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ABSTRACT

Effects of variations in the structure of targeted employment subsidy programs on the attainment of program objectives are explored in this paper. First, the objectives that underlie targeted subsidy programs are outlined in relation to individual program characteristics and the economics of such programs are discussed. Then the wide range of program options available is examined. Among the variations considered are number and characteristics of employees covered, types of employment subsidized, mode of subsidy payment, and levels of employment or employment changes on which the subsidy will be paid. Also considered is the question of whether there should be a cap on the amount of subsidy one firm can obtain. Finally, the recently legislated Targeted Jobs Credit (TJC) program is described and evaluated, and recommendations for the future evolution of this and the New Jobs Tax Credit (NJTC) program are offered. Following the paper is a critical commentary concerning labor market economics by Daniel S. Hamermesh. (Author/GC)

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John Bishop and Robert Haveman*

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TARGETED EMPLOYMENT SUBSIDIES: ISSUES OF STRUCTURE AND DESIGN

For both micro-economic and structural reasons, targeted (or selective) employment subsidy programs have attracted substantial attention in the U.S. As subsidy programs, they tend to be expansionary. By targetting their impact on certain groups of workers, they tend to mitigate the high unemployment or low labor force participation rates of certain age, race, and sex groups. As a further bonus, they reduce marginal costs and, hence, tend to reduce upward price pressures.

Targeted employment subsidy programs come in a wide variety of forms. They can vary in terms of the employees covered, the characteristics of the employment subsidized, the mode of subsidy payment, the types of employers eligible for the subsidy, and levels of employment or employment changes on which the subsidy will be paid. Variations in each of these components will influence how any program will affect the performance of the economy--affect the objectives for which the program was designed.

This paper will explore the effect of variations in program structure on the attainment of objectives. In Part I, the objectives which underlie targeted employment subsidy programs will be distinguished. Having set down these goals, we explore the ways in which a variety of program characteristics can affect these objectives. The discussion of the economics of targetted subsidy programs is presented in Section II. In Part III, we identify the wide range of program options. Parts IV - IX systematically appraise these options, and their effect on the objectives--types of employee categories in Part VIII, types of employer categories in Part IX. Part X discusses whether there should be a cap on the amount of subsidy one firm can get, and Part XI deals with a few administrative issues. In effect, the discussion in these sections can be thought of as a matrix in which the effects of a variety of program characteristics on a variety of objectives can be scored. In Part XII we describe and evaluate the Targeted Jobs Credit (TJC) program recently passed by the Congress. The final section makes recommendations for the future evolution of the TJC and New Jobs Tax Credit (NJTC) programs.

I. OBJECTIVES OF TARGETED EMPLOYMENT SUBSIDIES

As in many policy areas, the objectives set for targetted employment subsidies are numerous. In our view the following list includes the most important of them. They are not listed in order of importance.

Increase Aggregate Employment and Output Without Causing Inflation to Accelerate

High and persistent unemployment in the face of substantial inflation has characterized the recent situation in many western industrialized countries. Standard aggregate demand measures for employment are viewed with skepticism because of the danger that they will accelerate inflation. Unemployment seems to remain at unacceptably high levels even when labor markets are tight and rates of wage increases are accelerating.

In such an environment noninflationary increases in employment and output can be achieved only by stimulating an increase in aggregate supply (i.e., increasing the supplies of factors of production or the efficiency of their use). Measures such as categorical employment incentives that bring into regular employment workers who would not otherwise have jobs and give them the training and experience necessary for them to become regular workers should produce noninflationary increases in total employment and output. How targeted employment subsidies may bring this about is discussed in Section II.

Reduce the Cyclical Instability of Employment

Employment incentive schemes tend to generate the most interest and support during cyclical downswings in economic activity. Employment subsidies are potentially a very powerful tool for changing the timing of a firm's demand for workers. When they are temporary, they create strong incentives for the firm to train new workers, engage in preventive maintenance and accumulate finished goods inventory before the subsidy expires. If the subsidy is initiated and repealed at the correct phase in the business cycle and the subsidy is simple and salient enough for businessmen to respond to swiftly, employment instability can be reduced. If, however, the government's timing is off or a permanent program of the wrong design is put in place, employment instability could increase.

Alter the Distribution of Employment Opportunities

The pattern in which the costs of inadequate economic performance in the U.S. are shared is not a pleasant one. The unemployment rates of certain demographic groups--e.g., blacks and youths--are very high and behind each of these high unemployment rates lies a pool of discouraged workers--nonlabor force participants who would look for employment if they thought there was much chance of finding it. Through categorical employment subsidies targeted on these disadvantaged workers the composition of nonemployment can be altered so as to reduce the heavy burden which now falls on them.

In Western European countries, employment subsidy arrangements are often mechanisms for assisting depressed regions or industries. In these cases, the objective is not only to alter the occupational or skill level composition of employment in the economy, but also its regional composition. The potential economic rationales for such policies are (1) that poor regions typically contain large reservoirs of underutilized resources, and/or (2) targeting on poor regions is preferred over targeting on poor people because it avoids the stigma and disincentive effects of welfare programs. Generally, however, the rationale for regional employment subsidies is political rather than economic.

Minimize the Public Budget Cost Per Job Created

The issue here is one of leverage. Can the use of employment subsidies targeted on certain sectors or demographic groups yield employment increases at less public cost than, say, a general expansion of aggregate demand? Because certain demographic groups and regions are already supported by public sector grants and transfers, there is some expectation that employment subsidies targeted on them will reap some offsetting reductions in public spending. Earned income will be substituted for transfer and grant income. Moreover, if the employment subsidies targeted on these groups are more cost effective in generating employment increases than other measures, the increase in tax revenue per dollar of program cost will be greater than in these measures, which will also lower the net cost.

Reduce Factor Use Distortions in the Economy Without Creating Major New Ones

Leaving aside the effects of government policy for a moment, there are a number of reasons for believing that market imperfections exist which induce employers to demand less of certain categories of workers than they would demand otherwise. It has been suggested by some that tastes for discrimination, information problems, uncertainties in dealing with fluctuating demands, work against the provision of regular employment for low skill workers.

In addition to these general problems of market distortion, the government has imposed a variety of policies which also cause employers to reduce their demand for labor of various types, or which cause certain types of workers to supply less labor. These measures include minimum wages and maximum hours legislation, unemployment benefits, social security transfers, welfare programs, and payroll and income taxes. For example, because unemployment insurance taxes are levied on only the first $6,000, of wages and social security taxes are levied only on the first $22,900 of wages, the employment of higher paid workers is favored relative to lower paid workers, and full-time workers relative to part-time workers. In Europe where payroll tax rates are very high these effects may be substantial. Another example is the earnings restrictions in social security retirement benefits. These discourage work by those over 65 and encourage the search for part-time rather than full-time work. A similar labor supply reduction effect is present in welfare programs, both those providing cash benefits and those providing in-kind transfers.

Targeted employment subsidies, it is argued, can reduce these distortions. The danger, howeve. is that in the process of trying to end one set of distortions, another set may be created. New distortions are generally the product of overly zealous efforts to target a wage subsidy and to minimize its costs. The major dangers that need to be avoided are: favoring some firms unfairly over others, promoting excessive job turnover, causing workers who would normally work full time to switch to part-time work, and causing workers to apply for welfare aid in order to become eligible.

Increase Private Sector Employment

One of the efforts of employment subsidies is that they stimulate the demand for workers in the private sector. This effect can be compared to that of direct public service employment programs, which are often considered substitutes for employment subsidies. Without wishing to take sides here in the broader debate over the balance between the private and government sectors, we would simply note the uncertainty regarding the value of the output in public service employment programs. In the absence of any clear evidence that public service employment programs can and do satisfy pressing needs, we will accept the direct incentive to private sector employment provided by wage subsidies to be one of their objectives.

Aid the Disadvantaged Without Stigmatizing Them

One of the most debilitating aspects of our current welfare and income transfer system is the stigmatization felt by the recipient because of his or her dependency, and the stigma levied by society toward those who are on the "dole." As a result, many choose not to apply for the aid to which they are entitled. The Social Security Administration (1974) has estimated that half the aged poor that are eligble for Supplemental Security Income (SSI) do not apply. For able bodied adults, the stigma of being on welfare is especially severe. Over three-fifths of the two-parent families with yearly incomes below the poverty line do not apply for the food stamps for which they are eligible (Coe, 1977; MacDonald, 1977). It is generally accepted that the desire to avoid stigma accounts for much of this lack of "take-up".

The income maintenance experiments provide further evidence that expanding welfare is not the way to improve the lot of the working poor. Being on a negative income tax (NIT) with a 50 percent benefit reduction rate resulted in an earnings reduction in two parent families equal to roughly half the dollars paid out by the program (Keeley et. al., 1978). In addition to inducing some reductions in work effort, it has been found that in three of the four experiments families eligible for NIT payments had higher rates of marital instability--by 76 percent for whites and 68 percent for blacks in Seattle/Denver--than the control families (Bishop, 1978b; Hannan, et. al., 1977).

An objective of public policy should be the provision of aid to disadvantaged families without stigmatizing them, without discouraging their own efforts to help themselves, and without inducing undesired marital disruptions. Policies designed to increase the demand for the services of the working members of such families would seem to be an important means of attaining these goals. A subsidy paid to the employer is less likely to be perceived by the worker as demeaning charity than direct welfare benefits. Such subsidization improves the worker's bargaining power even though he or she does not directly perceive it. It stimulates employment that would not otherwise exist, and higher wage payments than would exist in the absence of the subsidy.

While a subsidy received because one is working is inherently less stigmatizing than one received because one is not working, it is possible that an employment subsidy targeted on those in the greatest need may stigmatize as well. The success of such programs depends upon voluntary employer participation. If employers view the certification for eligibility in a wage subsidy program as a good indicator that a prospective employee is a bad risk or malingerer, the program will fail. If co-workers are aware that particular workers are being subsidized and perceive the subsidized workers to be receiving preferential treatment, they may react negatively and impose their own sanctions on the worker and the firm. (Affirmative action programs can also produce this response.) Thus stigmatizing the worker must be avoided both because it maintains the dignity of the participants, and because it is a necessary precondition for the job creation effect of the program.

Minimize Administrative Costs

A persistent worry afflicting targeted programs is that the administrative costs will be burdensome, to the point of inhibiting the performance of the program. Participants--both employers and employees--must be certified as being eligible and the extent of subsidy must be calculated and verified. This is an administrative cost to be borne by government. Similarly, excessively complex programs tend to impose administrative costs on business firms--or on potential participants--and induce low rates of participation on their part. In designing such programs then, an important objective is to minimize to the extent possible the magnitude of these costs.

These considerations, then, are the important ones which motivate the support for categorical employment subsidies and which must be considered in the design of any categorical subsidy programs. In the following discussion, we will review a number of design issues relating to employment subsidy programs. For each issue, we will attempt to evaluate--roughly at times--the extent to which the option contributes to or fails to contribute to these objectives. To facilitate such an evaluation, some policy option must be identified as a standard of comparison. The standard which we shall employ will be a general expansion in aggregate demand through an equivalent increase in government spending spread proportionately over all government budget items. While we will be more specific later, such an employment generation policy would tend to score rather well in terms of aggregate employment expansion, rather poorly in terms of impacts on prices and the composition of employment, and would tend to have little relative advantage in aiding depressed sectors of the economy, minimizing the public budget cost per job created, and reducing factor use distortions. It would score rather well, however, in minimizing both administrative and stigma costs.

Before proceeding with our evaluation of design options, however, two points must be discussed. The first is the economic logic underlying targeted employment subsidies. The second, is the range of design options which are available.

II. THE ECONOMIC RATIONALE OF TARGETED EMPLOYMENT SUBSIDIES

The economic rationale of targeted employment subsidies is a straightforward one: By reducing the price of labor at the margin, employment can be encouraged and unemployment reduced. Such subsidies lower the costs to producers from expanding output, and could be expected to weaken pressures for price increases. Because subsidies of new hires or of increases in the number of employees tend to benefit new businesses more than existing ones, the promotion of new businesses would be encouraged, further weakening upward price pressure. For both of these reasons, targeted employment subsidies will tend to be expansionary. If an employment subsidy is temporary it encourages firms to hire workers and incur labor costs earlier than otherwise. As a result, inventory accumulation or accelerated maintenance and investment spending will tend to increase. Finally, non-temporary targeted programs will tend to induce the substitution of workers in the target groups for those who are not, and will tend to increase the hiring of new workers. Econometric studies of the demand for specific categories of labor have found firms to be quite responsive to changes in relative wages (Hamermesh and Grant, 1978).

Experience with the WIN tax credit, however, suggests a small subsidy that imposes substantial administration and surveillance costs on firms will not create many new jobs for its target group. Non-targeted wage subsidies administered through the tax system seem to produce larger responses. Three separate studies using different data sets have found evidence supporting the hypothesis of major employment responses to the NJTC (Bishop, 1978a; McKevitt, 1978; Perloff and Wachter, 1978).

Normally as the economy comes out of a recession GNP grows much faster than employment. Economic theory, however, predicts that a nontargeted wage subsidy should cause the substitution of labor for other factors of production. Thus when such a subsidy like NJTC is put into operation it should raise the growth rate of employment above the growth rate of output. This is exactly what has been happening for the last year or so.

Between the second quarters of 1977 and 1978, the growth rate of construction put in place was 4.5 percent while the growth rate of construction employment was 8.2 - 9.0 percent and of construction manhours was 10.4 percent. Even in retailing where cyclical increases in sales are typically handled without hiring extra workers, employment growth--3.4 percent in household data and 4.0 percent in establishment data--outpaced the 3.0 percent growth of deflated retail sales that economic theory predicts. It is so unusual for a cyclical expansion to produce faster employment growth than output growth, that the event must be considered to be strong evidence that NJTC is having a major impact.

Evaluation of employment subsidy programs must be based on their net job creation impact, which can be defined as the employment level in the economy with the policy less that without it. Clearly, because (1) the output produced by the workers subsidized competes with output produced by nontarget group workers, (2) the financing of the program entails increased taxes or borrowing which tend to reduce demands elsewhere in the economy, and (3) some of the subsidized workers would have been working even in the absence of the subsidy, the net job creation impact is likely to be smaller than the gross number of workers subsidized. This is, of course, true of all alternatives to targeted employment subsidy programs, including a general expansion of aggregate demand, to which employment subsidies are being compared in this paper. The ratio of net to gross job creation is an indicator of how much displacement is occurring and can only be estimated in the context of a fully specified general equilibrium model. At a minimum such a model must be able to estimate the degree to which the categorical subsidy results in both a reduction in the gap between actual and potential GNP and an increase in the latter, and the effect of the subsidy on the distribution of wages and employment opportunities.

If a targeted employment subsidy program is targeted on groups of workers in excess supply or groups which will readily enter the labor market if the wage rate they can earn goes up, GNP will rise without causing inflation to increase. An employment subsidy program targeted on handicapped workers, transfer program recipients, and low-income youth would seem to meet this test, as large numbers of these workers are unemployed because of labor market rigidities (e.g., legal and conventional minimum wages). Hence, substantial employment increases could occur without upward wage pressure and both actual and potential GNP will increase. Econometric work suggests that these target groups do respond readily to changes in the demand for labor. This implies that, even if the labor markets for these workers were free from distortions caused by minimum wages and tax and transfer programs, a wage subsidy on their employment paid for by a tax on other workers would raise the potential level of GNP which the economy can attain without inducing inflation.

The benefits of expanding potential GNP in this manner are increased by the fact that labor supply decisions of targeted groups are distorted by high employer and employee taxes on labor income and even higher benefit reduction rates in welfare and other transfer programs. Because these distortions tend to reduce the work effort of people who would in their absence prefer o work, employment increases induced by employment subsidies will increase GNP without causing any serious loss in highly valued leisure. Moreover, the increase in tax revenues and decrease in transfer costs that a categorical employment subsidy should produce reduces the net budgetary cost of the program and benefits other taxpayers. Even if the costs were equal, the public seems to prefer to help people by giving them a job rather than a handout. This suggests the public receives direct psychological benefits from substituting a job for welfare dependency.

A subsidy of one of the major costs of doing business will exercise downward pressure on prices during the transition to a new price level. Bishop's study (1978a) of monthly changes in retail prices suggests that the NJTC has had sucn an effect. His coefficients imply that nonfood commodity retail prices were 2 percentage points lower in June 1978 than they would have been. While wholesale prices of nonfood consumer finished goods were rising 6.56 percent between May 1977 and June 1978 the retail prices for these products rose 4.73 percent. Either the distribution sector has suffered a major compression in its margin or manufacturing firms have been discounting below wholesale list prices or both. Since the NJTC is temporary, it is reasonable to expect any price impacts it may have to appear as discounts from list prices rather than reductions on list prices.

A one shot reduction in the price level will produce long lasting reductions in the rate of inflation only if there is substantial backward-looking feedback of price inflation into wage inflation (Gramlich, 1978). Perry (1978) provides some evidence that wage determination is of this backward-looking catch-up variety. Lagged price and wage changes are so highly correlated however that it is very hard to tell whether inflationary momentum is primarily wages chasing wages or wages chasing prices. The model in which lagged changes in wages and lagged changes in prices compete with each other (Perry, 1978, p. 277) implies that both have an effect but that inflationary momentum is primarily wages chasing wages. When a once and for all percentage point reduction in the price level is simulated in this equation, the reductions in wage and price increases in the following six years are .21, .15, .126, .103, .084, .068 percentage points.

The direct and indirect effects of employment subsidies on the price level just described do not exhaust the effects of an employment incentive on inflation. A subsidy of wages may cause an increase in the wage rates of industries that employ large numbers of targeted workers. If other industries attempt to reestablish historic differentials, this stimulus may increase the momentum of the wage increases. The rise in unit costs this stimulates will result in higher prices.

In addition to its effects on actual and potential GNP and prices, categorical employment subsidies will tend to shift the composition of employment and earnings toward low-skill target-group workers. If less inequality in the distribution of the adverse effects of poor economic performance is desired, this is a major benefit of categorical employment subsidies. One consequence of this redistribution is that, even with a constant GNP, the number of employed persons will increase as low productivity workers are substituted for those with higher skills.

Given the nature of their design, targeted employment subsidies can also alter the composition of employment patterns by hours worked per week or weeks worked per year across the work force. The demand for part-time workers can be encouraged relative to that for full-time workers. Similarly, the use of part-year workers rather than full-year workers can be encouraged, providing an incentive for such compositional changes. Individuals with tastes for such work patterns are likely to find expanded employment opportunities relative to individuals with alternative tastes. These groups include women, youths, and older workers. On the demand side, such compositional effects can be achieved by targeted employment subsidies both by the design of the payments structure (in altering the mix of preferred hours of individual employers) and by the targeting of the subsidy on specific producing sectors of the economy. On the supply side, such subsidy programs could provide different subsidy rates to different groups (e.g., the disabled), evoking differential labor supply responses.

III. AN OUTLINE OF DESIGN OPTIONS

The first choice to be made is how to operationally define the employment that is to be subsidized. Earnings or time-spent-working are the most natural choice alternatives. The subsidy based on earnings can either be some proportion of (a) the total wage bill of target group workers or (b) some proportion of the earnings of target group workers up to a specified limit (e.g., $6000). Subsidies of time-spent-working can be a function of total hours worked or of hours worked by each eligible employee up to a specified limit.

These general forms of wage bill subsidies provide business subsidization as well as inducing increased employment. This is so because the subsidy is paid on both workers who would have been employed in the absence of the subsidy and newly employed workers. In the short-run, this former component is a "windfall" to employers, contributing directly to net profits. In the long-run, such subsidies will cause prices to fall and target group wages to rise if product and labor markets are competitive. Because of the absence of effective competition in various workers, it is desirable to minimize such windfalls.

Marginal employment subsidies have been suggested as a means to reduce this windfall effect. In this variant, a subsidy is paid only on increments to the employment level in a firm above some base employment level. Such marginal subsidies are likely to induce more employment per dollar of subsidy than arrangements which subsidize all wages or total employment.

Subsidization could be paid on the earnings of new workers hired, as opposed to the firm's wage cost for an increment to total employment above some base. Such a "subsidy-on-new-workers-earnings" is referred to as a "recruitment subsidy." A potentially serious side effect of such subsidy arrangements is known as the "churning effect." Employers can increase the total subsidy received by increasing labor turnover (hirings and firings) within the firm, and collecting the subsidy on each new worker hired. Wage subsidies paid on increments to total employment above some base avoid this problem. These subsidies--referred to as marginal stock subsidies--provide support for an increase in the stock of employment rather than for an increase in the flow of workers passing through the firm.

Given these general forms, employment subsidies can be limited to various target groups of employees or employers. For example, eligible employees might be restricted to youths, the aged, veterans, the long-term unemployed, those displaced by imports or technical changes, those from poverty households, the handicapped, students, new entrants into the labor force, or any combination or permutation of these and other categories. Similarily, employers may be restricted to those in the private-for-profit sector or may include nonprofit or even public sector employers. Geographic region may be a variable on which eligibility is determined, or the size of the subsidy may be related to the size of the firm.

The effects of the subsidy on various types of workers or employers can also be varied by the form of the subsidy. The setting of the base for a marginal employment subsidy will affect which firms in which regions of the country are likely to receive the largest subsidization. For example, if a base of 105 percent of the previous year's employment is set as the base, the subsidy and its incentive will be concentrated on those firms and regions of the country which are already growing the most rapidly. The placing of maximum subsidy caps or limits on the duration of the program or the duration of individual worker employment will also influence the economic and distributional impacts of the program.

In designing a categorical employment subsidy program, then, policymakers have a wide variety of designs available to them. Clearly, it is possible, however, to identify some of the most important effects of a few of the prominent design options. In the next sections, we will turn to this evaluation, first with respect to the structure of the subsidy, and then with regard to categories of workers and firms that will be eligible for the subsidy. In each case, an effort will be made to discuss the implications of the various alternatives on the objectives noted in Part I.

Under the general heading of structural options there are four basic issues:

- What should be subsidized? Should the subsidy be a function of hours worked, earnings, or hours or earnings up to a specified limit?
- Should the subsidy be paid on all workers (a general employment subsidy), on all new hires (a recruitment subsidy), or on all employment increases above some base level (a marginal subsidy)?
- Should the subsidy be paid in cash or as a credit on tax liability?
- Should the subsidy be paid for employment provision or employment provision supplemented with job training?

Each of these questions will be taken up in turn in the following sections.

IV. WHAT SHOULD BE SUBSIDIZED?

Should We Subsidize Time-Spent-Working (Hours Worked), Earnings, or Time or Earnings up to a Specified Limit

A basic requirement for any employment subsidy is that it must measure employment in a way that distinguishes between bona fide work and paper transactions designed to establish eligibility for the subsidy. Programs which subsidize either the total number of different employees over the course of a year or the average stock of employment during a year do not meet this elementary test. Both are subject to abuse. The first encourages the firm to hire and then fire as many employees as possible. The second method encourages the substitution of part-time workers each of whom work very few hours per week for full-time workers. Such an arrangement could yield tne firm a subsidy many times the wage received by the workers. Rules designed to prevent such abuse (e.g., definitions of an employee as someone working at least X hours or someone earning at least Y dollars) move the pr gram toward a subsidy of the time-spent-working or the earnings of members of the target group.

There are, in effect, only 4 options: Subsidies of total earnings, of time-spent-working (hours), or of hours or earnings up to a specified limit. Each of these forms of subsidy has different effects. Of all the alternatives, subsidy based on the enterprise's wage bill has the fewest biases for changing the composition of a firm's employment--low versus high skill, part-time versus full-time, and short-term versus permanent worker/firm attachment.

Such arrangements, however, have the unfortunate effect of encouraging the firm to increase its wage rates. Where labor markets are not perfectly competitive, a subsidy of total earnings (the wage bill)--general or marginal--will result in larger wage increases and at least temporarily higher rates of inflation than subsidies of time-spent-working. In labor markets in which buyers have market power a general subsidy of time-spent-working has within it incentives to hold down price increases. Firms in these markets are likely to set their wages with an eye to minimizing the loss of trained and experienced workers to other firms. The higher the wage, the lower will be the "quit rate". An alternative way for these firms to maintain the labor force they need is to hire a larger number of new workers and allocate a larger proportion of its work force to training them. Subsidies of time-spent-working (with or without limit) or of earnings up to a low limit encourage this hiring-training option, and not the wage inflation implicit in general wage bill or total earnings subsidies. For any given expansion in total demand for labor, a subsidy paid to employers based on the time-spent-working of a target group workers will encourage the employer to satisfy that demand by training new workers, rather than by competitively bidding for already experienced and trained workers.

Another advantage of subsidy payments related to time-spent-working by eligible workers or of earnings up to a low maximum is that it provides a proportionately larger subsidy on low-skilled (or low wage) workers and thus encourages employers to shift employment demand toward these categories. Not all members of the categorically eligible population will be equally in need of a job subsidy. Because those with the lowest wages are likely to be the most needy, subsidizing low wage workers proportionately more than better paid, yet eligible, workers will reinforce the program's targeting objective. Conversely, a subsidy of the earnings of eligible workers without a limit will have the opposite effect of "creaming" the eligible population. It will induce employers to favor the higher wage groups--those who are already best-off within the categorically eligible population.

The argument for basing the subsidy on time-spent-working for earnings up to a low limit is even stronger when all workers (or very broad categories) are eligible for subsidy. Since targeted employment subsidies which are also marginal (as opposed to general) confront difficult administrative problems (which we will discuss in a later section), subsidizing time-spent-working, or earnings up to a low limit is the only way of targeting such programs. Research on the general equilibrium effects of wage subsidies (Baily and Tobin, 1978; Bishop, 1979; Johnson and Blakemore, 1978) has shown that they must be targeted if they are to produce noninflationary increases in employment and output. Subsidizing time-spent-working or earnings up to a low maximum makes it possible to have the benefits of both targeting and the absence of windfalls associated with marginal programs.

The next choice that must be made is whether to subsidize earnings or time-spent-working up to a limit or to subsidize time-spent-working without limit. If, say, only the first $6000 of earnings or first 1000 hours of time-spent-working of eligible workers is subsidized, employers experience an incentive to hire part-time, part-year as opposed to full-time, full-year workers. If the subsidy is a flat hourly (or per dollar) rate with respect to hours (or earnings), the employer needed to add, say, 100,000 hours of labor is indifferent between meeting this goal by hiring new full-time workers, new part-time workers, or increasing the hours worked by existing part-time workers. If the subsidy is of earnings or time-spent-working up to a limit, an expanding employer would have incentive to add part-time or part-year employees rather than full-time employees. Time series analysis of employment in the retailing and construction industries has found that part-time employment increased substantially after the initiation of NJTC (Bishop, 1978a).

If, in counting jobs created by the subsidy, one is indifferent between full- and part-time jobs, or between long-term and temporary employment, the subsidy of earnings or time-spent-working up to a low maximum would rank high on a criterion of jobs per dollar of cost. However, since both the output produced and the income received depend upon how long a job lasts, counting jobs without regard to the time-spent-working and the length of tenure seems less appropriate than the criterion of cost per full-time equivalent job created. Because it does not bias hiring decisions in any particular direction (except, of course, in favor of target group workers) a time-spent-working subsidy without a maximum will tend to have the lowest cost per full-time equivalent job created.

It should also be noted that a capped earnings or hours subsidy creates a new set of distortions at the same time that it may eliminate another set of distortions. A subsidy of earnings up to a limit encourages a firm to restructure its employment of categorically eligible people by 1) increasing the seasonal swings in employment, 2) laying off subsidized employees when the subsidy maximum is reached, and 3) substituting 2 or 3 part-time employees for one full-time worker. If the subsidy is of new hires (a recruitment subsidy), the first two of these effects will be accentuated. The consequence of this is that more workers will have part-time jobs (and in some cases more than one part-time job) and that the frequency of spells of unemployment will increase. Whether total time spent unemployed will go up or down is indeterminant for it depends upon the strength of offsetting effects.

A program with a cap on the time-spent-working or earnings subsidized can be justified only by an argument that other distortions have biased the economy against part-time and high turnover jobs, and that a counteracting subsidy is required. This case is not an easy one to make, however. The major distortions which a wage subsidy is expected to offset--minimum wages and high marginal tax rates--affect all the margins of work effort and labor demand equally. A minimum wage discourages covered firms from hiring both part-time and full-time workers. High marginal tax rates distort both the labor force participation decision and the hours worked conditional on participation decision. Moreover, the tax and transfer system penalizes initial entry into the labor market less than it penalizes the transition from part-time to full-time work. The earnings of teenage and college student dependents, which are typically of the part-time, part-year variety tend not to be included in family income, and consequently not taxed at the high marginal rates this would produce. The earned income tax credit already subsidizes the first $4000 of earnings of families with children. Above $4000 (i.e., where for family heads changes in the number of hours worked are the relevant decision), marginal income tax rates are generally above 24 percent. Set asides of $4000 for 65 to 72 year old social security recipients and of up to $1680 for food stamps recipients tend to have the same effect. Martin Feldstein (1973) has pointed out that the unemployment insurance system's lack of complete experience ratings result in the firms with stable employment histories subsidizing firms with highly seasonal and highly cyclical employment patterns. Maximum hours legislation requiring time and a half for overtime is another government imposed distortion that reduces the number of people working long hours. The biases that favor full-time and full-year employment over part-time part-year employment--the regressivity of unemployment insurance taxes, the non-taxable nature of fringe benefits, and social security taxes--are small by comparison.

One final difference should be noted. A subsidy of time-spent-working tends to target its benefits on low wage workers more effectively than a capped earnings program. If time-spent-working is subsidized, low wage workers receive the proportionately largest subsidy. If earnings up to a low maximum are subsidized, high wage part-time and part-year workers as well as low wage workers receive a proportionately higher subsidy. A low wage rate is a better indicator of earnings capacity or economic status than is low earnings received from a particular employer. The earnings up to a low maximum variety of subsidy subsidizes a $500 a day consultant hired 12 days just as much as a full-time worker paid $3.00 an hour. In subsidy programs like the NJTC, consultants and construction workers who change employers frequently would make each of their employers eligible for subsidy--vitiating the targeting implicit in the earnings limit.

If target groups are narrowly defined, the further targeting attainable by subsidizing time-spent-working may not be required. If, however, the subsidy is universal or of broad categories of eligibles, the extra targeting provided by subsidizing time-spent-working rather than earnings up to a limit become a major advantage.

Administrative Issues in the Choice Between a "Time-Spent-Working" (Hours) Subsidy and a Capped Earnings Subsidy

As the previous discussion has indicated, an hours subsidy has superior incentive characteristics relative to a capped earnings subsidy, given the stipulated objectives. Offsetting this, however, is the fact that the earnings subsidy is less difficult to administer. The unemployment insurance, social security and withholding taxes paid by firms require them to keep detailed records on individual employee earnings and report them regularly to the tax auditors. While records on time-spent-working may be just as complete, they are not regularly and routinely reported to the government. The availability of an already existing government record is especially important if a subsidy is to be temporary and marginal as is the New Jobs Tax Credit (NJTC). To be successful, temporary counter-cyclical wage subsidies must be able to induce a speedy employer response. A marginal subsidy that is also temporary must have a simple, verifiable, and comparable way of measuring both the last and the current year's employment. Using the 1976 tax base of Federal Unemployment Insurance Tax (earnings up to $4,200) as the base for the NJTC has greatly eased the administrative burden on both firms and the IRS. The fact that in the first year of the NJTC more than half a million employers have applied for over two billion dollars in tax credits suggests that, despite its complexity, the NJTC was simple enough to enable firms to readily calculate its value if eligible, and presumably to respond to its incentives.

While obtaining reliable earnings measures from existing records is easier than obtaining time-spent-working measures, the latter is not terribly costly. The Bureau of Labor Statistics already obtains reports on total hours worked by nonsupervisory workers from firms employing 31 million workers or over 40 percent of employees. Every five years, every mining, construction and manufacturing establishment in the nation reports the hours worked by its employees to the Census Bureau.

Moreover, the data requirements for implementing a noncategorical subsidy of total hours worked by all employees are almost identical to those required by the Real Wage Insurance scheme proposed by the Administration. If this program is passed by Congress, the additional costs of administering marginal subsidies of total hours worked (similar to the NJTC) will be close to zero.

A subsidy of the time-spent-working of particular target groups requires that employers keep records on the hours worked by individual employees. Some have been concerned that asking firms to keep individual records on hours worked is an onerous new recordkeeping requirement. In fact, however, all employers covered by the Fair Labor Standards Act (FLSA) are already required to keep the necessary records. These employers are currently required to preserve for 3 years "all those payroll or other records containing the employee information and data required under any of the applicable sections of the part" and "total dollar volume of sales or business and total volume of goods purchased or received during such periods (weekly, monthly, quarterly, etc.)." The records that currently must be kept for two years include "all basic time and earnings cards or sheets of the employer on which are entered the daily starting and stopping t. ` of individual employees...(and) all schedules or tables of the employer which establish the hours and days of employment of individual employees or separate work forces..." (Wages and Hours Division Regulations, Title 29 Section 516.5 and 516.6).

These regulations currently cover 54.5 million employees. Most of the workers exempted from the Fair Labor Standards Act (FLSA), 16.4 million public and private sector executive and administrative personnel and 7 million nonsupervisory workers in state and local government--would not seem to present special problems of measurement. Public agencies subject to audit maintain such records as a matter of course. 1.4 million private household workers and 6.5 million self-employed individuals are also excluded from the Fair Labor Standards Act. However, these workers are also excluded from the recently passed earnings based Targeted Jobs Credit and would presumably be excluded from targeted subsidies based on time-spent-working. The remaining 3 to 5 million uncovered employees are in agriculture and small (under $275,000 in revenues) retail and service establishments.

Most of them work under the supervision of their employer. Since each employer will have only a few employees, the amount of time worked is known by both the worker and his employer. Only in these firms and only for subsidized workers would there be new reporting requirements. Asking the firm to report the hours worked as well as earnings of subsidized employees does not seem likely to discourage many firms from participating but we will 1 c know for sure until a pilot program of this type is undertaken.

Workers who are paid on a piece rate basis create some problems. Such workers, however, are only a small portion of the likely eligible population. In November, 1975, only 1.2 percent of the nation's workers were paid on a piece rate basis, and only 1.9 percent on pure commission basis (Flaim 1976). It should be noted, however, that piece rate pay is more common in low-wage industries like footwear, apparel, and agriculture, and that the typical piece rate worker is not well paid. Nevertheless, the incidence of piece rate and pure commission workers among those receiving a wage subsidy is likely to be less than 4-5 percent and many of these workers are already covered by the minimum wage.

Two million outside sales workers are exempted from coverage by wages and hours legislation. It would appear that a subsidy of time-spent-working would have to exclude those outside sales workers that are paid on a pure commission basis unless a verifiable data collection system could be devised at acceptable administrative costs. Although it would complicate the policy and its administration, a separate capped earnings subsidy would be created for this and other categories of workers for which the costs of auditing reports of hours worked is excessive.

A remaining issue is the accuracy of the records kept on time-spent-working (Bishop, 1977a). Day to day interaction between a worker and his employer occur in the context of a fixed wage rate. In recording the number of hours worked for purposes of determining the weekly or monthly paycheck, employees desire to overcount and employers desire to undercount the time-spent-working. It is this natural opposition of employer-employee interests that assures the accuracy of the weekly paycheck and the calculation of time-spent-working upon which it is based. The existence of a "time-spent-working" subsidy paid to the employer does not change this situation as long as the number of hours used for determining the paycheck is also used for calculating the subsidy. If an overreport occurs, the loss to the firm is reduced by the amount of the subsidy. Nonetheless, for subsidy rates less than say, 50 percent, the firm's loss--the difference between the wage rate and the subsidy--would seem to be sufficient to insure that the time-spent-working reports are not systematically exaggerated. The key to securing accurate reports of hours worked is to require the time-spent-working data used for payroll calculation to be also used in calculating the subsidy. If such a procedure were mandated, the government would have to audit firm subsidy applications to determine their conformance with payroll records of hours of work.

V. GENERAL, RECRUITMENT OR MARGINAL SUBSIDIES

Employment subsidies achieve their objectives of increasing employment of target group workers, increasing potential GNP and lowering prices by lowering the cost to employers of hiring eligible labor. If a given reduction in the employers' net wage can be accomplished at lower cost, the subsidy program's cost effectiveness can be increased. The maximum cost effectiveness is achieved when subsidies are payed only for the workers in the targeted category that would not otherwise have been hired. The problem, of course, is finding an administratively practical and politically acceptable way of measuring how many target group employees would have been hired in the absence of the subsidy.

In principle, the marginal subsidy, by providing increments for expansion beyond some base level (say, 90, 100 or 102 percent of last period's employment) comes closest to meeting this ideal. Ranking second is the recruitment subsidy. However, because a portion of any pool of hires in a period represents the replacement of employees who for some reason attrite, some portion of the subsidy payment will not affect marginal decisions. In the case of general employment subsidies, only a small share of the subsidy payment will affect incremental hiring decisions. The rest will be windfall to the eligible firms.

The contribution to reducing upward price pressure made by an employment subsidy depends upon the extent to which it lowers the average costs of production and the marginal costs of an expansion in output. The reduction in average costs depends only on the dollars paid out and this by assumption is the same across plans. Per dollar of cost, however, the alternative forms of subsidy have very different effects on marginal costs.

A subsidy of all or broad categories of workers of the marginal or recruitment variety lowers marginal costs much more than general subsidies or subsidies of narrow categories c workers. Marginal and recruitment subsidies send the firm the following message: "if you expand employment and output you will get a much bigger subsidy." In competitive industries the reduction in prices will occur automatically if firms are stimulated to expand output. Where firms have discretion over their prices, they will find they must offer discounts if they are to sell the extra output they can now produce so cheaply. An additional advantage of marginal subsidies is that they benefit firms that have just entered business more than existing firms. Promoting new entry into the industry increases competition and should constrain upward price pressures.

Per dollar of cost, subsidies of narrow categories of workers will have a smaller first-round impact on firm output and prices than noncategorical subsidies of the same type. The first reaction of the firm to a targeted subsidy is to substitute the target-group workers for other workers. While this may increase employment by substituting, say, two low skill workers for one skilled worker, there is no necessary increase in output. Prices decline only if output increases. In general, the more successful a targeted employment subsidy is in inducing the firm to rearrange its production processes so as to hire the targeted group of workers, the smaller will be the first-round reduction in prices. However, the long-term price and wage inflation effects of targeting a wage subsidy are quite different.

The ranking of the subsidies with regard to wage inflation is the reverse of that described above for price inflation. A wage subsidy inevitably places upward pressure on market wage rates. The more effective the subsidy is in inducing firms to expand employment the more powerful will be the upward pressure on wages. Subsidies of narrow categories of workers with substantial elasticities of labor supply place less pressure on wages because the increase in firm demand for these workers calls forth increase in supply. A targeted subsidy reduces the firm's demand for nonsubsidized workers and hence puts downward pressure on their wages. When these counteracting effects are put together the net change in average wage rates produced by a narrowly categorical subsidy is likely to be small.

In the short run the impact of employment incentives on prices is likely to dominate their impact on wages. The net effect of a noncategorical employment incentive like the NJTC on the long run rate of inflation depends upon whether temporary reductions in price inflation feedback into wage inflation (Gramlich, 1978). The long run impact of narrowly categorical employment incentives depends upon the extent to which tightening up demand at the low skill end of the labor market puts upward pressure on the general wage level (Baily and Tobin, 1978).

On grounds of cost effectiveness, marginal and recruitment subsidies seem to be preferred over general subsidies. The disadvantage of these subsidy forms, however, is their tendency to create new distortions. Recruitment subsidies, especially those of an earnings limit variety, encourage firms to lay off workers so that a larger number of subsidized new workers may be hired. It subsidizes firms with high rates of turnover at the expense of firms with steady employment patterns. This promotes labor market churning. The labor market churning incentives of recruitment subsidies are reduced if they are based on hours worked without limit and if they extend for a number of years. Noncategorical marginal subsidies put declining firms at a disadvantage and accelerate the growth of already expanding firms. To some extent it also favors growing regions over declining ones. This impact is small, however, for the variance of firm growth rates is very large especially among small firms. As a result of differences across regions in the proportion of firms that are eligible for subsidy (i.e., above a particular growth threshold) are not large.

How Should a Permanent Marginal Subsidy be Designed[1/]

The key to any marginal employment subsidy is how one defines the threshold above which the subsidy occurs. When a subsidy is going to be temporary, a threshold on the firm's employment in the year immediately preceding the initiation of the subsidy works fine. If, however, it is intended to have the subsidy permanently in place, defining the threshold becomes difficult. The NJTC redefines it each year as 102 percent of last year's employment. Updating the threshold in this manner opens the subsidy to abuse, however. Since a higher level of employment this year reduces one's eligibility for subsidy next year, the incentive to increase employment is

1/ The results reported in this section are taken from a forthcoming paper by Bishop and Wilson.

diminished. The firm will soon discover that the way to maximize its profits is to alternatively expand and contract its employment in successive years. The budget costs of the program will be high, but the net effect on the average level of employment will not be substantial.

A permanent marginal noncategorical subsidy with yearly updated eligibility thresholds would, in addition, tend to increase cyclical employment instability. During a recovery from a recession most firms will be eligible for the credit, leading to an accentuation of the normal cyclical recovery by subsidy-induced inventory building and substitution of labor for materials and capital. Instead of increasing output by scheduling more overtime, firms will hire extra workers. Laying them off later will no longer be an unattractive option because of the threshold feature of the subsidy.

A dramatic turnaround occurs when a cyclical peak has been reached. As extra workers become harder to obtain and the growth rate of demand slackens, more and more firms will not meet the employment growth threshold. They will lose their eligibility for subsidy and, therefore, end the temporary changes in labor intensity and inventory accumulation induced by the subsidy. Other firms will find that, since their feasible employment growth is now small, the advantages of receiving the subsidy for which they are eligible this year are outweighed by the advantages of increasing the amount of subsidy they will be eligible for next year. Like the firms that lose their eligibility involuntarily, these firms will cut back employment and run down their inventory. Since most firms will be going on and off the credit at similar points in the business cycle, a permanent credit with thresholds updated yearly will accentuate booms and worsen recessions--constituting a "built-in destablizer."

Fortunately, these features of the NJTC's methods of updating the threshold are not inherent in a marginal design. Incentives to reduce employment this year in order to increase the firm's eligibility for subsidy next year can be eliminated by either:

a) starting with a presubsidy level of employment as the baseline and then raising the firm's threshold from this base by some standard amount per year (say 2 percent),

b) subsidizing only the growth of employment that exceeds the peak employment level of the last 5 or so years.

While better than using last year's employment as the base for the threshold, neither of these approaches are without disadvantages. Simple versions of the second approach--the subsidy of growth over past peaks reduces but does not eliminate the cyclically destabilizing character of marginal subsidies. If destabilizing effects are to be avoided, Congress will have to manipulate the threshold countercyclically. The ratio of the threshold to past peak employment should be reduced when unemployment is high or rising and lowered when unemployment is low or falling.

The first approach--sticking with presubsidy level of employment as the base from which to calculate each year's threshold--is not destabilizing. Its advantage is that costs will rise over time and the rate of subsidy will have to be reduced. Fast growing firms will be subsidized on larger and larger shares of their employment. Their ability to compete with firms with static or declining employment will increase with time and some of these firms may be driven out of business. Turnover of firms is not necessarily inefficient; but is likely to be considered inequitable. To some extent this is inherent in a marginal subsidy. Because it will be paying large subsidies to very successful firms, the fixed base marginal subsidy increases the saliency of the equity issue.

Our current level of knowledge does not allow us to make a choice between fixed base and peak based marginal subsidies on cost effectiveness grounds. For a given expenditure, the fixed base subsidy must have a lower rate of subsidy. This, however, does not imply that its impact on employment must be smaller. This can be seen by examining how much subsidy each program provides to a once and for all permanent increase in employment. The peak based subsidy would subsidize this change only in the first year. The fixed base subsidy without a predetermined growth rate subsidizes this increase in the first, second and all succeeding years. The incentive for a permanent change depends upon the present value of subsidy receipts. For the receipts from a fixed base subsidy to have a lower present value than those from a peak based subsidy, tentative calculations suggest that its rate of subsidy would have to be less than 20 percent of the peak based subsidy.

Can a Subsidy be Both Marginal and Targeted?

The analysis of wage subsidies in a general equilibrium context concludes that they increase potential output and reduce the unemployment rate at which inflation sets in only if they shift the composition of labor demand in favor of workers that are in excess supply or who tend to readily increase their supply in response to wage increases (Baily and Tobin, 1978; Bishop, 1979; Johnson and Blakemore, 1978). A targeted subsidy would seem to be the best way to focus such employment stimulus. A conclusion of the previous section is that well designed marginal subsidies are most cost effective than general subsidies. Hence, an interesting question is: Can a marginal employment subsidy also be targeted? In principle, a subsidy program can have both characteristics. However, the information requirements are to severe, that such a combination is not feasible at the present time, unless one accepts substantial restrictions on the categories that can be subsidized.

The key to making a targeted subsidy marginal is to find a way of measuring how many target group workers would have been employed at the firm in the absence of a subsidy. In nontargeted marginal subsidies the proxy that is used is the level of aggregate employment prior to the beginning of the subsidy. However, strong incentives exist for the firm to underreport this baseline employment level: The lower the reported baseline, the larger the subsidy. Indeed, if the subsidy is of the fixed threshold variety the stakes are enormous. To be feasible, the agency administering a targeted subsidy must be able to audit the firm's report of its preprogram employment of target group workers. For a noncategorical subsidy, such as the NJTC, the availability of the Federal Unemployment Tax (FUTA) data and the use of it as the subsidy base has eased this problem.

Targeted subsidies, however, are an entirely different matter. Most firms do not know whether their workers are welfare recipients or from a low income family. To obtain a marginal categorical subsidy, they would have to find out whether each of last year's employees (including those who have since quit) was in the target groups last year. (Note that the eligibility status of workers changes over time.) The administering agency would then have to be able to audit these determinations. Unless categories can be found for which there are accessable government records, there is no way of having an effective audit without promoting extensive and costly litigation. Social Security records would seem to be the only source of information on firm employment that would allow one to distinguish between types of workers. However, the only worker characteristics that are available in these records that might potentially be used in defining a target group eligible for subsidy are age, disability status, and location.

One response to this problem might be to make a categorical employment incentive a general subsidy in its first year, but then turn it into a peak based subsidy in its 2nd and succeeding years. This kind of program has very high costs in its initial year. If firms know that after the first year the subsidy will be peak based, their first year employment level and request for subsidy will take into account the fact that the more target group employment they report now the smaller will be their eligibility for subsidy next year. As a result, a marginal subsidy that is not marginal in the first year is no more cost effective than a general subsidy. A switch to a peak based marginal subsidy improves cost effectiveness only when firms do not know during the start up phase that there will shortly be a switch to a peak based subsidy.

For a targeted subsidy, it would seem best to postpone decisions about marginality until after there has been some experience with either a general or recruitment type of subsidy. When a program is being initiated, the preferred alternative would seem to be a recruitment subsidy. The "churning" effects of a recruitment subsidy can be minimized by basing it on total hours and continuing the subsidy for two or three years. If serious churning effects were to appear a switch to a marginal subsidy is always possible in the future.

The Duration of Recruitment Subsidies?

If a recruitment subsidy is to avoid "churning" the labor market the period for which individual employees are subsidized must be quite long. Because the disadvantaged workers on which employment subsidy programs are likely to be targeted have few skills and little experience it may take some time for them to adapt to the work situation and for their skills to improve sufficiently to make them fully productive. If they are to avoid being laid off the subsidy must last at least as long as it takes them to make the transition. For some target groups--the handicapped--it may be necessary to continue the subsidy indefinitely. If an error in timing is to be made it is better for the subsidy to last longer than necessary. The consequence of a longer duration than minimally necessary is similar in its impact to an increase in the rate of subsidy. It increases the incentive for firms to participate and encourages them to reduce the turnover of subsidized employees. The durations of subsidy commonly written into OJT contracts are much too short.

A case is sometimes made for a higher subsidy payment during the early periods of employment, with the subsidy rate decreasing over time. This pattern can be justified as covering the training costs expected of employers early in the employment period, which costs would diminish over time. One disadvantage of such a time-related subsidy, however, is that it might encourage labor force "churning," if the rate of decline is too precipitous. Employers would have incentive to replace workers leaving the higher subsidy then with newly hired workers eligible for the higher subsidy. Only if the first wave of workers displays speedy increases in productivity due to training or job experience would this incentive be offset.

VI. SUBSIDIZATION IN CASH OR AS A TAX CREDIT?

The choice between subsidization in cash or as a tax credit would have little effect on any of the objectives except that of minimizing alternative costs. From the point of view of the firm, these two options appear equivalent except possibly for the timing of payment. This could be important for small or new firms with start-up or cash flow problems. For these firms, the direct payment method, to the extent that it provided reimbursement more quickly would be preferred. On the other hand, if dealing with a separate agency would require additional responding and recordkeeping activities, the tax credit option may be preferable.

Given the provisions of the subsidy arrangement, each option requires the calculation of the number of eligible employees, the variable for each on which the subsidy depends, and the subsidy entitlement. In the case of a tax credit, effective receipt of the subsidy is coincident with the incurring of tax liability. If the payment were made directly, a separate report would have to be filed and effective receipt of the payment would depend on the reimbursement process.

From the government's point of view, the direct payments option would require the establishment of a separate bureau with both payments and verification responsibility. This option would appear more costly than administration through an established revenue agency with audit capabilities.

One final point seems relevant: if it is the objective of the government to stimulate firm take-up of the subsidy, placing the administration for it in the hands of an existing revenue agency--one with which firms must regularly have contact can lead to more rapid dissemination of knowledge regarding the policy than would administration by a separate bureau.

There is one additional substantive issue if the subsidy is administered as a tax credit. This concerns the case in which the credit entitlement exceeds tax liability. Should the credit be refundable or not? The main argument against refundability concerns total budget costs. Limiting the credit only to tax offsets would imply a smaller revenue cost than providing for refundability. The case for making it refundable is based on consistency and horizontal equity. The purpose of the credit is to stimulate employment. There would seem to be little reason to eliminate its impact on those firms which, for some reason, have low tax liability. Moreover, if the cause of the low tax liability is low net income (profit), making the credit nonrefundable would deny its benefits to depressed sectors of the economy, thus violating one of the objectives of the program.

It has been suggested that both the subsidy entitlement and the receipt of the subsidy be tied to the payroll tax. The argument here goes as follows: A main purpose of the subsidy is to eliminate the adverse employment effect on the payroll tax. Moreover, enterprises must keep records on employment for purposes of determining payroll tax liability. As a result, tying the subsidy to the payroll tax would have both economic and administrative benefits. Two strong caveats regarding this position must be mentioned, however. First, the payroll tax is a relatively small amount per employee and hence would place an effective cap on the subsidy unless it were made refundable. Second, to the extent that the subsidy is targeted or marginal or both, the total subsidy entitlement would bear little relationship to total payroll tax liability, eliminating one of the arguments for tying the subsidy to the payroll tax. Moreover, the availability of payroll tax records can be exploited for purposes of calculating subsidy entitlement under any administration arrangements.

VII. SUBSIDY FOR EMPLOYMENT OR EMPLOYMENT CONDITIONAL UPON TRAINING

One of the intermediate goals of targeted employment subsidies is promoting on-the-job training (OJT) of the targeted workers. It is presumed that this training will aid in the integration of the targeted workers into the permanent work force. Subsidies that promote employment also promote OJT. In most firms new workers must receive some instruction before they are useful workers. Most of the knowledge a new worker acquires is obtained informally by watching what others do or by being shown operating procedures by another worker. How much is learned by the new worker will depend upon his previous experience and the nature of the job he is given. Consequently an outside agency administering a subsidy program will find it almost impossible to cheaply and fairly determine how much training is going on. This means that varying the subsidy in proportion to the on-the-job training content of the job is not likely to be feasible. In practice, then, a training subsidy must be a subsidy of certain formal training activities, not a subsidy of learning or of all training. One premise of an employment subsidy without a formal training component is that individual workers are good judges of the training value of alternative jobs. Such a subsidy then leaves to the worker the decision as to how much and which kind of training to secure. The employment subsidy aids the individual's choice by improving his bargaining power and, by increasing the demand for labor, increasing the number of different jobs the worker may secure.

Limiting an employment subsidy to firms and jobs that provide formalized training decreases the number of new jobs created per dollar expended. To participate the firm must not only provide employment; it must both provide formal training and demonstrate that the training meets government standards. Applying for such a subsidy tends to subject the firm to a costly monitoring and oversight. Conformance to this audit function will tend to reduce firm participation. This greater reluctance can only be overcome by raising the per worker subsidy.

A related point is that, to the extent that some portion of the subsidy in an employment-training program must be diverted to the provision of more training than would otherwise be associated with a new hire, the reduction in marginal labor costs to the firm will be smaller than for a straightforward employment subsidy policy. Hence, the employment-training option will have a smaller effect in reducing upward price pressure than will the employment subsidy option.

Limiting an employment subsidy for disadvantaged workers to jobs that are associated with formal training activities limits the worker's choice. Inexperienced and unskilled workers predominate in most of the target groups being considered. Many good entry level jobs do not require formal training and thus would not be eligible for a subsidy. In the bigger firms with elaborate internal labor markets, most of the jobs that require formal training are higher up the job ladder. Union contracts and firm employment policies that are not likely to be changed by a small scale targeted subsidy require that the new worker start out in the entry job and wait his turn for an opportunity for formal training. Large firms do not participate in the CETA Title I OJT subsidy program partly for this reason.

Finally, the administration costs for the employment-training option will be greater for both firms and the government. Firms must initiate and administer training activities which meet government standards as well as provide employment during and beyond the training period. For small firms needing to hire only a few workers the costs of complying with government regulations will probably be high. The government, as well, incurs a bundle of new responsibilities if training is incorporated with employment provisions. Standards for provision of training must be set and monitoring of firm performance relative to these standards must be undertaken. This task is a difficult and costly one and one that inevitably places severe limits on the scale of the program.

While this review of an employment-with-training subsidy has pointed up a number of administrative and economic problems with such an option, this does not imply that nothing can be done to increase the training component of new jobs created. One option with some promise would be to tie the subsidy rate offered to the provision of formal training. Such an option, while providing both an incentive for increased training to the employer and opening up a wide range of employment-training options to workers, could be voluntarily chosen by participating employers.

VIII. WHICH WORKERS SHOULD BE ELIGIBLE?

In addition to the subsidy options, design of a targeted subsidy program must confront specification of the categories of workers who would be eligible for subsidization. Clearly, a wide range of options is open, and various countries and programs have adopted many of them. The most prevalent types are those which target subsidies on workers in certain age categories--the young and the old--or on workers with long histories of unemployment. Welfare recipients, workers from poverty households, handicapped workers, ex-convicts, former mental patients could also be appropriate categories. Wage subsidies have also been proposed to ease the transition of new or displaced workers into private employment. Possible categories are workers displaced by imports or technological change, new entrants into the labor force, veterans leaving the army, political refugees, work-study students.

Choosing which categories of workers to subsidize inevitably involves mixing value judgments regarding which groups in society have the highest claim to employment opportunities with economic judgments about which group's employment will respond the most to the subsidy and operational judgments about which definition is least likely to be subject to manipulation.

Which Groups Will Respond the Most?

Most of the goals of categorical employment subsidies--increased potential GNP, long term reductions in the rate of inflation, the redistribution of employment opportunities--are achieved only if the employment of the target group actually increases. The larger the increases in employment per dollar of subsidy the more successful the program. The largest bang for the buck occurs when a wage subsidy operates in a labor market that is characterized by excess supply and a downward rigid or very slowly adjusting wage. In these situations the increase in labor demand which is occasioned by the subsidy will lead to more employment rather than increased wage rates. Under these circumstances the contribution to output of the new workers is large relative to budgetary cost. Because, legal and conventional minimum wages are one possible cause of the downward wage rigidity, one good way of identifying which workers should receive a wage subsidy would involve determining which groups have lost employment because of minimum wages. Likely candidates are youth and the mentally, physically, and emotionally handicapped.

The next biggest bang for the buck occurs when groups who will increase their labor supply in response to an increase in demand or wage rates. Workers that can bring a subsidy to their employer are going to find they are able to get better, higher wage jobs. Higher wage rates cause many groups of workers to work longer hours. Thus, the subsidy increases employment both by helping the worker fi d a low wage job and by raising the wage of the jobs that can be found.

Economists have estimated the labor supply responsiveness of various groups in a variety of ways, using both cross section and experimental data.2/ The results of the most disaggregated and comprehensive of these studies (Masters and Garfinkel, 1979) are given in Table 1. Women, youth, and men subject to the Social Security earnings test (men aged 66-71) have the highest responsiveness. Table 1 implies that the meployment response to a wage subsidy is largest for female heads of families and married women who don't have small children. The results based on the Survey of Economic Opportunity (SEO), a 1966 data base, imply that a general subsidy of the wages of these groups would increase GNP by 48¢ to 75¢ for every dollar spent on the subsidy. Subsidizing the wages of out-of-school young people, women with young children, and men aged 66-71 raises GNP about 30¢ per dollar of subsidy. There may be equity reasons for subsidizing prime age married men, but such a subsidy will not yield large GNP dividents.

2/ Responsiveness refers to the wage elasticity of labor supply (the percentage increase in total time spent working by the group per percentage point increase in that group's wage rate). In a neoclassical general equilibrium model with freely adjusting wage rates, the per subsidy dollar increase in potential GNP that results from a nonmarginal subsidy of a particular group's labor is roughly equal to that group's wage elasticity of labor supply. (Bishop, 1979). Sales taxes and the employer share of social security taxes raise the GNP impact to about 1.15 times the wage elasticity. A well-designed marginal or recruitment subsidy should be able to increase potential GNP by some multiple of the wage elasticity.

Table 1. THE PERCENTAGE INCREASE IN LABOR SUPPLY THAT IS INDUCED BY A PERCENTAGE POINT INCREASE IN THE WAGE RATE ESTIMATES OF THE WAGE ELASTICITY OF LABOR SUPPLY

	Men		Women	
	SEO	ISR	SEO	ISR
Married 25-54	.01	-.11	.43	.43
Healthy	.01	-.11	--	--
Unhealthy	.08	-.09	--	--
No children	--	--	.54	.54
Children 0-6	--	--	.20	.20
Children 6-13	--	--	.37	.22
Children 14-17	--	--	.41	.78
Female Heads	--	--	.65	.12
Single 25-54	.04	--	.22	--
Married 20-24	.01	.04	.57	.29
No children	--	--	.53	.10
With children	--	--	.39	.31
Single 20-24	.25	.24	.29	.21
Married 55-61	.02	-.06	.36	.54
Single + Married 63-64	.07	--	--	--
Single + Married 66-71	.26	--	--	--
Single + Married 73+	.05	--	.03	--

Based on regressions in which the dependent variable is time spent in the labor force over the course of a year. Thus wage rate impacts on unemployment are not counted. Columns headed by SEO ran on expanded CPS survey in 1966. Columns headed ISR are based on 1972 data from the Institute for Social Research Panel Study of Income Dynamics.

SOURCE: Masters and Garfinkel, various tables.

Their labor supply responsiveness is not great. Indeed, there seems to be a high correlation between the group's rate of non-labor-force-participation, its unemployment rate, and its labor supply responsiveness.

The Equal Protection Clause of the Constitution prevents us from making sex an implicit eligibility criterion, but it does not prevent us from creating categories that contain a high proportion of women. A wage subsidy for anyone who has been out of the labor force for a number of years would probably raise GNP by substantially more than its cost. 3/ Not only does such a subsidy target mainly on women, it targets on the women (those not currently in the labor market) who have the highest labor supply responsiveness. Alternatively, a wage subsidy might reward employers that take back or hire new employees that want to return to work after having taken extended leaves of absence to raise children.

It has been possible to present reasonably concrete evidence on the variation of labor supply responsiveness by demographic group. If people were categorized by other criteria, we would no doubt be able to identify other groups with very high wage elasticities. A strong a priori case can be made that transfer program recipients--welfare, Social Security and disability insurance--will have high labor supply responsiveness. This can be expected because their labor supply is low to begin with so there is substantial room for increase. 4/ Empirical support for this general proposition can be found in the fact that the two demographic groups

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3/ Not having earned more than $600 in any of the last four years might be the operational definition. Social Security records could be checked to assure accuracy of applications.

4/ A second reason is that substitution effects will dominate because the benefit reduction rate and the small share of earnings in income diminish the income effects of a rise in the wage rate.

that typically do receive transfers--female headed families and men 66-71--have higher labor supply responsiveness than otherwise similar groups.

A number of studies have suggested that liberalization in eligibility and the increasing generosity of Social Security Disability Insurance are responsible for recent declines in labor force participation rates of males over the age of 45 (Parsons, 1979; Berkowitz and Johnson, 1974). Parsons found that holding constant the seriousness of reported disability, men with lower wages were more likely to withdraw from the labor market and take disability payments. It has been argued that disability insurance and black lung benefits are in part a publicly funded early retirement program. If ways of defining a group of eligibles can be found, it might be better to aid people with partial disabilities by subsidizing their wages. This group is different from many of the others that have been considered for subsidy, however. If we were to decide that subsidizing their wages is desirable, a number of difficult issues would have to be addressed: Should the subsidy be paid to the employer or employee and should it be partially financed by the worker's former employer as Worker's Compensation is?

Another group that some have proposed should be eligible for a wage subsidy is workers displaced by the competition of foreign imports. Currently workers displaced by imports are eligible for an extra 26 weeks of Unemployment Compensation and certain training, relocation and job search allowances. Because the industry and firm specific knowledge and experience they possess is now valueless, the jobs that are available to them typically involve big cuts in pay and status. Hoping that a good job will eventually turn up, they often remain unemployed for a long time. Studies have found that when they obtain a new job they typically take a substantial reduction in pay (Frank, 1977). Providing a wage subsidy for these displaced workers when they obtain work in another industry would improve the quality of the jobs they would be offered and would, as a result, probably shorten the time they spend unemployed.

The Problem of Moral Hazard

If the categories of eligible workers are defined on the basis of a characteristic that is not measurable by objective criteria (e.g., some disabilities such as back problems) or over which an individual exercises some measure of control (e.g., welfare recipiency, unemployment, or poverty status), a problem of moral hazard is encountered. Individuals may opt into the category in order to become eligible for the subsidy. Since the general characterization of all of the proposed categories is that they represent disadvantaged workers, inducement to become so characterized should be avoided.

Proposed targeted employment subsidies all have the characteristic that workers are either eligible or not. This aggravates the moral hazard problem. For people close to the margin, the potential benefit of opting into the category is very large.5/ It has been contended that Medicaid and the WIN program have induced people to apply for or stay on welfare rather than suffer the decline in real income from loss of Medicaid coverage or WIN services.

The problem of moral hazard is not unique to targeted employment subsidies; it pervades all efforts to help the disadvantaged. In fact, employment subsidies are often proposed precisely because it is feared that AFDC is destabilizing marriages and that UI and other income transfer programs are inducing people to extend their periods of unemployment.

There are a number of mechanisms for minimizing the moral hazard. One is to make subsidy payments to a party--the employer--that does not control the behavior (e.g., going on welfare or reporting a hard to evaluate disability) that might be changed by the prospect of obtaining a subsidy. Many eligible workers will not perceive themselves as benefiting much from the subsidy and therefore will see no point changing behavior in order to get one. A second approach is to make the subsidy a continuous function of something an individual would be unlikely to consciously manipulate just to get more subsidy. A subsidy can be very effectively targeted

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5/ We cannot depend upon public ignorance of the program's existence to prevent this from happening. Social workers and job counselors will inform those they come into contact with.

by making its amount a negative function of the worker's wage rate. The wage rate subsidy, as this form of subsidy is called, would be paid to categorically eligible employees--primary earners of families with children, for instance. It would be a subsidy of hours worked and might be set equal to half the difference between $5.00 an hour and the workers wage as long as that wage was at least as high as the minimum wage. Not many workers are likely to accept lower wage jobs, just so they can obtain the subsidy that replaces only half the decline in wages.

A third approach is to define eligibility on the basis of characteristics that are easily measured and not subject to manipulation such as age and permanent physical or mental handicaps (sex and race are not available because of the Equal Protection Clause). Of course, the permanence of a characteristic is a matter of degree. Using a long (at least six months) accounting period to define characteristics is much better than using a short accounting period. Long accounting periods increase the costs of purposely becoming categorically eligible. Planning must begin far ahead and the change in behavior must be for a longer period of time. Since all welfare programs use one month accounting periods, this principle implies that an income test using an accounting period at least six months long is preferable to welfare recipiency as an eligibility criterion.

Short accounting periods create serious problems when an income test applied at a point in time confers subsidies that are both large (the recently passed TJTC subsidy is worth $4,500 to the employer) and continue after the income test is no longer met. They vitiate the targeting objective of the program for, in effect, the eligibility requirement becomes a one to four week period of unemployment and very large numbers of people experience short periods of unemployment. If a one month accounting period is used, well over half of the 11 million men and women between 18 and 24 not living with their parents would become eligible at some point over the course of a year. Construction workers with low liquid assets would also become eligible, possibly several times a year.

Unemployment for X weeks is a particularly bad eligibility criterion. The recipients of the subsidy payment--employers--do have some control over how long workers remain unemployed. They would have incentive to delay reemploying laid-off workers nearing the unemployment time limit. Job applicants for new jobs could be told, "we don't have work for you now, but we can promise you a job in X weeks." A wage subsidy for the long term unemployed could increase the unemployment rate.

Agency and local government behavior is also subject to moral hazard. Wage subsidies bring federal dollars into the town and help local businessmen compete in national markets. If states and localities are given the power to set and administer the eligibility rules for a federally financed subsidy of a worker's wages, there is a danger that consciously or unconsciously local governments will liberalize their program to the point that it is no longer targeted. There is a clear danger that if general assistance recipients are made eligible for a wage subsidy, the result will be an increase in the number of people made eligible for general assistance.

Minimizing Stigma

It is the very essence of targeted subsidy policies that individuals eligible for assistance are distinguished from those who are not. If the categories distinguished describe population groups which are recognized to be unsuccessful economic performers (e.g., long-term unemployed, welfare recipients, convicted felons), employers will be less likely to respond to the subsidy. Moreover, eligible persons will come to view the program as a welfare program and experience the stigma and the loss of well-being associated with being classified as an economic failure.

Primarily because of the stigma of being on welfare, most of the two-parent families headed by able-bodied workers who are eligible for food stamps or welfare do not apply. A requirement that these families apply for welfare before they receive job subsidy certification will effectively deny job creation help to the very families that are, by avoiding welfare, showing their commitment to the work ethnic. Even administering the program in the welfare agency is likely to produce stigma and reduce participation.

If employers perceive the program to be a welfare program, or view most of the participants to be welfare recipients they will be reluctant to hire them. Using welfare recipiency as an eligibility criterion is especially undesirable for this reason. Rightly or wrongly many employers are likely to consider able-bodied welfare recipients unencumbered by single-parent status to be "loafers" and therefore unattractive as employees. This unfortunately, seems to have been the fate of the WIN tax credit. While an income test may carry some stigma, it will not be as substantial.

In fiscal years 1973-75, 515,000 WIN enrollees eligible for a tax credit obtained jobs. Employers claimed tax credits on only 88,000. By contrast, in the first year of operation 500,000 firms have claimed the noncategorical NJTC on nearly 1 million employees. Three separate studies (Bishop, 1978a; National Federation of Independent Business; McKermitt, 1978; and Perloff and Wachter, 1979) have found evidence that is consistent with the hypothesis that the NJTC has been a major stimulus to employment. Two major reasons for the success for the NJTC are a lack of stigma associated with participating and the simplicity of its administration.

Finally, a most relevant consideration in defining categories of eligible workers concerns the ease with which the definition can be administered. The determination of some characteristics is administratively difficult--individuals from a poverty family, long-term unemployed workers, disability are examples. In the interest of minimizing administrative costs, categories with clear and easily identifiable characteristics should be chosen.

IX. WHICH EMPLOYERS SHOULD BE ELIGIBLE?

The designation of eligible employers is also a necessary design element in a targeted employment subsidy program. Are all employers to be eligible for participation, or only those in the private-for-profit sector? Should the subsidy apply to employers in all regions, or should only jobs created in depressed regions or central cities qualify for the subsidy? Another possibility would be to make only small firms, or those making extensive use of part-time workers eligible for the subsidy. Again, there are no principles to guide the program designer, and ultimately social preferences must govern. There are, however, a few considerations tc be kept in mind.

First, in the interests of horizontal equity, there is a presumption in favor of universal employer eligibility. Such an arrangement would eliminate the difficult task of defining eligible and non-eligible employers and distinguishing them in practice. The case for varying from such a universal program could be based on either efficiency or equity grounds, or on both. In any case, the efficiency and equity gains would have to be set off against the higher administrative costs associated with a non-universal program.

A case for selective eligibility could be based on a finding of systematic distortions against particular sectors or areas which distortions could be offset by selective employer eligibility. Examples of such systematic distortions might involve differential state or regionally imposed tax or regulatory burdens, the presence of monopoly power in larger firms relative to smaller firms, or the absence of information or imperfection of capital markets affecting firms in particular regions or of particular sizes. Were such distortions present, targeting eligibility for employment subsidies on the relevant firms would have an efficiency basis.

Even where such distortions are present, however, it is not clear that a selective eligibility arrangement would be the optimal way of dealing with the distortion. There are alternative ways of aiding firms disadvantaged by a distortion. More importantly, policymakers should consider measures designed to eliminate the distortion rather than measures designed to accept its presence while mitigating its adverse consequences. A second efficiency consideration leading to differential subsidization might relate to the difference in expected behavioral response as between, say, for-profit and nonprofit enterprises. As has been suggested, the justification for an employment subsidy rests on the ability of such a strategy to increase the demand for eligible labor. Where the objective of maximum prof ts motivates behavior, the linkage between employment subsidization and increased labor demand is clear; that connection is not so clear in the case of nonprofit activities.

Typically, the case for selective eligibility for subsidization is based on equity rather than efficiency grounds. This is, by and large, the situation in both regional development policy and in aid to small business policy. In such cases, it should be recognized that explicit favoritism in subsidy arrangements may well impede the economic adjustment process. Certain regions and certain categories of firms are likely to be less efficient and higher cost producers than other regions or categories of firms. Resources should be flowing away from such activities rather than toward them, and a selective eligibility arrangement favoring these activities will impede this process.

In considering the case for selective eligibility, the issue of administrative costs may also be relevant. Given the nature of the subsidy, it may be more difficult for some categories of employers to assemble the records necessary to calculate the subsidy than for other categories. For example, in order to conform to the needs of tax agencies, private-for-profit firms may already keep the records necessary for calculation of the subsidy while nonprofit activities do not. This may be grounds for admitting certain categories of employers to the program while denying eligibility to others. A related point is that the options available to policymakers for influencing the employment decisions of some sectors may be quite different than those available for aiding other sectors. Since they are already eligible for CETA-PSE funds, it may be desirable to exclude public agencies or public enterprises from eligibility for targetted employment subsidies.

With respect to the objectives stipulated in Part I, one final point should be made. It may well be that because of a higher degree of price competition or the lower barriers to new entry in some sectors (e.g., industries dominated by small businesses), the employment subsidy could induce greater downward price pressure in these sectors than in others. In this case, confining eligibility to these sectors could achieve greater price impacts than universal eligibility.

X. SHOULD THERE BE A CAP ON THE AMOUNT OF SUBSIDY A FIRM MAY GET?

Many of the employment incentives that have been proposed have a cap on the volume of subsidy to which any single firm is entitled. In the case of a marginal subsidy program, the effect of this arrangement is clear. Such a cap eliminates all inducement for the larger firms that are subject to the caps of the larger group to increase employment. Any subsidy received by such firms will be entirely a windfall to them. In the case of a general subsidy arrangement, such a cap would eliminate the employment inducement at the margin for all large firms, irrespective of whether they were growing rapidly or not. If the subsidy arrangement is of a recruitment type, such a cap will again limit the hiring incentive for firms with very large flows of new employees. In some cases, this would again constrain the subsidy and its incentive to rapidly growing firms, but in this case it would serve the function of reducing the tendency of firms to increase turnover or "churning" in response to the subsidy.

The $100,000 cap on the total amount of NJTC tax credit a firm may get is undesirable because it removes the incentive for firms employing over thirty-five percent of all workers to change their behavior in order to become eligible for the credit. In order to achieve the same overall stimulus to employment the per employee level of subsidy must be more than proportionately increased and as a result the cost per job created rises. Higher per worker levels of subsidy focused on fewer workers also magnifies the distortion costs of the credit. It is also undesirable to discriminate against large firms for their workers generally receive more training on the job and are better paid. If favoring small firms is desired, it is better to do it by adjusting the rate of subsidy to some measure of the size of the firm such as the 1976 total wage bill subject to social security tax.

Even without a cap, the NJTC and any successor marginal jobs tax credit would work to the advantage of small firms. Small firms are generally more labor intensive than large firms. Typically the employment of small firms grows faster. The firms not in the

Fortune 1000 who in 1969 were responsible for 79 percent of employment have been responsible for 99 percent of the growth in employment between 1969 and 1976. Consequently, smaller firms are thus likely to receive the lion's share of a marginal employment subsidy whether or not a cap is placed on the subsidy. The requirement that the employer's deduction for wages paid be reduced by the amount of the credit also works to the advantage of the smaller firms that typically face lower marginal tax rates. A tax credit of $2,000, that must be deducted from wages, increases after tax income of a large firm with a marginal tax rate of 48 percent by only $1040. A small firm with a marginal tax rate of 20 percent receives a $1600 increase in after tax income.

XI. SOME ADMINISTRATIVE ISSUES

In preceding sections many of the design issues involved in establishing a targeted employment subsidy program have been addressed. This section mentions a few residual issues which do not seem to conveniently fit into any of the other categories. Many of them are administrative and enforcement issues, and little more will be done here than to raise them.

The first issue concerns the administrative procedures for certifying employees and employers for this program. Consider first the certification of employees. Should a new agency be formed for this purpose, or should eligibility determinations made for other programs be adopted for this program? How will employees become certified--will they have to apply for certification or will a request for certification come from employers for whom they are job applicants? Will potential employees be notified that they are eligible, and be given a card to identify their eligibility to potential employers? Or will it be left to employers to understand the categories of eligible workers and, then, to seek out potential employees for whom subsidization can be claimed? Who will monitor subsidy claims by employees? If the subsidy is in the form of a tax credit, is it the Internal Revenue Service which will have to audit hiring and employment decisions within firms--a blatantly new role for the agency? Will the Internal Revenue Service also be required to monitor and audit eligibility determination?

And consider the design rules if the program covers only particular employers. If the eligible employers must satisfy a regional, size, or growth requirement, what agency will establish eligibility: Would self-determination with ex post audit be the least costly administrative arrangement? Is there a danger of firms altering structure or location if, for example, firm size or region is the basis of categorization? Is there any possibility of controlling such changes in structure or location?

All of these administrative decisions are relevant for the performance and ultimate success of the program in achieving the objectives set forth in Part I. The willingness of both individual workers and business firms to participate in the program depends on the administrative and bureaucratic costs which are related to participation. One of the large potential dangers of a targeted program is that the response of employers will be low because of 1) administrative costs, and 2) the equation by employers of low productivity or disruptive performance with categorical eligibility. Low response of employees could occur for the same reason of administrative burden, but in addition because of categorization based upon characteristics (e.g., poor, long-term unemployed, welfare recipient) which are viewed pejoratively by many citizens and likely to generate stigma costs.

XII. RECENT LEGISLATION

The tax bill signed into law in November 1978 allows the New Jobs Tax Credit to expire and initiates a Targeted Jobs Tax Credit (TJTC) program in its place. In the TJTC program, a tax credit of 50 percent of the first $6,000 of wages per employee for the first year of employment and 25 percent of such wages for the second year of employment would be paid for the hiring of certain categories of workers. These include:

1) all persons aged 18-24 who are from economically disadvantaged families (defined as families with income less than 70 percent of the Bureau of Labor Statistics' lower living standard during the six months preceding application);

2) all Vietnam Veterans under the age of 35 from economically disadvantaged families

3) handicapped individuals (including handicapped veterans) who receive vocational rehabilitation;

4) individuals of ages 16 through 18 who are participants in a high school or vocational school sponsored qualified cooperative education program (certification of the students would be done by the high school);

5) persons from economically disadvantaged families who have been convicted of a felony and who apply for certification within five years after they were last convicted or released from prison;

6) all recipients of Supplementary Security Income (both the disabled and the aged);

7) persons who have been receiving general assistance payments from state or local governments for a period of at least 30 days (new general assistance programs would have to be certified by the Secretary of Treasury).

The following limitations on qualified wages and other restrictions would apply:

- The credit would be allowed only for wages paid in connection with a trade or business, but not for personal services;

- The employer's deduction for wages paid will be reduced by the amount of this credit;

- The credit may not offset more than 90 percent of tax liability in any year with a 3 year carry back and a 7 year carry forward. As a result nonprofit agencies are not eligible and the benefits of the credit for unprofitable businesses are reduced;

- Employers may not simultaneously claim an employment tax credit and receive on-the-job training payments for the same employee.

Certification of individual eligibility is to be carried out by a state agency designated by the Secretary of Treasury and the Secretary of Labor.

The WIN Tax Credit

The legislation also made permanent the WIN and welfare recipient tax credits. If the employment is in a trade or business the subsidy is the same as for the Targeted Jobs Tax Credit--50 percent of the first $6,000 the first year and 25 percent the second year. In personal service employment--gardening, babysitting, housekeeping--the credit is 35 percent. This credit is available to employers of persons who have been on AFDC for at least 90 days or who have been placed with the employer by the WIN program. The employer's deduction for wages paid is reduced by the amount of the WIN credit. The credit may not offset more than 100 percent of tax liability in any year. There is however the option of carrying back the credit for 3 years or carrying it forward for 7 years. Employers can claim a tax credit only if the worker had been employed for at least 30 substantially full-time days over the course of a year.

Given our discussion in previous sections, a number of comments regarding the nature of these programs are relevant:

- Both the Targeted Jobs Tax Credit and the WIN Credit are <u>targeted</u>, <u>recruitment</u>, <u>non-temporary</u>, <u>capped</u>, <u>earnings based</u>, <u>tax credit</u> employment subsidies. The general comments made about these characteristics would apply here.

- The "churning effect" of capped recruitment subsidies is reduced by continuing the subsidy for a second year;

- The plans have very narrowly defined target groups, and in each case the administrative burden of certifying eligibility will be substantial;

- Both, in our view, use categories to define eligibility which convey stigma and which may serve to weaken both employer and employee response to the program, broader categories with less pejorative connotations would be more effective;

- The earnings-based nature of both proposals is administratively easier than an hours-based program, but leads to a number of less desirable incentive effects than the latter sort of program;

- Welfare agencies should certify the eligibility of the SSI and general assistance recipients. The responsibility for certifying the eligibility of other groups should not be in their hands. The disadvantaged youth and Vietnam Veterans should be certified by an agency like the VA, Job Service, or CETA.

XIII. DIRECTIONS FOR THE FUTURE

The targeted employment tax credit recently passed by Congress is a major step forward. Inevitably, however, the question arises what should be the next step? In our view, future amendments to the TJTC legislation should focus on broadening and destigmatizing the eligibility categories. It is a serious mistake to offer TJTCs to people on welfare while denying them to equally needy individuals who are not on welfare. The current bundle of eligibility categories has the anomalous result of denying the TJTC to the husband in a poor two-parent family yet offering TJTCs to the family's teenage children. If the husband leaves the family and the wife goes on welfare, she too will be eligible. Eligibility should be extended to all members of disadvantaged families (say, those with incomes below 70 percent of the Bureau of Labor Statistics lower living standard) not just those between 18 and 24. At the very least, the primary earner in all disadvantaged families should be eligible for a TJTC. Consideration should also be given to expanding eligibility for TJTC to include:

1) people who have earned less than $1000 in each of the last 3 years;

2) recipients of Social Security Disability Insurance.

Planning should begin now for the reinstitution of a New Jobs Tax Credit when the next recession gets underway. The NJTC would be greatly improved if three changes were made in its structure:

1) removing the $100,000 cap;

2) establishing and sticking with firm specific subsidy thresholds that if updated are updated in a manner that does not create an incentive to contract employment in order to increase the firm's eligibility next year;

3) subsidizing increases in hours of employment rather than increases in the unemployment insurance tax base.

If the proposed Real Wage Insurance program passes Congress, all the data on total hours worked necessary to implement a NJTC based on hours will already be collected.

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COMMENTS BY

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There are a number of points that I want to talk about that are related to the Bishop-Haveman paper. The first has to do with the issue of displacement or fiscal substitution. Mike Borus and I pointed out definitively that between zero and 100 percent fiscal substitution takes place in PSE programs, and people have talked about all the windfalls stemming from marginal employment tax credit programs.1/ I want to point out that there is a marginal employment tax credit program which may cost $2,500 per job slot, this must be compared to the $12,500 per job slot in the typical PSE program. We can have a lot higher percentage displacement effect under the marginal employment program than under the PSE program and still be more cost effective per job created. Thus the simple comparisons of percent displacement are not relevant; what is relevant is the cost per job created in a marginal credit; or perhaps a recruitment credit administered properly, as compared to alternatives. (In the example here, even a tax credit with 90 percent displacement would be as cost effective--in direct job creation--as a PSE program with a 50 percent displacement.)

On the displacement issue, we should not think it can be circumvented by concentrating on subsidized on-the-job training. Everybody says, "That's fine, subsidizing training is a good thing because there is always displacement in hiring." There is also going to be a lot of displacement in training. Firms do a lot of training anyway right now. To the extent that they are going to be displacing in hiring, I am quire sure they will also find ways of displacing the training they would do. The issue is not gotten away from by switching from hiring to training. It is still there, but it is hidden a little bit better.

1/ Michael Borus and Daniel Hamermesh, "Estimating Fiscal Substitution by Public Service Employment Programs," Journal of Human Resources (Fall 1978).

What has not been talked about today at all, and what worries me as an economist, is why should we be doing this kind of categorical subsidization at a time which a lot of people think we might be fairly close to, or below, the NAIRU (non-accelerating-inflation rate of unemployment). Bishop and Haveman talk about all the disincentives built into the system against hiring low wage workers--things like the OASDHI tax, the UI tax, the minimum wage, etc. To me a far more important consideration is the fact that the personal income tax and the social security tax make work outside the home less attractive than work in the home.2/ Although this conference does deal with job creation in the private sector, it has talked mainly about private-sector employment subsidies or wage subsidies paid to employers. One could well argue that a much more cost-effective approach, especially if you want to work on the supply side, is to talk about subsidizing the low-skilled employee directly through a wage subsidy paid to the employee rather than to the firm. The main thing is to overcome the wedge that locks people into the house because the work is not taxed. This point is worth considering, and we have ignored it recently. We have concentrated on paying subsidies to the employers and have given very little attention to paying the employees. The latter approach may be more effective in terms of increasing supply or lowering the NAIRU.

The third point is on price effects. To the extent that we can increase supply by inducing people who are out of the labor force to enter, assuming we want to do that, we might cut costs to firms and increase output. Unless that happens, simply giving a subsidy to a firm and saying, "Voila, they are going to cut prices," gives no assurance that the rate of inflation will slow if we are at the NAIRU. Instead, unless fiscal and monetary policy are changed, it is likely that the rate of inflation will continue on its merry way. Just to say we are going to subsidize employment costs and that is going to cut the rate of inflation is a weak reed on which to

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2/ Harvey Rosen, "Taxes in a Labor Supply Model with Joint Wage-Hours Determination," Econometrica, 44 (May 1976), is one of several studies that show the strong effect of taxes on the labor supply of married women.

base the justification for these policies. A far better reed, even if there is no increase in supply, is to argue that we should be doing this on distributional grounds. This is a noneconomic argument, that we should be shifting employment opportunities to lower-skilled, more disadvantaged people and away from university professors and people who work for nonprofit organizations, thus in the long run compressing the wage structure.

The fourth issue is whom to subsidize or what categories to subsidize. What Bishop and Haveman's discussion indicates is that you should subsidize the poor and the low-skilled people; but you do not want to subsidize low skills; if anytime you subsidize low skills you are going to induce people to become low-skilled. All the evidence I have seen suggests that relative supply elasticities to occupations are very high. People respond tremendously if we create opportunities or incentives for them to become low-skilled or to invest less in themselves. Unless the credits are targeted with care, there will be a lot less investment in human capital, and this is hardly desirable. A way to get a handle on this is to use the distinction between characteristics that are inherent in an individual, **indexes**, as opposed to signals, things that people invest in themselves that can convey information.3/ What we should be doing when we target these credits is to target them toward things that are indexes, that cannot be changed by the individual, rather than things that can be changed. For example, for all intents and purposes age is an index: It is hard for me to change my age. Handicap status is another one which I think is an index, as is veterans status, Vietnam veterans being one of the sensibly targeted groups under the TETC. Bishop and Haveman talk also about things like AFDC status, length of unemployment, and food stamp status; these are very easily changed, and, if we target on these, we will provide an incentive for people to switch into these categories. How big that is, how big this margin is, I do not know, but it is there.

3/ Michael Spence, Market Signalling, Cambridge, Harvard University Press, 1974.

One way to avoid this problem is to do a reversal on the usual problems an economist sees between public and private benefits. I realize there are some political problems in this, but we do it in other programs. What I think would be sensible would be to target the credits to some groups based upon indexes like age and handicap status, but also target them toward areas of high unemployment. That way there is little incentive for individuals to become unemployed longer, but those areas that contain a lot of unemployed individuals are going to be the ones where the credit is going to be available, either longer or in larger amounts. In that way we use the system without providing disincentives.

My final point is on administration, and this is a slap at the economists, including myself, that I cannot resist. We seem often to point out administrative problems after the fact. Now we are suddenly all talking about stigmas. I have written about it, as have others. Nobody was talking about stigmas in 1968 when we had the JOBS program; nobody was talking about stigmas in 1972 when the WIN tax credit came into being and we found out afterwards that nobody used these programs to the extent we expected because of the stigmas. I think we all tend to underestimate these problems. For example, Bishop and Haveman talk about how easy it would be to administer an hours-based targeted employment tax credit program; they allude to a few administrative problems, but say they can be handled. I have grave doubts about that. These things look easy to both economists and policymakers *ex ante*, but they prove to be the downfall *ex post*. We need to involve people experienced on the line, and I do not mean policymakers in Washington. We need people who are administering programs such as prime sponsors. These people should participate in the formation of the programs right from the start, because they have a far greater experience with these administrative problems than do economists in universities and government, or even than do policy administrators in Washington. It is too late to do this with the current tax legislation, but maybe on the next go-round, which probably will not be too far in the future, we can do that.