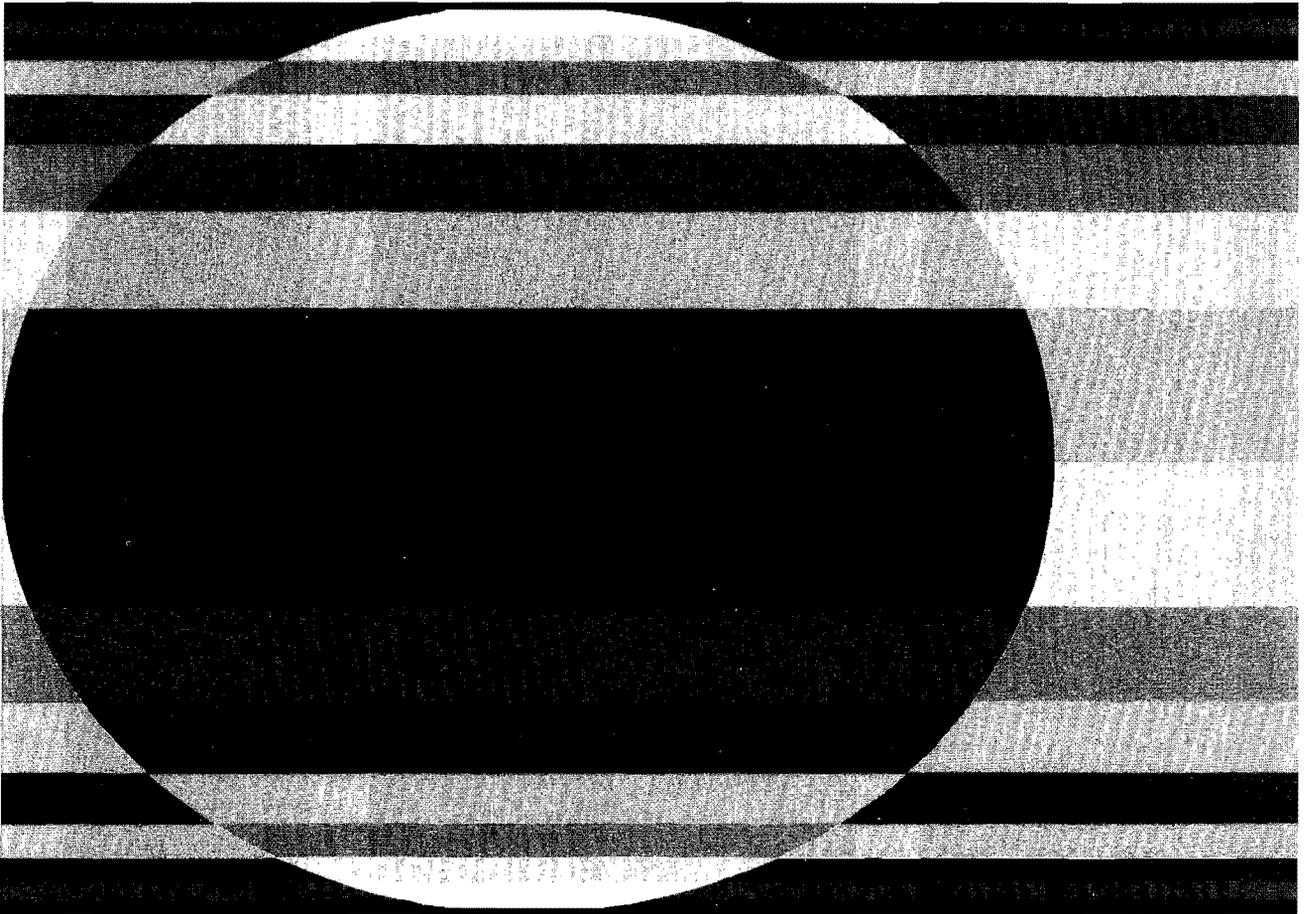


BACKGROUND PAPER

# Employment Subsidies and Employment Tax Credits

April 1977



Congress of the United States  
Congressional Budget Office  
Washington, D.C.



EMPLOYMENT SUBSIDIES  
AND EMPLOYMENT TAX CREDITS

The Congress of the United States  
Congressional Budget Office



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PREFACE

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Both the Administration's Fiscal Stimulus Package for fiscal years 1977-1978 and the Tax Reduction and Simplification Act of 1977 (H.R. 3477) include a proposal for an employment tax credit, as do a number of other bills pending in the 95th Congress. Congressional interest in a wide variety of employment subsidies persists. There has been virtually no experience with them in the United States, however, either as a direct subsidy program or as a tax credit.

This paper is based on memoranda and draft analyses submitted to Senate Budget Committee staff in January and February 1977 in response to a request from Senator Edmund S. Muskie. In accordance with the Congressional Budget Office's mandate to provide nonpartisan analysis of issues before the Congress, Employment Subsidies and Employment Tax Credits contains no recommendations.

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## SUMMARY

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During early 1977, both the Congress and the Administration considered ways to provide more jobs through stimulus to the private sector. In addition to the usual sorts of tax reductions and expenditure increases, attention was focused on subsidies to induce businesses to employ more workers. President Carter included an employment tax credit in his economic stimulus package, an alternative was passed by the House, and the Senate Finance Committee produced a modified version of the House bill. All three were designed to have an estimated revenue cost of about \$2.4 billion.

### Alternative Employment Subsidies

The President proposed a general subsidy applicable to all private sector employment; it would offer a credit that would reduce income tax liability by 4 percent of the employer's social security contribution (a maximum of about \$40 per worker, per year). The credit would be refundable to the extent that it exceeds tax liability. Under the President's proposal, firms would be allowed an option to the employment tax credit--an investment tax credit increase to 12 percent from 10 percent.

The House passed a more restricted type of subsidy, the Jobs Tax Credit included in H.R. 3477, The Tax Reduction and Simplification Act of 1977. The Jobs Tax Credit is intended to subsidize only increases in employment and places limits on the amount of credit available per firm and per employee. This tax credit would be 40 percent of the first \$4,200 of annual wages (that is, a maximum of \$1,680 per employee) to employees hired in excess of a threshold of 103 percent of the firm's employment base in the prior year, up to an annual maximum credit of \$40,000 per taxpayer.

The Senate Finance Committee version reduced the subsidy rate to 25 percent of the first \$4,200 of annual wages (a maximum of \$1,050 per employee) to employees

hired above the threshold. The Finance Committee reduced the incentive further by subtracting the amount of the credit from the deduction employers may take for wage payments. The Finance Committee liberalized the credit, however, by removing the credit limit per firm. In addition, firms were allowed the option of an increase in the investment tax credit as under the President's proposal.

Although there is a wide variety of employment tax credits, they all have a common purpose: to reduce labor costs of employers without reducing wages received by workers, and thus to encourage more employment. Ideally, an employment subsidy would induce a large number of jobs at low budgetary cost, would do so quickly enough to operate as an effective countercyclical employment stabilizer, would be administratively simple, and would not have undesired economic side effects or hidden costs.

Unfortunately, an ideal employment subsidy does not exist (nor does an ideal type of any other subsidy). Because the subsidy seeks to induce firms to increase employment, some time will be required for business managers to respond to the incentive. Furthermore, a large permanent cut in wage costs is probably necessary to induce businesses to change to more labor intensive production methods. A large subsidy per worker would either imply sizable budget costs or require some limits on eligibility for the subsidy. Eligibility limits would increase administrative complexity. The lags are probably greater and the response weaker when sales prospects are low or uncertain--which is when the subsidy would be needed most.

General Subsidies. A general employment subsidy program applicable to all employment would pose the least administrative difficulties. But a general employment subsidy would be spread over the entire work force, and thus the subsidy level must be a small proportion of the wage if program costs are to be kept low. President Carter's proposed employment subsidy would reduce tax revenue by about \$2.4 billion annually while reducing wage costs by less than 0.25 percent. It is doubtful that a general employment subsidy of this amount would have a noticeable direct impact on employment. Such a subsidy could be expected to have about the same indirect

employment effect as a business tax cut that increases the federal budget deficit by the same amount.

Marginal Subsidies. Marginal employment subsidies that restrict the subsidy to increases in a firm's work force have been proposed as a means of enhancing the direct job-creation effect. A marginal subsidy would reduce, but not eliminate, windfall payments (payments made for increases in employment that would have occurred without the subsidy), and thus would create more jobs per dollar of subsidy. There do not appear to be objective and readily administrable procedures for identifying employment decisions that would not have been made in the absence of the credit. 1/

The Jobs Tax Credit passed by the House and the Senate Finance Committee approximates this elusive result by specifying a threshold of 103 percent of the firm's prior year employment, as measured by its wage base subject to the Federal Unemployment Tax Act (FUTA). Wages up to a maximum of \$4,200 per employee are subject to FUTA. Increases in the firm's FUTA wage base that exceed the threshold would receive a subsidy. But because annual employment growth in most firms is different from 3 percent, the 103 percent threshold will exclude some slower growing firms from participating in the program (those firms account for about 30 percent of employment), and some faster growing firms will be paid subsidies although no new employment is induced. Furthermore, changes in excess of 103 percent of a firm's FUTA wage base will be an inaccurate measurement of additional full-time equivalent workers induced by the subsidy because changes in wage rates and in the use of part-time workers will occur. Because of the \$4,200 wage base limit, employers might maximize their subsidy by employing part-time rather than full-time workers.

The rough estimates available suggest that a marginal employment subsidy, such as the Jobs Tax Credit,

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1/ Testimony by Laurence N. Woodworth, Assistant Secretary of Treasury for Tax Policy, before the Senate Select Committee on Small Business, February 22, 1977.

would result in more direct job creation per dollar of outlay than would a general employment subsidy.

This gain is achieved, however, at the cost of several anomalous consequences of a marginal subsidy being tied to increases in employment. A marginal credit will not provide much aid during periods of weak demand when firms are cutting back. Firms have an incentive to reduce employment during a downswing, thus adding to the depth of a recession, and then build from a low base in recovery. In addition, a marginal subsidy will provide little, if any, aid to those firms whose sales are static or declining either cyclically or over the long run. This may intensify structural employment problems specific to geographic localities, industries, or firms.

Selective Ceilings. Ceilings that limit the amount of subsidy per employee or per firm are another method for controlling costs. Restrictions on the applicability of the subsidy program may cost some businesses the opportunity to respond to the employment incentive, however, and supervision and auditing requirements may be increased.

The House bill allowed a maximum annual credit of \$40,000 per taxpayer. The ceiling (or "cap") limits the incentive for the large firms that are apt to be subject to the cap. The capped subsidy may provide little help to localities where employment depends mainly on large firms. The Finance Committee eliminated the cap.

When the FUTA maximum wage level of \$4,200 (or the Federal Insurance Contributions Act (FICA) level of \$16,500) is used as the basis for the subsidy, administration is eased somewhat since most employers already keep these records and report them to the government. Administrative problems still remain. For example, regulations would be required for crucial but ambiguous items such as the treatment of new firms and part-time employees. Further attempts to limit these windfall payments would involve additional administrative costs, and the more elaborate the attempt, the higher the cost. Even though the FUTA maximum level is scheduled to increase to \$6,000 on January 1, 1978, the Jobs Tax Credit

would continue to subsidize just the first \$4,200 of wages per employee. Should this happen, the reporting system would require adjustment, and administration would become more difficult.

Categorical Subsidies. Proposals for categorical employment subsidies have also been offered as an effective means for dealing with the employment problem of specific groups. The more narrowly defined the target category, however, the larger the administrative cost and the higher the subsidy will probably have to be to induce firms to participate. The disappointing results obtained from the WIN tax credit aimed at AFDC recipients indicate that employers may lack enthusiasm for categorical subsidies of this kind.

#### Should Private Sector Employment Incentives Be Direct Subsidies or Tax Credits?

Whether a direct subsidy is preferable to a tax credit depends upon the job-creating objectives of the program and, therefore, on the specifics of its design and the capability of the agency that would administer it. IRS is a tax collecting agency, whereas other government agencies, such as the Departments of Labor and Health, Education and Welfare, are more employment program-oriented, more familiar with the characteristics of certain labor markets, and may be better equipped to administer an employment subsidy. On the other hand, employers may prefer to deal with the IRS rather than the more program-oriented agencies, perhaps in the belief that an IRS program would necessarily include fewer administrative restrictions.

Whether an employment subsidy is a direct outlay program or a tax expenditure in the form of a tax credit may determine who is eligible to participate. If a tax credit is not refundable, the full subsidy would not be available to firms with tax liability less than the subsidy. In addition, special provisions would be necessary to make a tax credit available to nonprofit institutions, whereas special treatment would not be necessary in a direct subsidy.

Because employers can deduct total labor costs from their taxable income, a further reduction in tax liability from an employment tax credit can reduce the after-tax cost of labor substantially, even below zero if the employer's marginal tax rate and the subsidy rate sum to more than 100 percent. This result can be avoided if taxpayers are able to deduct only the unsubsidized wage cost.

Whether Congress can best exert proper control on an employment subsidy or an employment tax credit should be a major concern when the program is designed. In the past, tax subsidies have been less visible in the federal budget and less subject to periodic review and control.

### Effects on Inflation

Employment tax credits have been suggested as a means of stimulating employment, with less inflationary potential than a general tax cut. The extent to which this can occur depends on how various labor markets respond to the subsidy. There appears to be no evidence to confirm or deny the proposition that employment tax credits are less inflationary than general fiscal stimulus.

### Estimated Effects of Employment Stimulants

Unfortunately, federal tax or expenditure policy changes of only a few billion dollars rarely produce employment impacts large enough to be measured with any confidence by any technique or model, and therefore it is even more unlikely that estimated differences among such changes are meaningful. As might be expected, the simulated effects on unemployment and inflation show little basis for choosing among the alternative ways to spend \$2.4 billion.

Analysis and simulations suggest that a general employment tax credit, such as the President's proposal, would produce at least as large an increase in GNP as a general business tax reduction of the same amount. Such a program is not as easy to administer because of the

extra step in the auditing process and because of the optional 2 percent increase in investment tax credit. But, because of the option, the proposal would provide more tax relief to more businesses than would either an increase in the investment credit or an employment tax credit without the option.

The Jobs Tax Credit has approximately the same revenue cost as the Carter proposal. It may induce more jobs than the Carter proposal, although this is not certain. With the Jobs Tax Credit there is a loss of simplicity as compared with the Carter proposal, and the business tax relief is less general because of the threshold feature. The Jobs Tax Credit has many special features that cannot be accounted for in the CBO Multipliers Model 2/ or in the large-scale econometric models commonly used for fiscal policy simulation. Using a variety of methods, none of which are precise, CBO estimated that as a rough guide the Jobs Tax Credit passed by the House would probably yield a slightly larger reduction in unemployment than would the Carter proposal. The Senate Finance Committee version of the Jobs Tax Credit would tend to have less of a direct employment effect than would the House version.

As between an employment tax credit and an alternative such as public service jobs, there is little to choose based on the simulated effects on unemployment and inflation. Another basis for comparison is that an employment tax credit helps private businesses, whereas the direct effects of public service jobs are in the government sector. Whether either of the types of jobs would survive the removal of federal spending is an important and unresolved issue.

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2/ See Chapter IV for a discussion of the model.



By historical standards, unemployment in the early months of 1977 remains high. Both the Congress and the Administration have argued that more jobs in the private sector might result from employment subsidies, usually in the form of tax credits. One tax credit--equal to 4 percent of the employer's social security tax--was suggested by President Carter. Another--the Jobs Tax Credit--has been passed by the House and modified and passed by the Senate Finance Committee. Employment tax credits or subsidies are a new and as yet generally untried mode of fiscal stimulus, and thus our understanding of their potential effects is highly uncertain.

Employment subsidies have been offered as ways to accomplish three objectives:

- o Lessen the high overall rate of unemployment;
- o Dampen inflationary tendencies when stimulative policies are adopted; and
- o Reduce the disproportionately high levels of unemployment and underemployment that persist among some groups of workers during both good times and bad.

This paper deals with employment tax credit proposals by focusing on several questions:

- o What economic effects can be expected from different types of employment subsidies?

Is an employment subsidy more effective as a countercyclical employment stabilizer than other policies such as a general tax reduction?

Are these subsidies especially effective in retarding inflationary pressures?

Are they particularly useful in solving structural employment problems?

- o What design and administrative problems can be anticipated for various employment subsidies?

Is there an advantage in structuring the employment subsidy to work through the tax system?

There is a wide variety of possible employment subsidies. All have one common purpose: to encourage more employment by reducing labor costs without reducing wages. The extent to which any subsidy will achieve this purpose is an open question because response to the subsidy among businesses and workers is difficult to predict. The following analysis explains how employment subsidies work and is intended to give some rough guides to their effect on employment and inflation. It also provides some of the background needed to understand the problems involved in designing and administering an employment subsidy. These difficulties are discussed more fully in Chapter III.

### GENERAL EMPLOYMENT SUBSIDIES

President Carter's proposal to allow a tax credit for 4 percent of the employer's share of the social security tax is one example of a general employment subsidy. 1/ It would cost about \$2.4 billion in revenue and reduce wage costs by approximately 0.25 percent. Because general employment subsidies apply to all covered wages without any threshold or ceiling, they would be relatively simple to implement.

#### Effects on Employment

In the Immediate Short Run. Despite the reduction in labor costs that a general employment subsidy would offer, a business might not hire more employees immediately. The extra funds provided by the subsidy could

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1/ Businesses are offered the option of taking a two percentage point increase in their investment tax credit (to 12 percent from the current 10 percent).

simply be retained by the firm until managers take time to revise employment or pricing plans. A firm is less likely to respond to it by quickly increasing its work force, canceling planned layoffs, or changing its pricing plans if it faces weak or uncertain sales prospects, if the subsidy is temporary, or if it is a relatively small fraction of the wage. Such factors make the probability of employment changes less certain. A general subsidy spread over the entire work force would likely be a small fraction of the wage if budgetary costs are to be kept within reasonable limits. For example, a \$10 billion subsidy would amount to less than a 1 percent reduction in wage costs.

If a general employment subsidy does not directly increase employment--by inducing changes in production or sales plans--it may do so indirectly by raising aggregate demand. If the payments provided by a general employment subsidy were simply retained by a firm, then they could be expected to have about the same indirect employment effect as a general business tax cut of the same amount. Businesses would have more funds to spend on investment or to distribute among owners; this would increase aggregate demand and eventually reduce unemployment. The resulting increase in employment, however, would be attributable to the stimulative effect of the rise in the deficit rather than the particular employment-oriented form of the subsidy.

Within a Moderate Adjustment Period. In the slightly longer run (six to 18 months after enactment), firms are more likely to find it profitable to adjust to reductions in unit labor costs by hiring more workers and producing more output for sale at lower prices. The subsidy might also encourage businesses to modify production methods to use relatively more labor and less capital equipment. These changes would require time, and their magnitude would depend on the strength of the demand for the firm's product, on general business conditions, and on the size and permanence of the subsidy. In particular, modifications in production methods that significantly alter the relative use of labor or the skill level of workers usually require a long adjustment period and a sizable inducement.

A given wage subsidy, however, would not necessarily reduce unit labor costs by the amount of the subsidy and thus may be less effective than it would appear to be at first glance. Newly hired workers may require costly training. At the bottom of a recession, there may be more employees available; but employers may not hire because of poor business conditions. As recovery begins, employers will hire, but the available unemployed may be less suitable to fill the job openings. Employers may then incur training costs, which consume the subsidy and diminish its net value and thus its incentive effects. Also, competition for more skilled workers or wage negotiations may raise wages and inhibit increases in employment, especially during recovery periods. The more the subsidy induces wages to be raised, the less it can be distinguished from a general income tax cut in its countercyclical effect on employment.

This reasoning suggests that a general wage subsidy is not much different from a general tax cut in its effect on stabilizing employment levels.

### Effects on Inflation

Some observers argue that employment subsidies are attractive because they raise demand by reducing costs rather than by stimulating demand directly and that they thus tend to be less inflationary than traditional fiscal stimulants. By reducing unit labor costs, a general employment subsidy may provide an initial reduction in the price level, and could thereby reduce inflationary expectations and hence the path of future prices. The ability of employment subsidies to accomplish this, however, is limited by the way wage rates change as labor markets respond to the subsidy. Such responses will vary with general business conditions, being weaker during downturns than upturns. During a recovery, if a general employment subsidy reduces the cost of all types of labor proportionally, it will neither reduce demand for trained workers nor encourage a faster upgrading of less skilled workers than would an income tax cut. But unless the demand for workers can be redirected from tight labor markets to those in which wages are not so likely to be raised, the overall increase in the demand for labor will,

during a recovery for example, raise wages and increase inflationary expectations. In that case, a general employment subsidy exerts inflationary demand pressure similar to that resulting from any stimulative fiscal policy.

### Effects on Structural Employment Factors

Because only a small fraction of a general employment subsidy would be paid to employers of hard-to-employ individuals, it would be only a weak factor in directly reducing the so-called "structural employment" problems. 2/ For example, unemployment caused by the minimum wage 3/ could be mitigated by a wage subsidy, but not perceptibly if the subsidy amounts to only a small share--1 or 2 percent--of the wage bill (and such a subsidy would have a budget cost of \$10 billion to \$20 billion). A general wage subsidy is not nearly as well suited to alleviating structural employment problems as is a subsidy focused on hard-to-employ groups of workers. It is argued, however, that even a subsidy focused on such groups will not be effective unless business conditions are strong. Also, a general employment subsidy

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2/ Structural characteristics of the labor market include low demand for low-skilled workers, geographic imbalances of economic growth, job availability vs. potential workers, race and sex discrimination. These characteristics restrict the employment possibilities of some groups of workers. For a discussion of these problems, see Public Employment and Training Assistance: Alternative Federal Approaches, CBO Budget Issue Paper, February 1977.

3/ There is a consensus that the minimum wage reduces employment somewhat below what it would otherwise be; but there is no consensus on the magnitude of its effect on employment or on the availability of training and experience. For further discussion, see Policy Options for the Teenage Unemployment Problem, CBO Background Paper No. 13, September 21, 1976.

can, by stimulating the economy, help curtail the widening of unemployment differentials that afflict the hard-to-employ during recessions.

#### MARGINAL SUBSIDIES--SUBSIDIZING INCREASES IN EMPLOYMENT

Some proposals would provide subsidies only for employment (or amount of payroll) in excess of an established threshold--that is, "marginal" subsidies.

In March 1977, the House passed the Jobs Tax Credit bill, containing a nonrefundable tax credit of 40 percent--25 percent in the Senate Finance Committee version--of the first \$4,200 in wages for each worker employed in 1977 in excess of a threshold of 103 percent of the employer's 1976 employment base--measured in dollar terms by the employer's total Federal Unemployment Tax Act (FUTA) tax base. The Senate Finance Committee further reduced the incentive by requiring employers to subtract the credit from the wage costs they deduct in computing their tax liability. In the House version, the total credit to each taxpayer is limited to \$40,000 per year; the Senate Finance Committee eliminated this ceiling. The Senate Finance Committee version also allows firms the option of a 2 percentage point increase in the investment tax credit--to 12 percent from 10 percent--instead of the Jobs Tax Credit. The credit applies also in 1978, with the base period moving to 1977.

Ideally, a marginal subsidy would be paid only for increases in a firm's work force that otherwise would not occur. As a result, the potential number of new jobs per dollar of subsidy would be greater than when payment is based on total employment--such as in the case of a general employment tax credit. In practice, however, a threshold will not guarantee the creation of net new jobs. For example, if a firm that qualifies for the credit simply uses the subsidy to hire workers away from a firm that does not qualify, no net new job creation has resulted from the subsidy. Nor will the threshold completely limit the subsidy to just those jobs induced by the program. The 103 percent threshold in the Jobs Tax Credit is an attempt to deny the credit to those increases that would occur as a result of normal growth without the

subsidy. The less perfectly the threshold works, the smaller is the number of induced jobs compared to the total number of subsidized jobs. The less the subsidy is limited to induced jobs, the less it does to minimize the inflationary tendency that may accompany more general fiscal stimulus. In other words, the more windfall payments are generated, the more the marginal subsidy produces results similar to a nonmarginal employment subsidy or a general fiscal stimulant. However, minimization of windfalls is not an end in itself; if the subsidy is designed largely to avoid windfalls but is only a minor inducement to add workers, subsidy payments will be negligible and will not provide significant stimulus. Moreover, attempts to limit windfalls will involve administrative costs--both to the government and employers--and these are discussed in Chapter III.

#### The Base and Job Creation

Because the base must be set arbitrarily, it is incorrect to assume that all increments to a firm's work force have been caused by the incentive payment. To illustrate, if the base is set at the level of employment in a recession year, some increases in excess of the base would normally occur in a recovery (without any subsidy), but they would be eligible for the subsidy. Longer-term growth due to increased demand for a firm's products, though unrelated to the subsidy, can also be misread as induced employment (jobs created by the program) and be rewarded by such an incentive system. On the other hand, the threshold can exclude some firms whose growth is below the threshold. The 103 percent threshold would exclude firms that account for about 30 percent of total employment from participating in the Jobs Tax Credit.

#### Anomalies of Larger Subsidies for Increased Employment

The essence of a subsidy to induce additions to the work force is that it provides larger benefits the more employment is increased. This characteristic has several anomalous consequences. While this incentive feature is a highly desirable quality during recovery from recession, it will not provide much aid during periods of weak

demand when firms are cutting back. <sup>4/</sup> That is, with a shrinking employment base, no subsidies will be paid. Furthermore, firms have an incentive to reduce employment during a downswing and then build from a low base in recovery to enlarge their subsidy receipts. This may actually increase rather than decrease swings in employment levels.

Because geographic regions, industries, and individual firms experience changes in demand and employment needs at different times--rather than moving in cadence--a marginal subsidy will allocate relatively less aid to those regions, industries, and firms that are declining or recovering or growing most slowly. In 1975, for example, automobile manufacturing firms that were recovering from the recession would have benefited substantially from a marginal employment subsidy, whereas those that were not yet into a recovery would have gained little. Although less well documented, the same unequal pattern of distribution would seem to apply over the entire economy.

Differences in longer-run growth--in addition to cyclical conditions--can also affect the distribution of subsidies resulting from a marginal employment tax credit. Compared to businesses with stable or declining employment, more rapidly growing firms would receive larger amounts of aid under a marginal employment subsidy. This result tends to intensify structural employment problems concentrated in some geographic localities, industries, or firms. For example, a northeastern shoe manufacturer would likely receive relatively less help than a rapidly growing electronics parts producer in the southwestern region of the United States.

#### Variable-Base Marginal Subsidies

More elaborate marginal employment subsidies have been proposed--one, for example, by Senator Bentsen--in

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<sup>4/</sup> In this situation, the base could be set below previous employment levels, but doing so would provide large windfalls for those firms whose employment is not declining.

an effort to provide an effective countercyclical incentive. Instead of remaining fixed, the employment base is varied according to general business conditions, lowering it (for example, to 90 percent of the prior year) to provide stimulus during recessions and raising it (perhaps even above 100 percent) when inflationary pressures build.

An attractive feature of this idea is that businesses are provided with an incentive not to fire workers during a recession; as the base is reduced, workers already employed above that threshold are counted as eligible in computing the firm's subsidy. But successful application of this idea requires a more delicate sense of timing of economic events than has been demonstrated in the past.

One approach to the timing problem is to establish a rule by which the base automatically varies countercyclically--for example, with the overall rate of unemployment. But the design of a successful general rule presupposes a solution to the timing problems that tend to frustrate even the simplest general employment subsidy when it is used as a countercyclical employment stabilizer. The problems are even more pronounced for a rule that applies to a marginal subsidy because in this case the rule must account for the time employers require to decide whether it is profitable to hire additional labor in response to the subsidy, and it must also embody a prediction of the extent of the response, so as to include an estimate of the total dollar amount of the subsidy.

Because little is known about time lags for business decisions, it is difficult to incorporate them into a simple automatic trigger to vary the base. Furthermore, a simple rule keyed, for example, on an aggregate unemployment rate cannot account for the sizable variation in unemployment rates among regions, industries, and firms at different stages of the business cycle. For example, firms that are slower than average in recovering from a business downturn may be on the verge of adding workers at a time when the aggregate unemployment rate declines and triggers a reduction in the subsidy. When

fiscal devices fail to account properly for time lags and the real variation in business conditions among various sectors of the economy, they may aggravate rather than smooth out the cycle. In addition, sizable administrative problems would be encountered in implementing such a program; some of these are discussed in Chapter III.

### CATEGORICAL EMPLOYMENT SUBSIDIES

Some proposals restrict the subsidy to the employment of specific categories of workers--such as the chronically unemployed--and are more concerned with structural employment problems than with cyclical unemployment. For example, the WIN tax credit 5/ is available to employers who hire AFDC recipients. Restricting an employment subsidy to selected groups of workers has been advocated on the grounds that it will alleviate structural employment problems, contribute to a reduction in the overall unemployment rate, and do so with less inflation than more general fiscal instruments. Economic aspects of this discussion are considered in this section, and difficulties in administering categorical employment subsidies are considered in Chapter III.

### Alleviating Structural Employment Problems

An employment subsidy restricted to groups of hard-to-employ workers, such as those unemployed for over 26 weeks and teenagers, 6/ may alleviate structural employment problems. Such a subsidy lowers the cost of employing the selected group--absolutely and relative to others--and thereby encourages firms to use more of the designated category.

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5/ The WIN tax credit is described in detail in Appendix B-2.

6/ Chapter III discusses administrative problems in defining such classifications and focusing a subsidy on them.

Whether businesses will respond to a categorical employment subsidy and use subsidized workers rather than unsubsidized workers or capital equipment depends on many economic and administrative factors. A subsidy is more likely to induce hiring of the selected group if business managers perceive subsidized workers as substitutes for unsubsidized workers or machines, and if it is easy for managers to identify and employ prospective workers qualified under the subsidy, while keeping administrative costs low. Replacement of unsubsidized workers with subsidized ones is less likely the more the firm has invested in training its current workers and the higher the cost of finding and employing workers who qualify for the subsidy. Search and administrative costs to the firm are usually higher the more narrow is the category being subsidized.

Experience with the WIN tax credit indicates that employers may have little enthusiasm for categorical subsidies, but extrapolation of the effects of this program to other categorical subsidies should be treated with caution. Two reasons have been suggested for this lack of enthusiasm: (1) employers may view eligible workers as poor risks; that is, eligibility for a subsidy is a stigma that reinforces the view that the worker has productive potential lower than the cost of employment even with the subsidy and (2) the program may entail too much red tape. 7/

How the employer responds to a categorical employment subsidy determines the effectiveness of the subsidy in remedying structural employment problems. These problems endure not only because of characteristics of workers themselves, but partly because of the characteristics of the jobs held by the hard-to-employ. Continued experience in jobs characterized by low productivity, unstable employment, and few training opportunities reduces the potential that these workers will become employed in "better" jobs at a later date.

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7/ Daniel Hamermesh, Indirect Job Creation in the Private Sector: Problems and Prospects, unpublished manuscript, dated March 1977, prepared for the Brookings Conference on Job Creation, April 1977.

Whether or not an employment subsidy can break this cycle depends upon whether the employer finds it profitable to use the subsidy to provide targeted groups with training and productive job opportunities. This upgrading is more likely if the subsidy is large, of more than temporary duration, and if the employer's labor needs are growing. If, on the other hand, the employer uses the subsidy only to provide employment opportunities similar to those currently facing the hard-to-employ, the subsidy will not alleviate the long-run problems of these workers. Furthermore, a categorical subsidy, by lowering the price of unskilled workers relative to skilled workers and capital equipment, may encourage businesses to shift toward unskilled production methods, thereby diminishing the subsidy's impact on employment problems.

### Reducing Aggregate Unemployment

The level of employment will not increase if the firing of an unsubsidized worker accompanies the hiring of a subsidized one, but the distribution of employment opportunities and unemployment may become more equal--which may be a policy goal itself. The more rapid the rate of economic growth and therefore the growth of employment needs, the more subsidized workers can be hired without laying off unsubsidized ones. To the extent this occurs, both the overall rate of unemployment will decline and the distribution of unemployment among various groups of workers will become more equal.

### Lessening Inflationary Tendencies

By shifting demand for labor away from skilled labor markets that are relatively tight and toward markets with greater unemployment, a categorical employment subsidy could lessen the inflationary tendencies of general fiscal stimulus during recovery periods. Less pressure on wages and hence prices will result if, compared to skilled labor, the supply of subsidized labor is more responsive to wage increases. There appears to be no evidence, however, to confirm or deny the proposition that a categorical employment subsidy would be less inflationary than general fiscal stimulus.



To design a successful employment subsidy, administrative considerations must be weighed simultaneously with economic considerations. Two aspects of program design and administration are important. The first results from efforts to focus the subsidy and increase its job-creation effectiveness. Restrictions on the applicability of an employment subsidy have the potential to increase the number of new jobs initially created per dollar of subsidy. But these restrictions complicate program design, and the complexity may not only increase the administrative costs to both the government and firms, but also, in fact, reduce the job-creating effectiveness of the subsidy. The second aspect is whether the program should be administered as a direct budget outlay or as a tax credit.

#### ADMINISTRATIVE COMPLEXITY, JOB-CREATING EFFECTIVENESS AND PROGRAM COSTS

Restrictions designed to improve the effectiveness of an employment subsidy by limiting its applicability will increase administrative problems for both the government and subsidy recipients. In designing an employment subsidy, the Congress should consider the tradeoff between job-creating effectiveness and the ease of program administration and ask whether the increased effectiveness, if any, of a more complicated program is worth the additional cost.

#### General Employment Subsidy

The more general a subsidy, the less the administrative complexity. A program that applies to all employment would pose the least administrative difficulty because it would involve few restrictions requiring regulations, and consequently program interpretation, compliance, and enforcement would be facilitated. A subsidy based on the employer's social security

contributions, for example, would present little complexity and could be administered with little additional cost to either the government or participating firms because already existing auditing procedures would probably not have to be increased substantially.

### Employment Subsidies with Limited Eligibility

Limitations to general applicability will, by their very nature, introduce problems of definition and interpretation that may require numerous regulations and extensive government involvement to monitor applicants and participants and enforce the restrictions. Thus, the more complex is an employment subsidy program, the higher will be the government's administrative costs. These costs add to the total cost of the employment subsidy program and thus to the cost of each new job.

Increased program complexity also affects the behavior of prospective subsidy applicants. First, the more complex the program, the more costly the firm's record keeping and other administrative processes, such as recruitment. In addition, subsidies that apply only to certain individuals normally require more government supervision and auditing. Many firms find this interference bothersome as well as an invasion of privacy. As a result, the net benefits of the subsidy to the firm may be substantially less than the amount specified in the statute, and this difference may reduce program participation.

Eligibility restrictions also complicate the process of adequately informing prospective participants about programs to stimulate employment. A recent study found that because large firms typically separate their hiring and accounting departments; the hiring departments were uninformed about the WIN program. 1/ Similarly, small

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1/ Institute for Manpower Program Analysis, Consultation, and Training, Interim Report on the Study to Assess WIN and Welfare Tax Credits, prepared for the U.S. Department of Labor, 1975.

firms often lack the managerial capacity to become informed about and utilize new tax advantages, and such lost opportunities would dilute the effectiveness of the program. 2/ These problems are often cited as reasons why the WIN tax credit has been little used. Most of the employment tax credit legislation presented to the 95th Congress is at least as complex as the WIN tax credit, and may have the same administrative problems.

### Marginal Subsidies

A marginal subsidy would create more administrative problems than a general employment subsidy. The investment tax credit, for example, does not have a threshold requirement in part because of the difficulty in managing a program that subsidizes only increments above a base level. It is no simple task to inform some potential applicants--small proprietorships lacking accounting and legal counsel--about how a marginal employment subsidy actually works, and it may be equally difficult to monitor the attempts of other firms seeking to manipulate the program. Defining a marginal subsidy's base so that it works in a practical way is a major administrative obstacle. For example, what is the 103 percent threshold for a firm with two employees? 3/

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2/ Of course, the larger the subsidy the more likely it is that information about the program will be widely disseminated.

3/ Note that about 42 percent of about 3.4 million firms have nine or less employees, so specific regulations for small firms would be essential. The Jobs Tax Credit bill (H.R. 3477) deals with this problem by measuring the firm's employment base by the amount of its payroll subject to FUTA. But, as noted in the following paragraph and in a following section on "Selected Ceilings," not all the difficulties are avoided.

Furthermore, to assure proper application, it is necessary to specify rules under which the credit can be claimed by an employer who begins business by acquiring an existing firm after the date the credit goes into effect. Otherwise, by simply closing the firm under one name and reopening it under another, employers could increase the number of their workers eligible for the subsidy; a bookkeeping change would increase the number of workers eligible for a marginal subsidy without actually increasing the firm's employment. Also, sale of part of a firm could cause a loss of subsidy even though employment increased above the threshold in the part of the business that was retained. Specific regulations regarding eligibility for the credit are required in the case of mergers, acquisitions, divisions, and similar transactions.

It is difficult to assure accurate measurement and reporting of a firm's base period employment. Unemployment insurance and social security records are the best records of an individual's employment. Even these payroll tax data, however, can provide only an approximation to full-time equivalent employment because some employment is not reported and some would be mistakenly counted more than once. <sup>4/</sup> An average employment level would be difficult to derive from this information even though total employment might be available. Modifying either set of records to serve more adequately as the reporting base for a marginal employment subsidy would be expensive and time consuming for both the government and participating firms.

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<sup>4/</sup> For calendar year 1977, the FUTA and FICA (social security) tax bases respectively cover only the first \$4,200 and \$16,500 of each employee's annual wages. Therefore, an employee may reach the maximum working less than a year for firm X, transfer to firm Y, and be counted on the rolls of both firms. Another employee may make the reverse move--from company Y to X--and will also be recorded on the rolls of both companies. In addition, most but not all firms are covered under the FUTA and FICA systems.

Similarly, it is difficult to measure and report annual changes in employment. In contrast, the dollar amount of total payroll is readily available, but a subsidy based on a payroll increase may subsidize a rise in wages without any increase in employment. The Jobs Tax Credit deals with this problem by using the unemployment insurance base.

Some of the pending legislation (see Appendix B-1) would deny the credit to firms for new employees if they displaced other workers. This requirement would be very difficult to enforce because the reason for discharge of an employee would be hard to determine.

The mechanics of establishing a firm's employment base and measuring changes from that base should be easily understood. If they are not, businesses may reduce their participation in a program rather than accept the government supervision associated with effective auditing and enforcement procedures.

#### Variable-Base Marginal Subsidies

A variable-base marginal subsidy involves additional difficulties. For reasons discussed above in Chapter II, if it is not properly designed, its operation may aggravate rather than alleviate cycles in the economy. Furthermore, it would not be easy to administer. How and when the base, or threshold, should vary must be clear. Because a variable-base subsidy would be designed as a counter-cyclical tool, adjustments in the threshold would likely be keyed to the unemployment rate. Movements in the base--upward when the unemployment rate falls and downward when it rises--would require the agency that administers the subsidy to keep firms posted currently on variations in the threshold; the more frequent the variation, the closer the supervision. Participating firms would confront sizable accounting and management tasks in keeping abreast of and responding to changes in terms of the subsidy, especially if there are several variations in the base during one credit period.

## Selective Ceilings That Limit the Amount of the Subsidy

Adequate enforcement of a program that places selective ceilings on subsidies will require written regulations that are subject to interpretation and appeal. Thus, the subsidy will involve more government supervision and auditing than a program without such constraints. In addition, such ceilings, especially when combined with a threshold requirement, make it more complicated and costly for businesses to comply with the rules and thus may reduce participation, particularly by smaller firms that would benefit most from the subsidy.

Commonly mentioned selective ceilings are:

- o Limiting the dollar amount of subsidy per firm;
- o Limiting the number of eligible employees per firm;
- o Limiting the dollar amount of subsidy per individual;
- o Phasing out the subsidy with a variable ceiling; and
- o Turning off a marginal subsidy when employment reaches a certain percentage of previous employment.

Most of the employment subsidy legislation pending in the 95th Congress includes at least one of these.

To administer properly a ceiling (or cap) on the dollar amount of subsidy per firm, it is necessary to define the term "firm" with rules that preclude employers from increasing their subsidy by dividing a large firm into several smaller ones. The House version of the Jobs Tax Credit included a \$40,000 cap per taxpayer and specified rules for computing the amount of the credit when firms change form or change hands. In implementing the rules the Treasury Department would have to issue regulations that would be administered by the IRS. The Senate Finance Committee eliminated the cap in its version.

A cap on the maximum credit per firm limits the incentive for the large firms that are apt to be subject to the ceiling. For example, the \$40,000 maximum in the House bill would eliminate the incentive for large firms that account for about 36 percent of employment. <sup>5/</sup> Such a subsidy may provide little help to localities where employment depends mainly on large firms. The lower the maximum, the more firms will refrain from participation because of overhead costs associated with the program.

The same difficulties apply to a ceiling on the number of employees per firm, but, in addition, distinctions among employees may also be involved. For example, the treatment of part-time employees as compared to full-time employees may require special rules.

A ceiling on the amount of subsidy per employee may also cause administrative difficulties for both participants and government. The administration of a subsidy with limits on the amount per employee is simplified by specifying the subsidy as a percentage of either the unemployment insurance base or the social security tax base. These bases are readily available because firms already keep records and submit reports on them. In contrast, a subsidy of a flat \$5 per worker-day would presumably require the complication of specifying and reporting full-day equivalents. Even the unemployment insurance and social security tax bases present some problems because they are both scheduled to change. If the wage maximum for the subsidy is not altered commensurately, neither existing reporting system could be used without alteration.

A low subsidy base limit--such as the Jobs Tax Credit FUTA base of \$4,200 per employee--focuses the subsidy on low-wage employees and part-time rather than

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<sup>5/</sup> About half of the employment in manufacturing industries, for example, is in firms with over 3,000 employees, and an employment increase of less than 1 percent would push such firms over the ceiling and thereby limit the amount of the credit.

full-time or overtime workers, and thus favors retail trade and services, including legal, medical, and accounting establishments. 6/ A low base also offers an inducement to "churn" low-skilled workers, that is, to employ a worker up to the \$4,200 maximum, fire the worker and hire another, and repeat the procedure. To prevent churning, the House bill included several safeguards. The major one was eliminated by the Senate, at the request of the Treasury Department, on the grounds that it was not administratively feasible for the IRS to determine whether an employer replaced one employee with another in order to obtain a credit. An increase in the subsidy base would change the focus of the subsidy more toward full-time, average-wage workers. For example, the subsidy could be based on the social security wage base limit of \$16,500. One disadvantage of doing so is that wage inflation could be misread as an increase in a firm's employment. For example, a 10 percent wage increase from \$15,000 to \$16,500 could not be distinguished in this base from a 10 percent increase in employment. With a \$4,200 base, very few full-time workers would earn less than the maximum, and therefore wage inflation would not contaminate the base.

### Categorical Subsidies

Categorical subsidies that limit the type of eligible individuals would pose larger administrative problems for both program administrators and participants than would restrictions that limit the number of eligible individuals. In general, it is difficult to rank restrictions in order of administrative difficulty and costliness. It is safe to say, however, the more narrowly the eligible individual is defined, the larger will be the administrative difficulty and cost.

Some restrictions are more difficult to audit than others. It is easier, for instance, to determine whether an individual is receiving aid from another government

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6/ This focus tends to counteract the disincentive of the tax imposed by FUTA.

program than it is to document an individual's pattern of employment. Individual employment information is necessary for administering a marginal subsidy for the chronically unemployed. Such a program may require that eligible employees be unemployed for, say, six months prior to the subsidy and remain on the job for at least one year. If designed as a tax subsidy, the burden of administering such restrictions falls on the audit and enforcement staff of the IRS.

Target groups must be carefully delineated to avoid problems of interpretation of rules for eligibility. Inadequate specification may invite more misuse (and perhaps fraud) than those that limit only the number of eligible individuals. For example, a subsidy for low-income workers may require a definition of income for the individual or the family unit and an investigation to determine whether the workers are eligible.

Subsidies that limit the type of eligible individuals also place administrative burdens on participants. A firm may find it costly to maintain proper employee records. One problem is that an eligible worker may cease to be eligible during the accounting period. A worker who is subsidized, say, because his/her household income is below a designated poverty level may not fit into that category for the entire accounting period. A law must specify the consequences of such a change in status, and an employer may be required to maintain records to document the change or lack of change. As with other subsidies that require close government supervision, categorical subsidies increase the chance that prospective participants may elect not to apply for the subsidy. 7/ For instance, the WIN tax credit, which

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7/ The State of Maryland offered to employers a 33 percent subsidy of wages for hiring students during the summer of 1976. The subsidy was limited to \$200 per student and \$1,000 per firm. The maximum state expense for the program was limited to \$250,000, but participation was substantially lower than expected. In all, only \$68,000 was credited to the firms.

is available to AFDC recipients, has a very low participation rate--in part because of the large amount of bureaucratic red tape. 8/

### Other Provisions

In addition to monitoring and auditing requirements involving matters of eligibility, there are other provisions that shape the tasks of administering a wage subsidy. For example, whether the program is permanent or temporary may determine what type of auditing procedures should be established, both within the IRS and in coordination with other government agencies. Also, administration is complicated when a subsidy incorporates carryforward and carryback provisions. These features effectively increase the value of the subsidy and make the program more attractive to some prospective participants. Similarly, other programs may include provisions to recapture subsidies when employees or employers do not meet designated qualifications. This may occur if, say, an employer receives a subsidy for a worker who then quits work before a designated time period. Obviously, such provisions may create pressure to retain some employees; yet, such a provision may be necessary to prevent churning.

### CASH SUBSIDY OR TAX CREDIT?

In theory, there is little difference between a subsidy paid in cash or one allowed as a tax credit. Theory, however, may differ from practice. This section discusses some of these differences.

### Administration

A cash subsidy presumably would not be administered by the IRS while a tax credit would, perhaps in coordination with another department.

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8/ Interim Report on the Study to Assess WIN and Welfare Tax Credits.

Each year the IRS has numerous contacts with employers. Nearly every employer has a tax adviser eager to explain new tax programs. The ubiquity of the IRS and its related profession argue strongly that knowledge of a tax credit will reach potential participants, at least on the employer side.

Tax news finds its way to accounting or tax departments of business--but frequently not to their personnel departments. Also, if labor policy is embodied in a tax credit, the policy may be poorly described by the IRS and poorly understood by the firm's tax professional. Lack of understanding may lead to misuse or nonuse. The disappointing results of the WIN tax credit are often said to be testimony to these kinds of difficulties.

Often the IRS is claimed to be very efficient and provide fewer administrative impediments than other agencies. Their reputation for efficiency in this area probably arises because the IRS has usually not been required to obtain prior proof of eligibility for a program; programs administered by other agencies frequently require some kind of prior certification, a burdensome and time-consuming process. Where similar requirements are demanded of the IRS, its record is little better than other agencies. Where prior certification is required or where administration is shared with another agency as with pensions or with the WIN tax credit, the IRS's administrative expertise diminishes. Administrative simplicity, then, depends in large part on the nature of the enforcement activity required by the program. In the tax area, it is largely audits of tax returns several years after they have been filed. The technique is to grant the subsidy through a tax credit and take it away later if eligibility cannot be proved. This is a relatively quick and easy process. In contrast, very few direct subsidy programs to business operate in this fashion; eligibility must be shown before the grant is made, and therefore these programs are more burdensome administratively.

It is questionable whether the IRS auditing technique is well adapted to employment subsidies. Information about eligibility may not be readily available. For example, if a tax credit is offered only for new employees who do not replace employees discharged for the purpose

of obtaining the credit, the employer must maintain, perhaps for three years or more, records about discharges. If the credit is allowable only for employees who had been out of work for 26 weeks, an employer may be required on audit to provide the employee's work history. When the statute or regulation specifies the required records, then, unless prior certification assures that the necessary records are kept, the taxpayer may lose the credit even if the auditor finds the records only technically insufficient. But if documentation is not specified, lax enforcement may result because an auditor cannot easily dispute even fragmentary records.

Also, auditing is selective. Except for the very large companies, less than 10 percent of all taxpayers are audited. Thus, there is a great likelihood that no enforcement activity will occur, but until the time for audit passes, a taxpayer may be insecure about retaining the benefits of the credit in questionable cases.

An employment tax credit will add burdens for the IRS. The nominal cost of administration will be hidden in its budget. New auditing of employment tax credits will divert attention from other areas. But there may be other nonbudgetary costs that stem from the fact that the IRS and the tax profession may not understand labor policy. Unduly restrictive or overly tolerant IRS regulations may be promulgated because IRS personnel has little or no expertise in labor policy. But even if interpretations are accurately made, they will be applied by tax auditors who generally have little knowledge of labor policy, and who will make decisions based on legal and accounting technicalities rather than on the policy substance of the subsidy program. Enforcement thus may not only be uneven but may also be misdirected, and decisions denying or allowing the credit may have little relation to the goal to be achieved.

Given its design, the administration of a tax credit is different from that accorded a cash subsidy. This difference in administration is often perceived as being fundamentally different--something unique to the concept of tax benefits. However, this is not the case. A cash subsidy program could be designed to have exactly

the same administrative features as a tax credit does and, therefore, would possess the same advantages and disadvantages.

### Budgetary Issues

There are at least three budgetary aspects of tax credits that need mention.

First, a tax credit is generally like an entitlement program. A budget limitation on the amount of subsidy is usually not specified; anyone who is eligible receives the subsidy. Indeed, such specification would be impossible except through some form of prior certification that would present bureaucratic delays. The Congress thus has less control over the budget cost than it would over the same program administered as a cash subsidy with a budget limitation. This feature often distinguishes a tax credit most sharply from spending programs. Without it, the post hoc enforcement described above could not exist, and some form of prior proof of eligibility would be required.

Second, Congressional and executive treatment of tax subsidies is different from that accorded spending subsidies. A direct subsidy program presumably would involve the Labor Department and appropriate Congressional committees. In contrast, a tax credit passes through the tax committees and is either opposed or supported by the Treasury Department, often without consultation with the relevant legislative committee or executive agencies. The consequence sometimes is policies in the revenue side of the budget that work at cross purposes with policies in the spending programs. For example, real estate tax shelters are often said to encourage the rapid turnover and poor management of rental housing, and thus conflict with policies of the Department of Housing and Urban Development.

Finally, spending programs generally are much more visible than tax credits despite the publication of tax expenditure budgets. For those whose main concern is maintaining control over the budget, this aspect should be worrisome. For beneficiaries, visibility may be

less desirable, particularly if there is doubt that a strong consensus supports the program.

Tax Equity

Often tax credits are thought to be neutral as a matter of tax equity because the amount of the credit does not increase simply because the taxpayer is in a higher tax bracket. However, tax credits generally are tax-free income and thus raise the same equity issue as other tax-free income such as interest on municipal bonds; the amount of tax benefit does depend on the taxpayer's marginal tax rate. For example, \$100 of tax-free income would require \$200 of before-tax income for a taxpayer in the 50 percent bracket (tax benefit of \$100), but would require only \$125 of before-tax income for a taxpayer in the 20 percent bracket (tax benefit of \$25). 9/

Furthermore, when an employer receives an employment tax credit in addition to a complete deduction for wage payments, the cost of hiring an additional worker may be reduced to zero, or even below zero, depending on the sum of the subsidy rate and the employer's marginal tax rate. This point may be illustrated by assuming a credit of 50 percent as it would apply to \$100 of wages for two taxpayers, one in the 20 percent tax bracket and one in the 50 percent tax bracket. The comparison is as follows:

	<u>20% bracket taxpayer</u>	<u>50% bracket taxpayer</u>
Net cost of \$100 of wages after tax deduction	100-20 = \$80	100-50 = \$50
Less tax credit of \$50 (50% of wages)	<u>50</u>	<u>50</u>
After-tax wage cost to taxpayer	<u>\$30</u>	<u>\$ 0</u>

9/ The example is just for illustrative purposes. The first \$25,000 of corporate profit is taxable at 20 percent. Taxpayers with income from business partnerships may have a 70 percent marginal tax rate.

In this example, the low-bracket taxpayer bears 30 percent of the wage cost, whereas the high-bracket taxpayer bears none. With a 50 percent credit, any taxpayer with a marginal tax rate of more than 50 percent would receive a "negative tax," that is, a cash grant; a taxpayer in the 70 percent bracket would receive \$20 over and above a full rebate of the \$100 wage cost.

In addition, a credit confers benefits only to the extent there is tax liability to offset it. Thus, a tax credit is not offered to tax-exempt organizations; those taxpayers whose tax is less than the credit lose the excess above their tax liability. If the goal of the credit is to increase employment, there is reason to include fully these employers. This point is recognized in several tax credit proposals in which the credit would be "refundable," that is, paid in cash to the extent it exceeds the firm's tax liability. A refundable credit is a tax-free cash grant. The major difference is that administration is lodged with the IRS.

### Conclusion

In theory, a tax credit would have exactly the same effect as a cash subsidy. The foregoing analysis suggests, however, that several differences arise if the subsidy is channeled through the tax system. The administrative burdens are much different for both the taxpayer and the government. The focal point of Congressional and executive review is shifted, and tax equity issues are raised.



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CHAPTER IV ESTIMATES OF EMPLOYMENT EFFECTS AND  
COMPARISONS WITH OTHER MEASURES TO REDUCE  
UNEMPLOYMENT AND EMPLOYMENT PROBLEMS

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A wide variety of programs and policies that affect unemployment and employment problems are available to policymakers. Estimates of how they differ in their impacts on employment and inflation are intensely sought, but, in general, the question is elusive and only equivocal answers can be provided.

SIMULATIONS BASED ON THE ADMINISTRATION'S SIMULUS PACKAGE

It is very difficult to make even rough estimates of the effects of particular fiscal policies on unemployment and price levels because a large number of crucial assumptions are required and knowledge about these matters is uncertain. This is especially true for employment subsidies because they have never been implemented on a large scale in the United States.

By making such assumptions, the short-run effects of the Administration's general employment tax credit were simulated using the CBO Multipliers Model 1/ and compared with alternative combinations of other items in the President's fiscal year 1977-1978 "Fiscal Stimulus Package." The impact of the employment tax credit was analyzed using alternative responses to the subsidy by employers, as discussed above in Chapter II. In the simulations, policy changes occur in the second quarter of 1977 (77:2), and the impacts of the policy changes are evaluated in the fourth quarters of 1977 (77:4) and 1978 (78:4). The results would perhaps be different if the simulations ran beyond 78:4 or showed outcomes before 77:4.

The general employment tax credit produces at least as large an increase in GNP as a general business tax cut

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1/ A forthcoming CBO Staff Paper will describe this model.

of the same amount. Personal income tax cuts induce the largest changes in GNP in 77:4 and, in the case of a permanent tax reduction, the largest changes in 78:4 also.

Tax and expenditure policy changes of only a few billion dollars rarely produce impacts on employment or inflation large enough to be measured with any confidence, and this was the outcome of the simulations reported here. The largest decrease in the unemployment rate rounded to just one-tenth of 1 percentage point. All of the inflation impacts were smaller than one-tenth of 1 percentage point. Thus, at the \$2.4 billion level, the amount allocated by the Administration and Congress for an employment subsidy-business tax cut, the available estimation methods are not sensitive enough to measure the ability--let alone clear cut differences in the ability--of the alternative policies to alter unemployment or the price level in the short run. This point deserves emphasis because frequently the justification for a tax subsidy of this magnitude will rely heavily on such estimates. In our judgment, there is little to choose between a general employment tax credit and a public works or public service jobs program, based on the simulated impact on unemployment and inflation.

However, the potential comparative advantages of an employment tax credit might appear in a program substantially larger than \$2.4 billion. An employment tax credit is potentially a stronger inducement to private sector employment than is a general tax cut of equal budget cost. Also, to the extent that businesses pass on lower costs by lowering prices to consumers and if expectations of further inflation are thereby reduced, an employment tax credit may be accompanied by inflation rates which are lower than those accompanying other modes of fiscal stimulus. But whether these advantages would in fact be realized is a question that cannot be answered at present.

If an employment tax credit costing \$10 billion to \$15 billion should be seriously considered in the future, comparative simulations at this level would be of interest. The outcome of such comparisons would depend on the same sorts of assumptions that underlie the simulations reported here. These assumptions can be divided into three broad categories: (1) those relating to the level and timing of the spend-out patterns;

(2) those relating to the response of the policy recipients; and (3) those determining the magnitude of the impact. 2/

In general, one would have more confidence in making assumptions related to traditional fiscal policies than in making assumptions related to employment tax credits. The process through which traditional policies operate are--on the basis of experience--somewhat better understood. Little is known, however, about whether employers and employees will respond to enable the tax credit to realize its potential advantages over competing policies.

Admittedly, there are uncertainties about whether other fiscal policies will work as intended. For example, fiscal substitution 3/ may occur in public service employment programs, or individuals may save rather than spend a large part of a tax rebate. Such responses will reduce the stimulative effect of these policies.

Nevertheless, an employment tax credit is a higher risk policy. Because it is new, there is no direct evidence about its performance. Furthermore, if employers do not respond as intended, very little stimulus results from an employment tax credit--substantially less than from a permanent cut in individual income taxes for example.

THE JOBS TAX CREDIT IN THE TAX REDUCTION AND SIMPLIFICATION ACT OF 1977--H.R. 3477

Because the Jobs Tax Credit is designed to operate marginally, with ceilings on both the amount of credit per

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2/ More information on these matters is found in Short-Run Measures to Stimulate the Economy, CBO Staff Working Paper, March 1977.

3/ Substituting federal funds for funds that otherwise would have been provided by other sources.

employee and per firm, it is not possible to use either the CBO Multipliers Model or any of the commercial large-scale econometric models to estimate the employment effect of the proposed credit. However, based on the fragmentary evidence that is available, and making a range of assumptions about employer response to the subsidy, a rough guide is that at the uppermost end of the estimate, the House version of the Jobs Tax Credit would probably yield a slightly larger reduction in unemployment by 78:4 than would the Administration's employment tax credit. Under the Senate Finance Committee version, more employment would be subject to the incentive, but the incentive itself would be reduced and, on balance, the direct employment effect of the credit would tend to be lower than the House version. 4/

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4/ Removal of the cap would make an additional one-third of employment subject to the incentive. But reducing the wage deduction by the amount of the credit would reduce the incentive by about one-third, and reducing the credit rate from 40 percent to 25 percent is another 37 percent reduction in the credit rate ( $.40 - .25 = .15$ , and  $.15$  is 37.5 percent of  $.40$ ).

In addition to the intended effects discussed in the text, an employment subsidy--as any subsidy--may have several unintended economic side effects.

First, an employment subsidy may encourage firms to use what otherwise would be inefficient combinations of capital equipment and labor and uneconomic hiring patterns and production methods. If operations were being carried out at least cost without the subsidy, a change to more labor-intensive methods may be inefficient for the economy as a whole. Inefficiency raises the true economic cost of production and offsets some or all of the benefits of an employment subsidy. This is more likely to occur with a permanent subsidy. A temporary subsidy is obviously worth less to a business than a permanent one of the same size and therefore will induce fewer changes in company operations and thus have a smaller employment impact.

Second, the subsidy must be financed either by increased taxes or federal debt. Higher taxes involve lower disposable income; a greater debt implies greater future taxes and, often, higher interest rates. Both may reduce the supply of labor and investment in new capital.

Third, the adoption of a temporary or variable employment subsidy may cause business managers to expect subsidies in the future. Because business may become reluctant to hire in advance of the enactment of or increase in an expected employment subsidy, the adoption of an employment subsidy may be required in a future recession.

Fourth, termination of an existing employment subsidy would be difficult. Businesses would argue that removal of the employment subsidy would require them to discharge some workers. This argument was made, for example, in hearings on the Tax Reform Act of 1976 by many proponents of DISC--a tax expenditure that subsidizes exports.

Fifth, a large temporary or variable subsidy might induce employers to accelerate production schedules and hiring plans. As a result, production would be temporarily greater than otherwise, and business inventories could become overly large. Should inventory excesses occur, a slowdown in production and employment might develop after the employment subsidy expires as businesses allow inventories to decline to desired levels, thus aggravating rather than smoothing out the ups and downs in business activity.

Finally, the subsidy may be viewed as inequitable by those who gain no advantage from it. Although this may be more a political than an economic effect, it may have economic consequences.

At least fourteen employment tax credit bills have been introduced in the present Congress; many of these were also introduced in the 94th Congress. While employment subsidies are said to be job-creating instruments, sponsors of these tax credit bills have a broad range of opinions about their roles in reducing unemployment and inflation. Some designers of the legislation view employment credit programs as an alternative to increased public employment while others view them as just one component of a larger employment-inducing program. These differing views determine, in part, the characteristics of each bill. In this section some of the more common issues raised in the bills are described. They are displayed in Table 1.

Each employment subsidy bill pending in the 95th Congress is a marginal tax credit.

The bills presented in the last session contained provisions which denied the credit if new workers merely displaced old workers. Not all of the current proposals have such safeguards, and even those having such a provision are not specific about how it would be enforced.

Most of the bills limit either (1) the number of employees for whom a firm may receive credit (7 bills) or (2) the amount of tax saving with which a firm may be credited (4 bills).

Several bills specify that only certain kinds of individuals may earn the credit. For example, a worker's employment record before and/or after the employee is hired may be relevant to the allowance of the credit.

Several bills offer subsidies to firms for hiring the handicapped and other groups of individuals that are traditionally hard to employ. Other bills deny the credit for certain individuals, such as those already

receiving benefits under other government wage subsidy and training programs.

More than half of the bills have carryforward and carryback provisions that allow employers to apply the tax credit to prior or future years. For bills that limit the amount of credit to a firm's yearly tax liability (nonrefundable credits), the carryforward and carryback provisions increase the value of the credit. In addition, three of the bills include recapture provisions that require firms to refund their credit to the Treasury if new employees for whom the credit is taken do not work the amount of time stipulated in the bill.

Only one of the bills (Congressman Conable's H.R. 2402) specifically provides a subsidy for part-time labor. This bill may have different effects than the other bills on the labor market and the composition of employment. Providing an incentive for hiring part-time labor may encourage the hiring of women, teenagers, and the aged. On the other hand, the other bills provide an incentive for full-time labor and may discourage the hiring of these groups.

Several bills (S. 616, authored by Senator Dole; H.R. 121, Congressman Sarasin; and H.R. 297, Congressman Conte) stipulate that the amount of the credit depends on the unemployment rate in regions in which firms are situated. These bills would require close coordination between federal and regional administrators and applicants for the subsidy.

The job and cost estimates shown in Table 1 are subject to the following comments:

- o Except for the estimate for Congressman Derrick's H.R. 2691, the estimates were supplied by sponsors;
- o Estimates have not been made for all the bills, and the available estimates do not make clear whether they are limited to jobs that would be induced by the bill;

- o There is a large variance in the estimates of the number of new jobs created and costs of the subsidies;
- o The job and cost estimates are unclear about whether they are short- or long-run estimates or whether the cost estimates take into account secondary effects; and
- o In all probability, these estimates were not made with consistent assumptions and techniques.

APPENDIX TABLE 1. EMPLOYMENT SUBSIDY LEGISLATION PRESENTED IN THE 95th CONGRESS

Legislation	Type of Credit	Limitations	Mechanics			Estimated Number of Jobs	Estimated Federal Revenue Loss
			Recap- ture	Carry- forward or back	Adminis- tration		
S. 131 Senator Inouye	Nonrefundable credit equal to the total additional expense of hiring older people.	Employee must meet certain requirements to be considered older.	No	No	Treasury Secretary shall prescribe regulations to define "older person."	None available	None available
S. 149 Senator Bentsen	Refundable credit of 5% of wage cost of number of employees in excess of designated employment base. This base varies with the national unemployment rate.	No maximum subsidy per firm. Specifications regarding when and how the base is measured for subsidy purposes.	No	No	Administered by IRS. Bureau of Labor Statistics must provide unemployment rate and average annual gross wage. Congressional review every third year.	2 million	\$3 billion

Legislation	Type of Credit	Limitations	Mechanics			Estimated Number of Jobs	Estimated Federal Revenue Loss
			Recap- ture	Carry- forward or back	Adminis- tration		
S. 616 Senator Dole	Nonrefundable credit of \$1/hr. for the lesser of (a) number of new employee hrs. or (b) number of increased hrs. of employment. Amount of subsidy is \$1.50/hr. if new employee was previously unemployed.	(1) Maximum credit per firm is 20% of hrs. in excess of last year's hrs. times amount of subsidy. (2) Subsidy will phase out in 1980. (3) Subsidy does not apply when national unemployment is below 6%.	No	Yes	Treasury Secretary	Similar to estimates of S. 731.	
S. 731 Senator Baker	Nonrefundable credit against wage cost of new employees equal to (a) \$1/hr. for the first 26 weeks of employment; (b) \$0.50/hr. for the second 26 weeks of employment for the hrs. worked by a previously unemployed worker.	(1) No maximum subsidy per firm. (2) New employees must have been unemployed for at least 26 weeks.	Yes	Yes	Labor and Commerce Departments will publi- cize the credit through appropriate programs. Labor Secretary will coordi- nate this program with CETA prime sponsors.	End of calendar year 1978: 250-550 thousand.	FY 1978: \$0.4 billion FY 1979: \$1.9 billion

Legislation	Type of Credit	Limitations	Mechanics			Estimated Number of Jobs	Estimated Federal Revenue Loss
			Recap- ture	Carry- forward or back	Adminis- tration		
H.R. 121 Congressman Sarasin (Part of Job Creation and Economic Growth Act)	Nonrefundable credit equal to 25% of wages of new employees, or \$2,000 for each new employee.	Applicable only in regions with 10% or more unemployment rate.	No	No	Bureau of Labor Sta- tistics must provide re- gional unem- ployment rates to Treasury Secretary.	None available	FY 1978: \$0.2 billion  FY 1979: \$0.4 billion
42 H.R. 297 Congressman Conte (Small Business Growth and Job Creation Act of 1977)	Nonrefundable credit of 50% of wages of up to 2 new employees plus 50% of wages of up to 23 new employees classified as disadvantaged. (Disadvantaged are handicapped, minorities, and unemployed individuals whose unemployment in- surance has ex- pired.) Per- centage varies from 30% to 50% depending on the unemployment rate of the area.	Maximum credit of \$20,000 for 2 new employees and \$60,000 for up to 23 disadvantaged.	No	No	Treasury Secretary shall pre- scribe regu- lations to define "dis- advantaged worker."	None available	None available

Legislation	Type of Credit	Limitations	Mechanics			Estimated Number of Jobs	Estimated Federal Revenue Loss
			Recap- ture	Carry- forward or back	Adminis- tration		
H.R. 905 Congressman Ford H.R. 2434 Congressman Hammerschmidt	Nonrefundable credit "for a certain portion" of wages for new employment of handicapped person.	Credit is limited to first 12 months of employment of new employee.	No	Yes	Treasury Department required to ask proof of handicap.	None available	None available
H.R. 2402 Congressman Conable (Private Sector Part-Time Employment Act)	Nonrefundable credit equal to (a) 20% of ex- penses of new part-time employees whose equivalent annual salary (EAS) is less than \$14,000 plus (b) 25% of ex- penses of new part-time employees whose EAS is more than \$14,000.	Maximum number of eligible part-time employees is the lesser of (a) 20% of last year's employment or (b) year to year increase in employees.	Yes	Yes	Treasury Secretary must deter- mine compli- ance of tax- payer to regulations.	None available	None available

Legislation	Type of Credit	Limitations	Mechanics			Estimated Number of Jobs	Estimated Federal Revenue Loss
			Recap- ture	Carry- forward or back	Adminis- tration		
H.R. 2403 Congressman Conable	Nonrefundable credit of \$1/hr. for the lesser of (a) number of new employee hrs. or (b) number of increased hrs. of employment. Amount to be increased to \$1.50/hr. for previously unemployed workers.	After 1977, credit applies to wages for employment hrs. that exceed 10% of previous year's hrs.	No	Yes	Jointly administered by Treasury and Labor Departments	None available	CY 1977: \$2.8 billion  CY 1978: \$5.6 billion
H.R. 2404 Congressman Conable (Youth Apprentice Tax Credit Act of 1977)	Nonrefundable credit equal to 20% of appren- ticeship for CETA certi- fied employers.	Maximum eligible number of appren- tices is 5% of total work force. Apprenticeships must meet certain requirements.	Yes	No	CETA must certify pro- gram. Labor Secretary must evaluate program in 2 years.	None available	\$1,000 per apprentice

Legislation	Type of Credit	Limitations	Mechanics			Estimated Number of Jobs	Estimated Federal Revenue Loss
			Recap- ture	Carry- forward or back	Adminis- tration		
H.R. 2536 Congressman Steiger (Human Investment Tax Incentive Act of 1977).	Nonrefundable credit equal to 20% of employee training expense.	(1) Credit not to exceed \$25,000 of tax liability plus 50% of additional liability; (2) training program must fulfill various criteria.	No	Yes	Treasury Secretary	None available	None available
H.R. 2691 Congressman Derrick	Refundable credit equal to 50% of the first year's wages of a new employee.	(1) Maximum credit per firm is equal to \$80,000 annually. (2) Credit available for maximum of 10 employees per firm.	No	No	Treasury Secretary shall pro- vide 2 evaluations to Congress.	294,000	\$6.4 billion

Legislation	Type of Credit	Limitations	Mechanics			Estimated Number of Jobs	Estimated Federal Revenue Loss
			Recap- ture	Carry- forward or back	Adminis- tration		
H.R. 3477 Congressman Ullman (Tax Reduction and Simpli- fication Act of 1977) (Passed by House)	Nonrefundable credit equal to 40% of the excess of total unemployment in- surance wages over 103% of previous year's total unemploy- ment insurance wages. Percent is increased by 10% in the case of a handicapped employee.	(1) Credit may not exceed (a) \$40,000 per firm (excluding 10% additional credit for handicapped worker) or (b) 40% of the difference be- tween total wages and 103% of total wages of previous year; (2) Credit expires after 1978.	No	Yes	Treasury Secretary	None made available by Ways and Means Committee.	FY 1977: \$0.7 billion FY 1978: \$2.4 billion FY 1979: \$1.7 billion

Legislation	Type of Credit	Limitations	Mechanics			Estimated Number of Jobs	Estimated Federal Revenue Loss
			Recap- ture	Carry- forward or back	Adminis- tration		
H.R. ___ Congressman Beard	<u>a/</u> Nonrefundable credit equal to employment taxes (14.9%) for reemployed or new employees.	(1) Maximum of 7 employees per firm. (2) New employee and reemployed must meet specific employ- ment conditions. (3) No WIN participants.	Yes	Yes	Treasury Department must report annually to Congress.	1.2 million	None available

Notes: This table includes employment subsidy legislation presented in the 95th Congress prior to March 2, 1977.

Estimates for H.R. 2691 (authored by Congressman Derrick) have been made by CBO. For all other employment subsidy bills, estimates have been provided by the staffs of the bill's authors, and CBO has not evaluated these estimates.

a/ This is Congressman Beard's bill introduced in the 94th Congress. His office indicated that he will introduce a similar bill in this Congress.



In addition to the structurally-oriented employment and training programs that operate almost entirely within the public sector, the federal government also supports the Work Incentive Program (WIN) which is designed to increase the employability and private sector employment of welfare recipients by providing training, work experience, and employment opportunities.

Concern that too many employable adults were becoming dependent on welfare led to the authorization of WIN by Title II of the Social Security Amendments of 1967. The Revenue Act of 1971 supplemented WIN with a tax credit for employers of WIN participants amounting to 20 percent of the wages for the first 12 months of employment. The employer was also required to continue the employment of the participant for 12 months after the 12 months for which the credit was claimed. If the employer did not meet this condition, then the tax credit was "recaptured." Also, the maximum credit was \$25,000 plus 50 percent of the tax liability above \$25,000. The credit can be carried back three years or carried forward seven years. Then, in 1975, the Tax Reduction Act (P.L. 94-12) authorized a tax credit similar to the WIN tax credit for employers of any AFDC recipient regardless of WIN participation. This tax credit was available to the employer after only 30 days of employment and there was no recapture provision if the employee was terminated for misconduct, became disabled, or quit.

The Tax Reform Act of 1976 (P.L. 94-455) further amended both the WIN and AFDC tax credits by doubling the maximum amount on which the full credit could be claimed. 1/ The WIN program is much more complex than

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1/ The limit was increased from \$25,000 to \$50,000 plus one-half of the tax liability above \$50,000. The

either a training or public service employment program. Through its employment effects it may reduce AFDC costs and increase the annual earnings of participants. Also, it may deter some eligible, but employable, adults from applying for AFDC benefits. Finally, there may be beneficial effects on the children who live in self-sufficient rather than dependent families.

### Costs

In fiscal year 1976, \$308 million was spent on the WIN program. The average cost per year of service was \$11,000, and the average cost per participant was \$3,900. <sup>2/</sup> Forty-three percent of the total outlays was spent on training, 23 percent on jobs, and 34 percent on other activities such as registration, appraisal, orientation, employability planning, and placement. These latter activities make WIN a relatively more costly program than other employment and training activities.

### Participant Characteristics

The WIN program reflects the characteristics of the AFDC population. In fiscal year 1976, 44 percent of the

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WIN credit will now also be available from the date of hiring, if the employee is not terminated without cause before the 90 days following the first 90 days of employment. In addition, termination because of a substantial reduction in business has been excluded from the actions causing recapture. Finally, a limit of 12 months has been placed on the tax credit from the wages of any one employee.

<sup>2/</sup> See Appendix Table 2 for more detail. The cost of the WIN tax credit in terms of revenue loss has not been included. The cost is minimal and would not affect the general conclusions of the analysis.

new participants were from minority groups, 17 percent were under 22 years old, 73 percent were female, and 60 percent had less than a high school diploma.

Since WIN is aimed at employable welfare recipients, certain categories of recipients were exempt from mandatory participation: 3/

- o Persons under the age of 16 or attending school full-time.
- o Persons too ill or too old, or otherwise incapacitated.
- o A mother or other relative needed at home to care for a child under six years old.
- o Persons needed at home to care for ill or incapacitated family members.
- o Persons so remote from a work incentive project that effective participation is precluded.
- o Mothers in families where the father or another adult male relative is in the home and has registered.

A complex administrative framework involving both the Departments of Labor and Health, Education and Welfare was designed to screen, register, and appraise AFDC recipients for WIN. Appendix Table 2 presents WIN program data for fiscal year 1976. Only about 26 percent of AFDC families had WIN registrants, due to the high proportion of adults in exempt status. About 74

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3/ Comptroller General of the United States, Substantial Improvements Needed in the Work Incentive Program, Atlanta, Georgia (Washington, D.C.: U.S. Government Printing Office, July 10, 1974), p. 2.

percent of the registrants were appraised and only 31 percent of the registrants were employed full time. In other words, only 6 percent of the AFDC families had adults placed in full-time employment.

APPENDIX TABLE 2. FISCAL YEAR 1976 WIN PROGRAM DATA

Category	Persons
AFDC Recipients	11,289,000 <u>a/</u>
AFDC Families	3,565,000 <u>a/</u>
WIN Registrations	942,250
WIN Appraisals	674,677
Employment: <u>b/</u>	
Full-time	211,185
Part-time	19,680

a/ Based on an average of the first ten months in fiscal year 1976.

b/ Participants employed for at least 30 days.

Effects

The evaluation studies on WIN do not permit definitive conclusions. A recent study found average annual earnings gains of roughly \$400. However, the results of this study may be more uncertain than the recent studies of MDTA training. 4/

4/ Pacific Consultants, The Impact of WIN II: A Longitudinal Evaluation (Berkeley, California: September 1976), p. 5. This study may have designed a better control group than the recent MDTA studies, but its study period before and after training is too short. Orley Ashenfelter has demonstrated that the duration of time studied can affect the research results. See Orley Ashenfelter, Program Report on the Development of the Continuous Information on the

The effect on AFDC savings is even more difficult to calculate. A recent study concluded that there were little AFDC savings associated with WIN participation, but that the savings incurred were strongly related to training plus job placement, rather than the current emphasis on job placement. 5/ In addition, the authors found some decrease in the AFDC recipient rate after the shift in emphasis toward job placement, which is consistent with the belief that WIN may deter some individuals from applying for AFDC. However, in both cases it is very difficult to assign a dollar value to these effects.

Effects of WIN and Welfare Tax Credits 6/

Employer response to WIN and welfare tax credits has been minimal. Tax credits were provided for only 15 to 20 percent of the WIN eligibles who became employed. Some employers of WIN registrants were probably not eligible for credits because they were either nonprofit businesses or had no tax liabilities. The welfare tax credit was used even less frequently by employers of former welfare recipients.

Even among employers who have used these tax credits, more than 50 percent report that the tax credits were not

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Impact of the Manpower Development Act, Technical Analysis Paper No. 12A, U.S. Department of Labor, October 1973 (processed).

5/ Ronald G. Ehrenberg and James G. Hewlett, "The Impact of the WIN 2 Program on Welfare Costs and Recipients Rates," The Journal of Human Resources, Vol. XI, No. 2, Spring 1976, pp. 219-32.

6/ John B. Cosgrove, et. al., Interim Report on the Study to Assess WIN and Welfare Tax Credits (Minneapolis, Minnesota: IMPACT, Inc., Institute for Manpower Program Analysis, February 15, 1976).

an important hiring incentive. One survey found that 27 percent of the employers who used the WIN credit found out about its availability after hiring the WIN registrants.

The reasons for the apparently small efficacy of the WIN and welfare tax credits are complex and interdependent. Most employers reported that their primary goal in hiring is to obtain qualified employees, and many reportedly doubt the potential quality of ex-welfare recipients. In most firms employment/hiring decisions are the responsibility of personnel units while taxes are within the domain of accounting departments. This split of responsibilities limits the impact of tax credits in hiring decisions. The low level of the WIN tax credit and the requirements for long-term employment commitments also inhibit the credit's effectiveness.

In preparing this report, we examined a number of studies on various aspects of employment subsidies. In this Appendix we review two studies--one by Daniel Hamermesh for the Brookings Institution and another by Fethke and Williamson for the Joint Economic Committee--for those readers who are likely to encounter these somewhat more technical discussions in their work. In addition, we present some practical observations on the usefulness of large-scale econometric models in analyzing employment subsidies.

#### HAMERMESH'S STUDY

Daniel Hamermesh has surveyed leading researchers' quantitative estimates of the extent to which employers respond to reductions in labor costs by hiring additional labor. 1/ He recognizes both the substantial variation in these estimates and their only rough applicability for estimating the effect of employment subsidies. He examines two marginal employment subsidies, and calculates their employment effect and cost assuming that employers increase their labor force by either 1 percent, or alternatively by 3 percent, when labor costs are reduced by 10 percent. 2/ The size of this response is crucial to the estimates, and it is essential to understand that even the most knowledgeable researchers in the field are not very confident about what numbers to use in evaluating a specific employment subsidy.

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1/ Daniel Hamermesh, "Econometric Studies of Labor Demand and Their Application to Policy Analysis," Journal of Human Resources, Fall 1976, pp. 507-25.

2/ Daniel Hamermesh, Indirect Job Creation in the Private Sector: Problems and Prospects, unpublished manuscript, dated March 1977, prepared for the Brookings Conference on Job Creation, April 1977.

Using a range of 85 to 100 percent of the previous year's wage bill (or employment 3/) as the employment base, Hamermesh calculates the effects of a marginal employment subsidy for both a 10 percent reduction in wage cost as well as a \$3 per worker-day subsidy.

He simulates the effects in 1975 of an employment subsidy that was assumed to be put into operation in mid-1974, using calendar 1974 as the base period. The simulations apply only to private nonfarm industry. 4/

The simulation results for the 10 percent wage reduction and the \$3 per worker-day subsidy are shown respectively in Appendix Tables 3 and 4. The top half of each table is based on the 1 percent response parameter (that is, an "elasticity" of 0.1) while the bottom half uses 3 percent (that is, an elasticity of 0.3). For each case, the tables show the number of jobs that were created solely as a result of the credit, the total cost of the program, the program costs that would go to subsidize jobs which would have existed anyway ("windfall"), and the gross cost of each new job induced by the credit. As compared to the 0.1 elasticity, the 0.3 elasticity results in more induced jobs and less total cost per induced job.

The tables also indicate that, whether the elasticity is 0.1 or 0.3, as the employment base is increased (see column 1) the number of jobs induced by the subsidy declines (see column 3), as does the cost of the program (column 4), the amount of windfall, and the cost per job. Thus, the choice of the percentage of the wage base to

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3/ The Hamermesh draft is ambiguous about this.

4/ The extent to which a firm can take advantage of the credit depends on the rate at which it is expanding. There is considerable variation in rates of expansion among firms. Hamermesh disaggregates private nonfarm employment into 171 industries and then treats each industry as a "firm." This provides a crude approximation to the variation in expansion among firms and adds to the realism of the simulation results.

APPENDIX TABLE 3. IMPACTS OF A TEN PERCENT WAGE SUBSIDY

Range subsidized (as fraction of base year payroll) lower limit	Elasticity	Jobs created (thousands)	Cost (billions of dollars)	Windfall (billions of dollars)	Cost/Job
0.85	0.1	288	6.461	6.213	\$22,461
0.90		250	3.958	3.752	15,816
0.95		189	1.993	1.843	10,537
1.00		110	.651	.580	5,867
0.85	0.3	866	6.958	6.213	\$ 8,039
0.90		766	4.383	3.752	5,725
0.95		592	2.305	1.843	3,893
1.00		369	.816	.580	2,210

Source: Daniel Hamermesh, Indirect Job Creation in the Private Sector: Problems and Prospects, March 1977.

APPENDIX TABLE 4. IMPACTS OF A \$3/DAY WAGE SUBSIDY

Range subsidized (as fraction of base year payroll) lower limit	Elasticity	Jobs created (thousands)	Cost (billions of dollars)	Windfall (billions of dollars)	Cost/Job
0.85	0.1	297	5.346	5.148	\$18,000
0.90		264	3.415	3.240	12,926
0.95		207	1.817	1.679	8,794
1.00		137	.671	.582	4,889
0.85	0.3	893	5.746	5.148	\$ 6,434
0.90		802	3.773	3.240	4,706
0.95		686	2.101	1.679	3,062
1.00		446	.816	.582	1,931

Source: Daniel Hamermesh, Indirect Job Creation in the Private Sector: Problems and Prospects, March 1977.

be subsidized is a crucial decision in the design of an effective employment tax credit. Because Hamermesh's calculations were performed over a period of declining employment, they would not provide guidance about that choice for a recovering economy.

Hamermesh compares the cost per job of employment subsidies to the estimated costs per job after one year of various other stimulative measures, as calculated by other researchers. <sup>5/</sup> Even with an assumed elasticity

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Item	Cost per net job
Generalized government purchases	\$ 18,600
Tax cut	212,000
(after eight quarters)	19,700
Public service employment (assuming 55 percent job displacement)	14,500

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of 0.1, the cost-per-job figures for a marginal employment subsidy compare favorably with these figures, except for the lowest employment base threshold. In his most recent statement (letter to Editor of New York Times, February 24, 1977), Hamermesh says that careful estimates suggest that a tax cut of 10 to 20 percent of wages of workers above 90 percent of a firm's previous year's employment would produce 60,000 new jobs per billion dollars of tax cut. This is about \$16,700 of revenue cost per job induced.

Hamermesh's letter does not indicate either the details of the employment tax subsidy or the method used

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<sup>5/</sup> George Johnson and James Tomola, The Efficacy of Public Service Employment Programs, unpublished, University of Michigan, June 1975.

in making the estimate. However, the point to be emphasized is that the assumption about employer response to the subsidy is crucial to such estimates, and that a great deal of uncertainty surrounds the assumption of even the range of 0.1 to 0.3 used by Hamermesh. The cost-per-job estimate he makes in his New York Times letter could reflect the assumption of a response (elasticity) of even less than 0.1. For some marginal employment tax credits with limits on the number of eligible employees or the amount of credit per employee or per firm, an elasticity of considerably less than 0.1 would be a reasonable assumption.

### LARGE-SCALE ECONOMETRIC MODEL SIMULATIONS

Large-scale econometric macroeconomic model simulations are sometimes used to estimate the short-run impact of an employment subsidy and other fiscal policies. The advantages of this approach are twofold: (1) the structure of such models makes it possible to observe quarter-by-quarter effects that follow the imposition of a fiscal policy and (2) the model provides estimates of the impact of the policy on a number of economic variables, such as the rate of inflation and GNP, rather than on employment alone.

Caution is required in interpreting and using the results from large-scale macroeconomic model simulations of employment subsidies. All of these models assume that aggregate demand determines output and that output determines employment; labor and capital costs do not directly affect the short-run demand for labor. Therefore, to simulate the effects of an employment subsidy on such models, it is necessary first to assume how and how much an employment subsidy will raise demand--either by increasing firm profits, wages and salaries, or reducing prices and thus increasing real disposable income. It is not apparent which of these income components will rise initially as a result of the employment subsidy. The models' simulations, by assuming specific responses on the part of employers and workers who participate in the employment subsidy, cannot test the likelihood of these responses.

The models have additional limitations for simulating employee subsidies. The ability of firms to make substitutions between labor and capital in response to changes in wage and interest rates is not incorporated into the models' structures. Also those structures lack the detail necessary to provide reliable estimates of categorical or marginal employment subsidies. Furthermore, the models are unable to capture the importance of expectations about inflation or other aspects of business conditions for policies such as temporary employment subsidies. Finally, wide variations among macroeconomic model structures produce a wide range of estimates on the effectiveness of employment subsidies, whatever the assumptions about the economic behavior responses.

An additional reason for being cautious about any policy simulations on an econometric model is that the estimates provided are very sensitive to the initial assumptions used to simulate the policy. These assumptions can be divided into three broad categories: (1) those relating to the level and time of the spend-out patterns, (2) those relating to the response of the policy recipients; and (3) those determining the magnitude of the impact. Comparing such assumptions across alternative policies provides some insight into the relative effectiveness of one policy versus another.

The faster authorized federal dollars are spent (or tax collections reduced) the sooner employment changes will occur. The alternatives to an employment tax credit vary widely, however, in the speed with which their stimulus is attained. With respect to the spending options, spending of additional federal budget authority is faster to the extent that the programs are already in existence. The speed is limited, however, for public service employment by the extent to which state and local governments can absorb additional job slots, for public works programs by the speed with which projects can be selected and put into full swing, and for countercyclical revenue sharing by the delays induced by state and local budgeting procedures.

Tax options (including employment subsidies) tend to place money into the economy more quickly than spending options, with the possible exception of public

service employment, although the machinery to return taxes to taxpayers cannot operate instantaneously. The more complex is the machinery (for example, that required for marginal and categorical employment tax credits), the longer will be the time delays. Tax rebates can be mounted more rapidly than permanent tax reductions.

The impact of the stimulus policies also depends on target group behavior. As discussed in Chapter II, the short-run effects of an employment subsidy depend largely on whether a firm uses the subsidy to increase cash flow (and, in the case of marginal credits, whether a firm uses the subsidy at all) or to lower prices and increase employment. The amount of stimulus from personal tax changes depends primarily upon the percentage of the tax reduction that is saved. Because, as it is commonly believed, more of a rebate than a permanent tax reduction is saved, a rebate has a lower stimulus per dollar spent although its impact comes much faster. Finally, the stimulus from federal spending alternatives is reduced to the extent that new federal outlays simply replace funds that would otherwise have been provided by other sources (that is, fiscal substitution).

Additional factors are relevant in determining the impact of alternative fiscal policies. The smaller is the cost per job and the larger is the fraction of the additional dollars going to wages and salaries, the greater is the employment impact of public service employment. How states and local governments use countercyclical revenue sharing funds and the substituted funds from public service employment programs is an important determinant of stimulus policy impacts. In the case of employment subsidies, the responses of the labor force influence the subsidy's stimulus: if workers bid-up wages as a result of the subsidy, the policy becomes comparable to an income tax cut. Furthermore, should prices fall as a result of the subsidy, the extent to which the price level change affects inflationary expectations will influence the net stimulus provided by this policy.

Simulations of fiscal policies are sensitive to assumptions such as those outlined above. Small changes in assumptions can alter both the absolute and relative efficiency of any proposed stimulus option.

## FETHKE AND WILLIAMSON STUDY

A recent paper 6/ prepared for the Joint Economic Committee by Professors Gary Fethke and Samuel Williamson examines the effects of a variable-base marginal employment subsidy. This credit is intended to be a fiscal policy stabilization tool and is expected to be effective only when stimulus is desired. It is not its purpose to have a long-run effect on capital-labor ratios or on economic growth rates. The effect of the subsidy is simulated using a simplified macroeconomic model of the United States economy in which all responses occur instantaneously rather than with real-life delays as we discussed above in Chapter II.

Fethke and Williamson conclude that employment would be increased by their credit whether the federal budget deficit is increased or held constant by either an increase in other taxes or a decrease in expenditure. If only incremental employment is qualified for the credit, a 1 percent wage subsidy would: increase employment by 0.9 percent, increase real GNP by 0.5 percent, reduce consumer prices by 0.5 percent, raise real wages by 0.6 percent, while leaving the budget deficit unchanged or slightly lower when the simulation is run using fourth quarter 1975 levels of economic variables. To the extent that the credit is extended to more than incremental employment, the employment effect increases only to the extent that the deficit increases.

The analysis presented above in Chapter II would suggest that the results of the Fethke-Williamson study are overly optimistic. Although ingenious, their model neither portrays cyclical economic conditions nor looks at the short-run path of adjustment to a subsidy. Rather it provides a theoretical picture of the economy after all adjustments have occurred. Thus, while the authors purport to analyze the subsidy as a "short-term supplement to existing fiscal and monetary policy tools," they

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6/ Gary Fethke and Samuel Williamson, Employment Tax Credits as a Fiscal Policy Tool, prepared for the Joint Economic Committee, 1976.

do so with an economic model which assumes specific economic responses which are unrealistic for the short run. The results of their experiment merely illustrate the possible effects of an idealized marginal credit--one which subsidizes only employment that otherwise would not occur and induces an immediate response from employers who will simultaneously hire additional workers, reduce their prices, and sell their increased production.

In real life, cyclical activity produces conditions in which such responses are less likely. To be sure, the authors provide the reader with caveats about their results, and their analysis deserves praise; but still there are some cautions that deserve mention here. Specifically, the authors' assumption about employer responsiveness to the subsidy falls in the high range of recent research estimates and should be reduced to account for slack demand in recession periods, mismatches between unemployed workers and types of workers the firm demands, and for the uncertainty attached to a variable-base subsidy. Furthermore, their highly aggregated econometric model of the economy does not account for differences between labor markets and among employers operating in these markets. It therefore overstates the number of jobs induced by the subsidy, underestimates the amount of windfall, and thus understates the revenue loss per job induced.

The Fethke-Williamson results may not be reliable medium-run estimates either. The temporary nature of the variable-base marginal employment subsidy may produce medium-term responses which are less than those presumed by Fethke and Williamson.





