	280	243	424	664		

Source: Bureau of Reports and Analysis,
Unemployment Compensation Division
Department of Industry, Labor and Human Relations
State of Wisconsin

some earnings; (2) to use low marginal tax rates, and (3) to avoid severe discontinuities in the schedules.

The key constraint lies in the limitations of unemployment insurance to pay benefits only when one has lost his normal full time work. To the extent that state statutes in fact compensate workers for one-half their weekly wage loss, a partial benefit schedule must not phase out above twice the weekly benefit rate.[9] Otherwise the program becomes a wage subsidy as well as unemployment compensation. Even if the point where benefits are completely phased out ("$\emptyset$" in our earlier discussion) were set at exactly twice the weekly benefit rate there could be problems, for example, during a wage cut. To avoid interference of this sort with wage determinations, the Department of Labor recommends tapering out the partial schedule at the point where earnings equal 1 1/2 times the weekly benefit rate.[10]

This limitation severely constrains the extent to which the marginal tax rate can be reduced. Assuming no disregarded earnings and a single tax rate throughout, the point at which benefits are phased out determines the tax rate. If $\emptyset$ = 1.5 times the weekly

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[9]Given the low levels of state maximum benefit amounts, this constraint is not in fact pressing at the present time except for lower paid workers. Only when the maximum benefit is at 60 per cent or more of average weekly wages in a state can the great majority of covered workers expect half-of-wage-loss replacement. Only two states meet this test. Therefore only the lower paid workers in most states would run afoul such a long partial benefits schedule.

[10]See *Unemployment Insurance Legislative Policy: Recommendations for State Legislation* (BES No. U-212-A, October 1962), pp. 12-16, and pp. A-3 to A-15.

benefit rate, the tax rate must be 66 2/3 per cent. If $\emptyset$ = 1.75 times the weekly benefit rate, the tax must be 57 per cent. If $\emptyset$ = 2.0 times the benefit rate, the tax will be 50 per cent.

Another approach is to have two rates. This is done in many states, as noted above. But usually they have used zero per cent for the first stage and 100 per cent for the second stage. Better alternatives are available.

First a decision has to be made whether a progressive schedule with lower rate first is to be preferred over a regressive one with the lower rate last. The regressive schedule may help to "launch" a partially employed worker off unemployment insurance altogether, providing he gets past the higher disincentives at the beginning. They also cost less for the overall tax rate. For administrative convenience, progressive schedules beginning with zero rates have been more widely used since they require no accounting for small amounts of earnings. But the issue is a more open one than present practice would lead one to believe.

If we assume that a progressive schedule is desired, then what are the choices? Tax rates for the first stage can range widely, from zero to 50 per cent or higher. However, a little experimenting will disclose that it is difficult to avoid a high rate at the second stage. Where $\emptyset$ = 1.5 R, it is almost impossible to have the second tax rate at less than 80 per cent. If $\emptyset$ = 1.75 R then the second stage rate can be dropped but not below 70 per cent.

These relationships are illustrated in Diagram 11.[11]

Should the break points in a two stage schedule be expressed as a proportion of the individual's weekly benefit rate, or should it be at the same dollar amount of earnings for all claimants? The proportionate approach is illustrated in Diagram 10. Here the different tax rates are equally distributed for higher paid and for lower paid claimants; a sort of neutrality is achieved. Furthermore changes are not necessary as wage levels and benefit levels rise in the future. That is, the principle observed cannot be outdated by economic change.

The breaking point as a flat dollar amount is shown in Diagram 11. Can any advantages be claimed for it? We noted in the Wisconsin partial payment data that higher-paid workers seemed to be less adversely affected by disincentives than lower paid workers. If true, that is an argument for a progressive schedule with a flat dollar breaking point. Higher paid workers would be exposed more to the higher disincentive rate; lower paid workers to the lower disincentive rate.

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[11] Where two rates are used the length of the first earnings segment and thus the breaking point can be found by solving the following equation for E:

$$R + (1 - T_1)E = 1\ 1/2R - (1 - T_2)(1\ 1/2R) + (1 - T_2)E$$

where R equals the weekly benefit rate
T_1 the first marginal tax rate
T_2 the second marginal tax rate, and
E the amount of earnings at the breaking point.

If a different phasing out point is desired than 1 1/2R, it should be substituted in the formula.

DIAGRAM 9

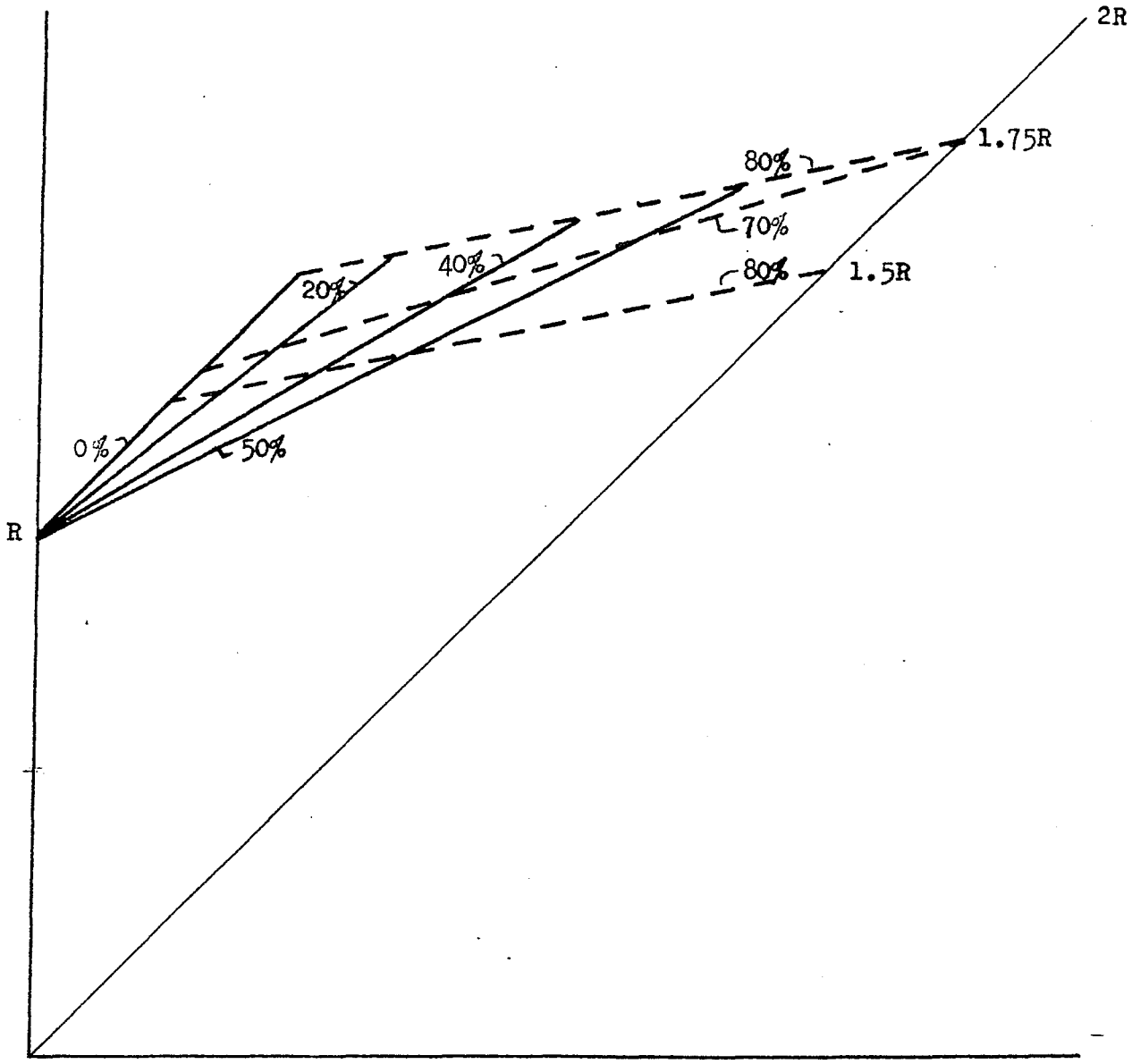


DIAGRAM 10

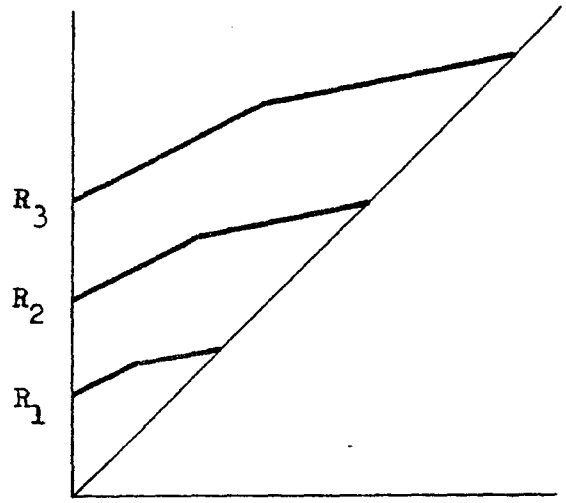
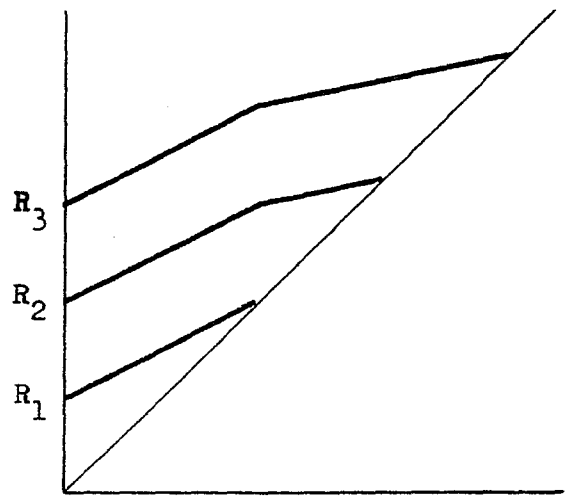


DIAGRAM 11



Finally, however, we must ask whether the complications of the two-rate schedule are really worthwhile. Are the low rates achievable in the first stage worth the high rates necessary in the second stage? Will the breaking point act as a restraining signal? Is it better, as well as simpler, to have only a single rate, between 57-67 per cent? Only comparable data under these variations can answer the question. Until it is known what savings can be realized from minimizing the disincentive effects, total costs of the alternatives cannot be estimated.

Conclusion

It is not yet possible to indicate precisely how partial benefit schedules should be constructed. Nevertheless, we have enough information to question certain existing practices. Those in particular are: the use of 100 per cent marginal tax rates and the abrupt cancellation of all remaining benefits with a small increment in earnings (infinity marginal tax rates), and the use of switchbacks between zero and infinity rates as practiced in Michigan, Nebraska, and Wisconsin, leading to calculated behavior by the beneficiaries that is contrary to the spirit of the program and not worth the gains in administrative simplicity. Outmoded definitions of partial unemployment also create infinity marginal rates and should be revised. This can be accomplished by defining compensable unemployment as earnings below 1.5 times or 1.75 times the claimants weekly benefit rate.

The analysis of disincentive effects from marginal tax rates is being studied in public assistance, in old age insurance, and in proposed guaranteed income and negative tax plans. The same subject deserves further study in unemployment insurance, particularly by comparing experience between states with different marginal rate structures. It would also be useful to investigate different responses to disincentive among persons of varying wage and occupation levels.