

Disability, Work and Cash Benefits

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The Effectiveness of Financial Work Incentives in Social Security Disability Insurance and Supplemental Security Income Lessons from Other Transfer Programs

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The major programs for the disabled in the United States, Social Security Disability Insurance (DI) and Supplemental Security Income (SSI), are each intended to provide financial support to individuals who have an impairment that prevents them from engaging fully in productive labor force activity. As originally enacted, these programs based eligibility not only on evidence of a disabling condition but also on low earnings. Over the last several years, however, it has been increasingly recognized that the disabled are capable of at least some productive labor force activity and that basing eligibility on low earnings may provide work disincentives to existing recipients or even discourage some of the genuinely disabled from applying for benefits in the first place. In both programs, this development has led to changes in the rules governing earnings receipt, which are designed to encourage work. Additional programmatic changes to increase work incentives even more have also been proposed.

In this paper, we assess the implications of existing research on work incentives in programs for the nondisabled for the likely effectiveness of the current and proposed work-incentive provisions in disability programs. While there has been relatively little study of work effects in DI and SSI, there has been a tremendous amount of research on the work incentives of transfer programs for the low-income population, such as Aid to Families with Dependent Children (AFDC) and

the Food Stamp program, and there has even been a small amount of research on the work-incentive effects of Medicaid. The relevance of this literature comes not so much from its rather large body of empirical evidence on the responsiveness of the low-income population to work-incentive provisions, since the responsiveness of the disabled may be quite different, as from the lessons that have been learned about the way in which work-incentive provisions operate and what their effects, both intended and unintended, might be. We shall argue that there are a number of important insights from this research literature that have implications for existing work-incentives and for proposed work-incentive reforms in DI and SSI.

In the next section, we discuss the major U.S. transfer programs for the low-income population, what their work-incentive effects are generally presumed to be, and what the empirical evidence suggests on the impact of current work-incentive rules and of past and proposed changes in those rules. Subsequently, we provide a parallel discussion of DI and SSI and draw lessons for those programs from the literature on nondisability programs. We discuss the probable effects of both existing and proposed work-incentive provisions. In the final section of the paper, we draw policy conclusions.

Transfer Programs for the Nondisabled

In our discussion of nondisability transfer programs, we will focus on income-conditioned programs for the nonaged and therefore exclude both Social Security and unemployment insurance from our survey. Instead, we will concentrate on the AFDC program, the Food Stamp program, and Medicaid.

Description of Program Rules

The AFDC program currently provides cash benefits to families with dependent children, where a "dependent" child is defined as a child living in a family with only one parent or with an unemployed parent.¹ Most AFDC families are headed by women with no adult male present, although the AFDC Unemployed Parent (AFDC-UP) provi-

sion permits some families to receive benefits where both parents are present. In families where income and asset conditions for eligibility are met, an adult's earnings, if any, are taken into account in calculating the amount of the benefit (which also varies by family size). First, earnings that cover work-related expenses are allowed, up to a certain maximum, without any reduction in benefits, as are earnings that cover child care expenses up to a maximum. In addition, for the first four months of earnings after joining the program, a deduction from income of one-third of earnings above work-related expenses plus \$30 is allowed. The marginal tax rate (MTR) on earnings is thus 67 percent for earnings beyond deductions. The one-third disregard is eliminated after four months of earnings, leading to a 100 percent MTR on earnings above deductions.² The AFDC program also imposes a maximum on the gross income a family can receive from all sources, earned and unearned; if income exceeds these amounts, eligibility ends. An increase in earnings that pushes family income above these maximums thus results in an MTR exceeding 100 percent. An MTR exceeding 100 percent occurs when an increase of earnings of \$1 leads to a decrease in benefits of more than \$1. This can occur when eligibility ends.

The AFDC program provides extended, or "transitional," child care support to families who have been made ineligible for benefits because of increased earnings. Child care subsidies are provided for up to 12 months following the date of exit from the rolls. These provisions can be thought of as lowering the effective MTR on earnings.

The Food Stamp program provides food coupons to all families with income and assets below defined amounts, with or without children and regardless of individuals' marital status. In computing benefits for families with earnings, a standard deduction is allowed, as well as a deduction of 20 percent of earnings and deductions for child care and shelter expenses up to certain maximums. Earnings above these deductible amounts reduce benefits by 30 cents per dollar, leading to a 30 percent MTR. However, as in the AFDC program, families are made ineligible if income rises above certain limits.³ This leads to an MTR of over 100 percent at the point at which earnings push a family above one of the maximums.⁴

The Medicaid program has historically provided subsidized or free medical care mainly to families receiving AFDC (or SSI) benefits. The types and amount of medical care for which an AFDC family is eligi-

ble are independent of its income or benefit amount, and thus the tax rate on Medicaid benefits is implicitly zero as long as the family is on the AFDC rolls. Until recently, eligibility for Medicaid was lost in its entirety when a family left AFDC, generating an MTR of over 100 percent on increased earnings at that point. However, Medicaid eligibility is currently not as closely tied to AFDC receipt as it once was. Many states have a Medically Needy program, for example, which provides Medicaid benefits to families who are below somewhat higher income and assets limits than those for AFDC or who experience heavy medical expenses that push their net incomes below those limits. In addition, recent federal legislation has extended Medicaid eligibility to some children and pregnant women in families who are not on AFDC but whose income is below 133 percent of the federal poverty line. Finally, transitional Medicaid benefits are available for up to 12 months following exit from the rolls to families leaving the AFDC rolls because of increased earnings. These provisions, taken together, can once again be thought of as effectively lowering the MTR faced by individuals leaving AFDC.

Cumulative MTRs for families receiving multiple programs can be quite high (Keane and Moffitt 1994; Giannarelli and Steurle 1994). In many states, recipients who work part-time at the minimum wage rate have lower disposable incomes than they would have if they were not to work at all, implying an average tax rate of over 100 percent. Average tax rates between no work and full-time work at the minimum wage for program recipients are between 70 and 80 percent nationwide and exceed 100 percent in some states.⁵ Aside from the Medicaid notch, which can cause high tax rates alone, separate notches are created for AFDC and the Food Stamp program. In addition, payroll and income taxes generally raise the cumulative tax rate, since they are only partially (i.e., not fully) deductible in the programs.

Since the 1980s, most of the policy interest in these programs has centered on employment and training for welfare recipients instead of on financial inducements to work (the major current project of this type is the Job Opportunities and Basic Skills (JOBS) training program in AFDC). Such programs can be mandatory or voluntary. Mandatory employment programs necessarily increase work effort among those recipients whose participation is required, while voluntary work and training programs provide incentives through the prospect of increased

future earnings or employability. If future wages and job prospects are increased by participation in such a program, the effective MTR (taking into account projected earnings) is lowered even if the current, nominal MTR is 100 percent.

Our paper is mainly concerned with the effectiveness of financial incentives rather than with the efficacy of work, employment, and training programs. However, we will discuss the policy merits of both approaches in our concluding section.

Expected Effects of Work-Incentive Provisions

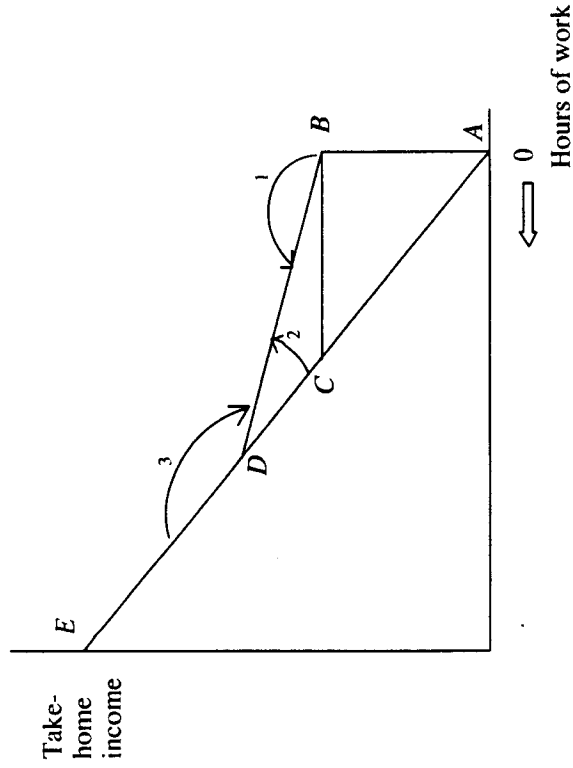
The conventional labor-leisure model provides the framework within which work incentives of welfare program tax rates are generally analyzed. This model uses the assumption of utility maximization to justify the commonsense presumption that individuals trade off the amount of take-home income they would have for different levels of hours of employment with the desire to work and difficulty involved in that employment. As an empirical matter, the model implies that the choice of how much to work is based partially upon how much take-home income is gained by working various amounts, or by how much is gained by working less, in the case of some transfer programs.

The model is illustrated in figure 1, which shows the budget constraints for welfare programs with different tax rates. In this figure, segment *ACDE*, with slope equal to the hourly wage rate, *w*, applies to individuals off welfare. Segment *BD* applies to welfare recipients if the tax rate is 100 percent. Segment *BD* applies to welfare recipients if the tax rate takes on a value *t* that is less than 1. The theory implies that an individual will work less on welfare than off welfare, whether segment *BC* or *BD* applies.

A major focus of attention in the research literature has concerned the effects of a reduction in the tax rate on work effort. Perhaps surprisingly, the literature does not yield a clear verdict on whether work effort would go up or down as a result. The arrows in the figure illustrate the types of responses that might occur from a shift from segment *BC* to *BD*. For individuals initially on welfare and not working (i.e., initially at point *B*), the reduction in the tax rate may encourage the type of movement shown by arrow 1, reflecting an increase in work effort. At the same time, a reduction in *t* expands the range of incomes

eligible for the benefits. Unfortunately, some individuals who were initially ineligible for welfare and were hence initially off the welfare rolls are made eligible by the reduction in t ; some of these people will go onto welfare and reduce their work effort, as illustrated by arrow 2 in the figure. In addition, some individuals who are ineligible for benefits even at the new, lower tax rate may take advantage of the financial inducement to combine welfare and work by reducing their work effort enough to become eligible for benefits, as illustrated by arrow 3.⁶

Figure 1. AFDC Budget Constraints with Different MTRs (BC: MTR = 100, BD: MTR = $t > 0$)



The net effect of the reduction in the tax rate is thus ambiguous and could be positive or negative on the overall level of work effort. It is even theoretically possible that 100 percent tax rates result in the *greatest* amount of overall work effort in the low-income, eligible population. This would occur if any reduction in t below this level induced

large numbers of individuals to come onto the rolls and to work less than they had been working off the rolls.

The possibility that large numbers of eligibles would rush onto the welfare rolls if the tax rate were lowered seems implausible in many circumstances. However, the same end result would occur even if entry rates onto welfare were completely unaffected by the level of the tax rate, but if exits from the rolls were. Assuming that individuals joined the rolls only because of unforeseen job losses, adverse health events, or other unplanned changes in household structure (e.g., divorce), the increased generosity of the program brought on by a low tax rate would decrease the likelihood that they would leave the rolls. There may be many welfare recipients who would, for example, ordinarily leave the rolls to take a full-time low-wage job if the tax rate were 100 percent, but who would choose to stay on the rolls and work part-time if the tax rate were lower. After a period of time, some recipients would end up working while on the rolls who would have otherwise been off the rolls working longer hours.⁷

Whether this possibility has any relevance to actual situations will be discussed in the context of the available empirical evidence. However, even if it is relevant to actual situations, it does not imply that reductions in tax rates below 100 percent are undesirable, only that they must be justified on some grounds other than as a means to increase average work effort. For example, it may be desirable *per se* to have welfare recipients work, even if this can only be achieved by broadening the recipient population to include individuals who would have otherwise been off the rolls (they are likely to be low-wage individuals as well, of course). Alternatively, it may be desirable to avoid a division of the low-income eligible population into those who are on welfare and not working and those who are off welfare and working long hours. A reduction in the tax rate that increases the work effort of the former group but reduces it for the latter group may serve to equalize the distribution of earnings and income in the eligible population and lessen polarization. In addition, a program that offers income supplements to individuals who work part-time but are still poor (assuming that such work is covered by a low t) may be considered worthwhile simply because such persons are believed to be deserving of assistance, even if by doing so some recipients may reduce work effort from full-time to part-time. Finally, low tax rates may be a means

to prevent underreporting of income and fraudulent work by individuals while receiving benefits.⁸

Another possibility is that employment provides a welfare recipient with work experience and increased skills, thereby raising earnings ability (i.e., the wage rate) and encouraging exit from the rolls in the future. Whether the types of jobs that welfare recipients are likely to have while on the rolls provide a stepping-stone to permanent self-sufficiency, or whether such jobs are likely to be high-turnover, dead-end positions that lead nowhere but back onto the rolls, is an empirical question. However, if progress towards permanent employment is the goal of the reduction in the MTR, it could be fairly asked whether job training programs are not a superior method of increasing skills.

Finally, the literature in this area has shown that the same work-incentive difficulties that arise with tax rate reductions occur when transitional child care and Medicaid benefits are provided (Moffitt and Wolfe 1990). In this situation, such benefits provide an incentive for individuals who leave the rolls to work less than they would have otherwise during the transition period. Also, for those who are on the borderline between applying or not applying for benefits in the first place, there is an incentive to apply because they know that transitional benefits will be available should they go off the rolls. Consequently, transitional child care and Medicaid benefits may have the undesirable effect of actually increasing the caseload and reducing average levels of work effort.

Empirical Evidence

Empirical evidence on the effects of welfare program tax rates on work effort comes from three sources: (1) econometric estimates of tax rate effects from cross-sectional survey data, (2) estimates from controlled experiments testing a negative income tax, and (3) historical information from actual tax rate changes in recent decades in particular programs such as AFDC. We will not discuss any evidence on the effect of transitional child care and Medicaid benefits on work effort and the caseload, since those provisions have not been studied. Also, we will not look at the earnings and caseload impacts of welfare employment and training programs, since our focus is on financial inducements to work.

Cross-sectional econometric estimates of the effect of welfare programs on work effort generally relate differences in hours of work to differences in benefit levels and MTRs among welfare-eligible individuals living in states with varying benefit schedules (Danziger, Haveman, and Plotnick 1981; Moffitt 1992). Most of these studies have examined the effect of welfare on the level of work effort *per se* and have found that welfare programs provide some disincentive and therefore that work effort would be higher in the absence of the programs. However, only a minority of the studies examined the issue of whether the net effects of a change in the MTR on work effort would be positive or negative; instead, most studies estimated the "marginal" effects of changing the MTR conditional on program participation, that is, the effect of a change in the MTR on hours of work for those on AFDC before and after the change.⁹ On this issue, the research showed non-zero, but moderately sized, responses to benefit levels and MTRs: both higher benefits and higher MTRs are correlated with less work effort, assuming AFDC participation by the individual before and after the change.¹⁰ Thus, arrow 1 in figure 1 was found to be significantly positive: when faced with a lower MTR, many AFDC recipients enter the labor force and work.

Three studies reviewed by Danziger, Haveman, and Plotnick did estimate net effects of changes in MTRs, however. The research (Masters and Garfinkel 1977; Levy 1979; Barr and Hall 1981) found either no net effect of tax rates on work or a "perverse" effect, i.e., higher tax rates increase work levels. The explanation given for these findings was that the positive effects on the work effort of initial recipients are canceled out by the negative effects from new entrants and from a decline in the exit rate. Thus, the theoretical possibility of significant offsetting effects to the work incentives of lower tax rates is, unfortunately, supported by the evidence.

There have been only a few additional studies of the AFDC program since the review by Danziger, Haveman, and Plotnick, and these provide further evidence supporting the weak effects of changes in the MTR. Moffitt (1983) applied more advanced econometric methods to the problem but found, again, essentially no net effect on work effort due to changes in the tax rate. Keane and Moffitt (1994) incorporated the housing program into a model of AFDC and Food Stamps and found that changes in cumulative MTRs had very little net impact on

work effort. Hoynes (1996), in the first work-incentive study of the AFDC-UP program, found that reductions in the MTR on earnings had essentially zero net effect on the work effort of husbands and wives.¹¹

Only a few studies have been conducted on other programs. Fraker and Moffitt (1988) estimated the effects of the Food Stamp program on the work effort of female heads of household and found, again, that the net effect of MTR reductions was zero. Estimates of the effect of the Medicaid program on work effort have been conducted by Blank (1989), Moffitt and Wolfe (1992), and Winkler (1991). Two of the studies showed rather weak effects of the Medicaid program on work effort, while the third showed quite strong effects. However, none of these studies specifically examined the effect of the notch imposed by Medicaid.¹²

The negative income tax (NIT) experiments conducted in the 1970s provided additional evidence on the responsiveness of welfare recipients to welfare programs (Burtless 1987; Moffitt and Kehrer 1981; SRI International 1983). In these experiments, a sample of the low-income population in several cities was selected, and its members were randomly assigned either to an experimental group, which received a welfare program (NIT) with varying benefit levels and MTRs, or to a control group, which was eligible only for the existing welfare system. Estimates were obtained by comparing work effort levels of the control group to those of the different experimental groups. The results of the experiments showed that an NIT with higher benefit levels than those in the existing AFDC system would reduce the work effort of female heads of household, and that an NIT of any type would lower the work effort of men and women for whom no existing program was available. The experiments also provided estimates of the responsiveness of welfare recipients to changes in benefit levels and MTRs, assuming individuals to be on AFDC before and after the change. The estimates were found to be nonzero, but slightly lower in magnitude than those derived from cross-sectional survey data.¹³ Unfortunately, the experiments provided little evidence on the net effect of changes in welfare program tax rates. In part, this is because the experiments were not designed for such estimates: the studies excluded families with income very much above the break-even level and hence could not capture the effects of tax rate changes that might arise from that group.¹⁴

Finally, some studies have been conducted on the effects of two historical changes in the AFDC tax rate: its reduction from 100 percent to 67 percent in 1969, as a result of the 1967 Social Security Amendments, and its increase from 67 percent to 100 percent in 1981, due to the 1981 Omnibus Budget Reconciliation Act (OBRA). Early studies of the 1967 Social Security Amendments examined the changes in employment and earnings among recipients remaining on the AFDC rolls; once again, the studies excluded responses from entry and exit and did not estimate net effects (Appel 1972; Bell and Bushe 1975; Smith 1974). The research suggested that work effort rose among women initially on the AFDC rolls. However, aggregate data on the AFDC participation rates and work effort levels of female heads of household in the United States in the early 1970s, just following the reduction in the tax rate, showed increases in participation rates and decreases in work effort (Moffitt 1992). Thus, net effects appeared to be zero, and, consequently, there was no evidence of increased work following the legislation.

The 1981 OBRA legislation has been evaluated more formally. The best study, conducted by the Research Triangle Institute (1981), examined the exit rates and work effort levels of women initially on the AFDC rolls at the time of the legislation, some of whom were made ineligible by the increase in the MTR. The results of the evaluation indicated that the increase in the tax rate to 100 percent had no discernible work-discouraging effects on those who were initially on the rolls and working, in the sense that there was no evidence of their having reduced work effort to zero to retain eligibility for benefits. The study did find that the exit rate from AFDC increased, which is consistent with the expected effects discussed previously. Unfortunately, the study failed to gather information on the work effort levels of those who left the rolls following the change or on the work effort levels of those who failed to apply for benefits following the tax rate increase. Hence, the total (i.e., net) effect of the change could not be ascertained. However, once again, subsequent time series evidence on the work effort levels of female heads of household showed very little impact of the legislation (Moffitt 1986).

In summary, the empirical evidence from the welfare program literature reveals a consistent pattern of inelastic (i.e., weak) responsiveness of work effort to changes in MTRs. Despite MTRs of or in excess of

100 percent, there is very little indication that reductions in those MTRs would induce any statistically detectable increase in overall hours of work or in employment among the low-income population. This realization by analysts and policy makers explains, in part, why efforts in the 1980s to change work patterns among AFDC recipients shifted so strongly toward employment and training programs and away from the use of financial incentives.

Transfer Programs for the Disabled

The primary cash transfer systems for the disabled consist of the Social Security DI and SSI programs.¹⁵ DI is a major part of the Old-Age, Survivors, and Disability Insurance (OASDI) program. It was added to the program in 1957 and is designed to provide partial earnings replacement to all workers under age 65 who sustain severe, long-term (typically career-ending) disabilities. All workers covered under Social Security (about 95 percent of the U.S. workforce) are also covered for DI benefits, and financing for the program comes out of employer- and employee-paid Federal Insurance Contributions Act (FICA) taxes. In 1993, the DI program provided benefits for about 5 million disabled, nonaged individuals, for a total cost of \$34.5 billion (U.S. House of Representatives 1994).

The SSI program provides benefits to the aged, blind, and disabled. The goal of SSI is to provide an income floor, and receipt is not tied to previous work experience. The program, enacted in 1972 and implemented in 1974, is funded from general revenues, and benefits are standardized across the states. However, most states supplement the federal SSI benefits through their own SSI programs. On average, 4 million disabled workers and their dependents received monthly federal SSI benefits in 1993, for a total annual cost of about \$35 billion. The disabled represent about 75 percent of the total SSI caseload. DI recipients with low benefits can use SSI to supplement their income; about 16 percent of DI recipients also receive SSI (U.S. Department of Health and Human Services (HHS), Social Security Administration (SSA) 1994).

Description of Program Rules

Both programs define disability as "the inability to engage in any substantial gainful activity by reason of medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than twelve months" (HHS, SSA 1992). Therefore, the medical definition of disability is not sufficient for benefit receipt. Instead, initial and continuing eligibility for both programs is tied to the ability to work. Substantial gainful activity (SGA) is defined as a threshold level of earnings, which is currently set at \$500 per month.¹⁶

Social Security Disability Income Program (DI)

Eligibility for DI requires meeting the definition of disability (as previously stated), having sufficient work history in Social Security covered jobs,¹⁷ and not working, or working and earning less than the SGA threshold. When determining if earnings exceed SGA (both for initial as well as continuing eligibility), deductions are allowed for impairment-related work expenses (IRWE). The DI benefit is equal to 100 percent of the worker's primary insurance amount (PIA), which is a function of the individual's earnings history in Social Security covered employment.¹⁸ This benefit can be significant and is typically equal to the full value of the worker's potential Social Security retirement benefit. In 1993, DI benefits for disabled workers averaged \$642 per month. The PIA calculation is based on a progressive structure under which high-wage workers obtain lower earnings replacement rates than lower-wage workers. The replacement rate in 1994 ranged from 78 percent for workers with low average monthly earnings (\$500) to 29 percent among workers with high monthly earnings (\$4,500) (U.S. House of Representatives 1994).¹⁹

To analyze the work-incentive provisions of DI, we must examine the five possible phases of the program that working recipients can experience. First, there is a five-month waiting period after disability begins before benefits can be received (although there is no waiting period if the individual returns to the rolls within five years of leaving). Second, a trial work period (TWP) allows for nine months of employment over a 60-month period. If the individual earns over \$200 in a month, it is counted as a trial month. Third, individuals who accumu-

late nine months of work have their cases reviewed; if the work in which they have been engaged is "SGA" (generally meaning that it reflects an ability to earn more than the SGA monthly threshold), benefits are extended for three more months (the grace period) and then stop. During the TWP, benefits are provided in full regardless of the level of earned or unearned income and are intended to let recipients test their ability to work, without danger of losing benefits. Fourth, recipients who have reached this point enter the extended period of eligibility (EPE), which lasts 36 months. After the three-month grace period during the EPE, benefits are provided in full if earnings (net of allowed deductions) are less than SGA, but benefits are reduced to zero if earnings are over SGA. After the EPE is exhausted, individuals are dropped from the rolls if they have achieved SGA (or they must file a new application if they are still disabled).²⁰

The marginal tax rates (MTRs) on earnings in the DI program are generally much lower than those found in programs for the nondisabled. During the TWP, for example, the MTR is zero. Further, the MTR is also zero during the EPE if earnings are below SGA. However, by eliminating benefits for workers over SGA, an MTR of more than 100 percent is created on earnings that push the individual just over SGA. This creates a "notch" that resembles the MTR of over 100 percent created by the loss of Medicaid benefits in the nondisabled programs discussed previously. Hoynes and Moffitt (1996) find that, overall, DI recipients considering entering the labor force on a part-time basis face average tax rates in the range of 60 to 91 percent, depending on their earnings capacity. Those considering entry at full-time levels face average tax rates of about 40 percent.

Supplemental Security Income Program (SSI)

While DI is an earnings replacement program, SSI is a means-tested transfer program that is not tied to previous work experience. The eligibility and benefit formulas are consequently similar to those in the means-tested programs for the nondisabled. In order to be eligible for SSI, the individual must meet the definition of disability, have income and assets below the eligibility requirements, and not work, or work and earn less than the SGA threshold. The income test, asset test, and benefit level vary by living arrangement. The asset limit is \$2,000 for single persons and \$3,000 for couples, excluding home and automo-

bile, while the income test requires that countable income, which includes both earned and unearned income, not exceed \$446 for single persons and \$669 for couples in 1994. The main deductions used in calculating countable income include the full deduction of IRWE, \$20 of monthly income, \$65 of earned income, and one-half of the remaining earnings. This creates an MTR of 50 percent for earnings above deductions. Benefits are equal to the program guarantee (\$446 for single persons and \$669 for couples) less countable income.²¹ These benefit levels are adjusted annually for changes in the cost of living. All SSI recipients are also eligible for health benefits through the Medicaid program.

Work effort is observed to be quite low in both the DI and SSI programs. In a study of a sample of new entrants to DI in the early 1980s, only 10 percent of all participants had any work experience over a 10-year period following initial benefit receipt (Muller 1992). Three percent left the rolls because of increased earnings, and 5 percent attempted trial work, but this did not result in SGA termination. Those who worked were more likely to be younger, white, female, single, with higher education levels, lower DI benefits, and less severe disabilities. SSI workers have represented about 6 percent of the total SSI caseload since the mid-1980s (HHS, SSA 1993).

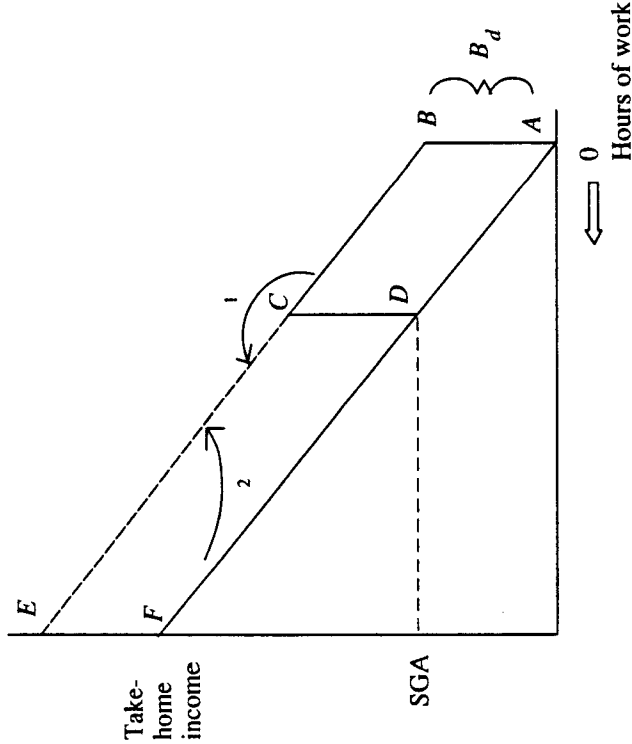
Expected Effects of Work Incentive Provisions

The DI and SSI programs are designed to replace (or supplement) earnings for workers who are unable to engage in "substantial gainful activity." There is, of course, a potential moral hazard problem associated with these programs inasmuch as disability is not a purely medical condition but may respond to economic and other factors. High benefits or lenient application procedures may lure those in poor health, but with employment possibilities, out of the labor market. Furthermore, a high MTR may lead to low work effort among the recipient population.

To begin, consider how the existence of the DI program affects work effort among the disabled. First, eligibility requires that recipients earn less than SGA during the application and waiting periods. This will act to lower employment effort. The time spent out of the labor force while establishing eligibility may be quite costly, especially since many recipients are initially denied and since acceptance may follow only

after a lengthy appeals process. Bound (1991) estimates that DI recipients are jobless for an average of 8.5 months before receiving benefits.

Figure 2. DI Budget Constraint during TWP

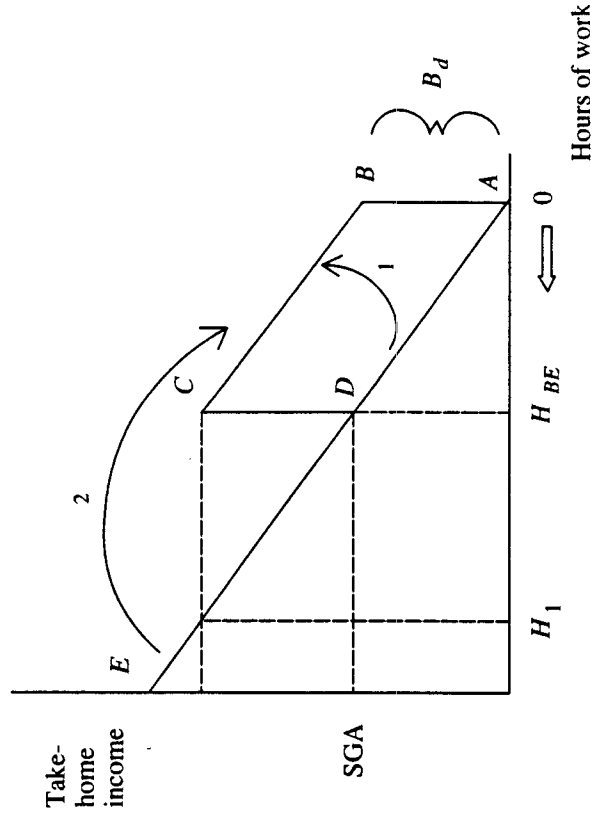


Second, the level of work effort is affected by the TWP. Figure 2 shows the one-period budget constraint that operates for the TWP as well as for the grace period. Without DI, the relevant budget segment is *ADF*. During the TWP, benefits are received in full regardless of earnings (MTR equals zero), thus shifting out the budget constraint by the amount of the benefit and resulting in the DI budget segment of *ABCE*. In this case, the DI program operates through a pure income effect, causing work effort to fall, for example. High benefits may induce some workers to accept DI and to reduce labor supply, possibly even leaving the labor force altogether.

Third, a different effect of the DI program on work effort is created during the EPE. The income opportunities during the EPE are shown

by budget segment *ABCD* in figure 3. If earnings are less than SGA, benefits are provided in full. Above *H_{BE}*, the break-even level of hours, the benefit is cut off completely, and the MTR is over 100 percent. In this case, the worker would have to increase hours of work to *H₁* to make up for lost DI income. The EPE, like the TWP, provides a negative income effect that reduces work, as illustrated by arrow 1. In addition, the notch provides a strong incentive to work at levels below SGA. In this situation, shown by arrow 2, some individuals who might otherwise have had high employment effort are induced by the DI benefits to work less in order to remain below SGA. Overall, providing benefits to the disabled through the DI program will reduce labor supply among the disabled.

Figure 3. DI Budget Constraint during EPE



These effects are not necessarily of greatest policy interest, because they concern the impact of the DI program relative to having no program at all. Of more note are the expected effects of the DI provisions that are intended to provide work incentives, mainly the TWP and the EPE, relative to a DI program without such provisions. To examine the outcomes of these incentives, or of any proposed modifications in existing incentives, we need to consider not only differences in work effort among current recipients but any changes in entry and exit rates that (also) contribute to changes in the overall level of work effort among the disabled.

First, consider the effects of adding a TWP to a "strict SGA" program in which benefits are unaffected if work is below SGA but are eliminated entirely for work above SGA.²² The impact of the TWP on the budget constraint is illustrated in figure 2. Without any DI program at all, the budget constraint is *ADF*, while the budget constraint is *ABCDE* under the strict SGA DI program. The addition of the TWP prolongs benefits regardless of earnings, extending the DI budget constraint to *ABCE*. As intended, this change provides an incentive for those recipients who were initially at or a bit below SGA to work more than SGA, as shown by arrow 1. However, by making the program more generous for those who can and wish to work above SGA, exit rates from the program will fall in the longer term: some recipients who would have left in order to work above SGA will stay on the program.²³ Thus, while work effort among current participants may increase in the short run, it may fall in the long run. Those who would have exited the program will ultimately work less than they would have otherwise, as illustrated by arrow 2 (income effects induce a reduction in hours of work). In addition, benefits can now be received above SGA, which was not possible before, and this may affect entry rates, by creating incentives for eligible nonparticipants to apply for benefits, should they think that work above SGA is likely if they go onto DI. This would also increase the caseload and result in reduced work effort. Overall, the introduction of the TWP has ambiguous net effects on the employment effort of DI recipients and the eligible population, for the increased work among initial recipients may be outweighed by the likely future reductions in work among those who delay exit and those who enter.

The effects of the EPE, which was introduced in 1980, are, at least at first inspection, more clear-cut: the benefit schedule reverts to its strict SGA form of loss of benefits for work above SGA (aside from the retention of Medicare benefits, whose effects are similar to the TWP and are provided above SGA). Once a worker is in the EPE, the incentives to work above and below SGA are the same in each month as they were in the strict SGA program. However, the main impact of the EPE is in its provision of insurance for 36 months against a drop in earnings. In the strict SGA program, a recipient might have hesitated to work above SGA because of the danger of not being able to sustain such high earnings and having to reapply for benefits. Avoiding this concern is part of the intention of the EPE program and presumably increases work effort during the EPE period.

Even with the EPE there is the possibility of increased entry. The greater generosity created by the EPE may make the DI program more attractive to eligibles who are on the margin of applying for benefits and may tip them in the direction of applying. Actually applying will depend on the extent of information about the DI program, whether eligibles have reasonably good expectations of attempting to work when on the program, and on the costs associated with application. If any entry occurs, this will raise the DI caseload and reduce work effort, since those who enter will work less, on average, while on the DI program than they would have if they had stayed off DI. Thus, in principle, the direction of the net effect of the EPE is ambiguous and can only be determined by empirical research.²⁴

This discussion shows that there is a basic similarity between the TWP and EPE work provisions of the DI program, on the one hand, and the MTR reductions in nondisability programs, which are also aimed at increasing work effort, on the other. Both have ambiguous net impacts on the recipient and eligible populations: while they have positive employment incentives for some, they also reduce exit rates and possibly increase entry rates, both of which lower long-run work effort (and raise the caseload). Each type of financial incentive operates by making the program more generous, and therefore more attractive, to working individuals as compared to their prospective situations off the program.²⁵

The work incentives of SSI differ considerably from those of DI, while they are similar to those in the AFDC or Food Stamp programs.

The work incentives of SSI can be analyzed by referring to the welfare budget constraint for the nondisabled in figure 1, substituting the SSI implicit tax rate on earnings of 50 percent for t ($t = 0.5$ in figure 1). The 50 percent MTR implies that if earnings are increased by \$1, total income increases by only 50 cents. Benefits are phased out as earnings increase and reach zero at the break-even level (point D). As before, the static labor supply model implies unambiguously that the existence of SSI will reduce work effort among the disabled relative to having no program at all. There is an income effect associated with the guarantee (as with the DI program), but the 50 percent MTR induces a substitution effect that is not present in the DI program. The income and substitution effects work in the same direction, and hours of work must fall. If the MTR is reduced, the net impact on work effort is ambiguous in direction, however. As discussed for nondisability programs, such a reduction lowers work effort because of a delay in exit and an increase in entry.²⁶

Empirical Results

The scope of the empirical literature on work incentives of disability income programs is somewhat limited compared to the literature for the nondisabled. The main body of empirical studies examines the effect of the level of DI benefits on program participation (or caseload size).²⁷ Participation in DI is typically estimated as a function of the potential DI benefit, which is imputed for those not on the program, individual attributes such as age and education, and locational characteristics.²⁸ The principal parameter of interest, the elasticity of DI participation (or nonparticipation in the labor market), with respect to the DI benefit, varies widely in the literature. The results based on samples of older men (aged 45-62) provide elasticities ranging from 0.06-1.80. The highest elasticities in the literature are found by Parsons and range from 0.63 (Parsons 1980a) to 1.80 (Parsons 1980b). Slade (1984) estimates an elasticity of 0.81. The magnitude of these elasticities is sufficient to explain all of the observed decline in labor force participation rates by older men in the 1970s. Haveman and Wolfe (1984a) claim that Parsons' estimates are flawed and instead estimate an elasticity between 0.06 and 0.21 (Haveman and Wolfe 1984b; Haveman, de Jong, and Wolfe 1991). The other main estimates fall in the range of

0.10 to 0.20 (Halpern and Hausman 1986; Leonard 1979). Older workers, those in poor health and with greater disabilities, and individuals with lower earnings have been found to be more responsive to changes in benefits (Haveman and Wolfe 1984b; Slade 1984). de Jong, Haveman, and Wolfe (1988) find evidence that women are more sensitive to benefits, with estimated elasticities of 0.97 for female heads of household and 0.23 for married women.²⁹

Variation in the leniency of determining eligibility has been used to examine the sensitivity of DI participation to the uncertainty of benefits. Parsons (1991a) and Gruber and Kubik (1994) use over-time and across-state variation in DI denial rates to estimate how DI applications and nonparticipation in the labor market are affected by such uncertainty. Parsons finds the elasticity of applications with respect to the denial rate to be -0.18 . Gruber and Kubik find the elasticity of nonparticipation with respect to the denial rate to be 0.27.

While much of the empirical work in this literature is of great interest, the results fall significantly short of what is needed to estimate the effect of the TWP, the EPE, or other work-incentive provisions. In the absence of direct evaluations of the TWP, for example, inferences about its effects can be made only by estimating the number of individuals who would prefer to work above SGA but still receive benefits; wage elasticities as well as income elasticities are needed for this prediction. The marked absence of attempts at estimated wage elasticities is, in fact, the literature's major defect for assessing the effectiveness of work-incentive provisions.³⁰ Furthermore, in these studies, participation in DI is considered equivalent to nonparticipation in the labor market, which rules out examining the sort of responses shown by the arrows in figures 2 and 3.

As noted, the empirical evidence for nondisability programs should generate skepticism that there are any significant positive net effects of financial inducements for recipients to work while on the rolls. While the TWP and EPE are quite different in form from a simple MTR, the same types of effects are involved; therefore, the results from the nondisability programs should generate concern about the effectiveness of the TWP and EPE. In an assessment of whether the nondisability results are applicable to DI programs, one issue that would presumably be very important is whether the responsiveness of the disabled to changes in benefits and tax rates (i.e., their income and substitution

elasticities) are similar to those of female heads of household and other low-income groups that commonly receive nondisability benefits. Whether the responsiveness is higher or lower seems unclear from the literature. Nonetheless, it is important to point out that the populations and programs are distinctive in many ways, which may contribute to different responsiveness levels.³¹

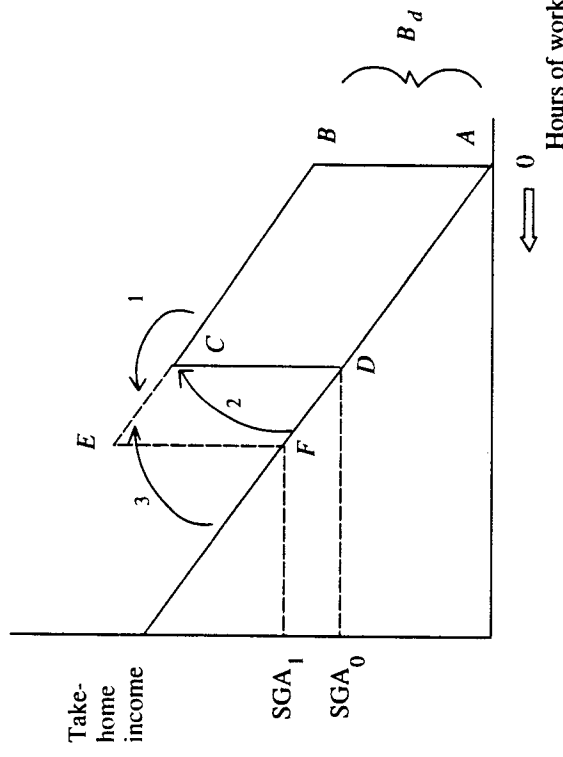
Expected Effects of Reforms to DI Work Incentives

The passage of the Americans with Disabilities Act (ADA) reflects a desire to encourage labor force participation among the disabled. As is often noted, the existence of the DI program runs counter to this goal, by encouraging reductions in work effort among the disabled. Compared to a program with a strict SGA limitation, however, the TWP and EPE features of DI do produce work incentives for current recipients, even though the direction of these features' overall impact is ambiguous. Several changes to the work incentives of the DI program are under consideration, including increasing the SGA, extending the length of the TWP, and imposing a 50 percent MTR on earnings after the end of the TWP.³²

Raising the SGA increases the DI caseload but has ambiguous impacts on work effort among the disabled.³³ The change affects employment effort, program exit, and program entry in two ways. First, the costs of application are reduced because higher work effort can be sustained without exceeding SGA (as required for initial application). Second, as shown in figure 4, increasing the SGA shifts up the notch in the budget constraint during the EPE. Increasing the SGA level from SGA_0 to SGA_1 shifts out the DI budget constraint from $ABCD$ to $ABCE$. This will lead to increases in hours of work among some current recipients, as shown by arrow 1 in the figure. However, by allowing for higher levels of work with full benefits, the more generous program lowers the exit rate from the rolls for some recipients, who ultimately work less than they would have otherwise. In addition, the change attracts new applicants, who, if accepted into the program, will take advantage of the SGA to work while on the rolls; however, they will work fewer hours than they would have had they been off the rolls, as shown by arrows 2 and 3. Some of these new entrants are eligible under the expanded program (arrow 2), and others may take advan-

tage of the increased benefits and reduce their work effort to become eligible (arrow 3). This leads to a rise in the caseload, through increases in the entry rate as well as decreases in the exit rate.

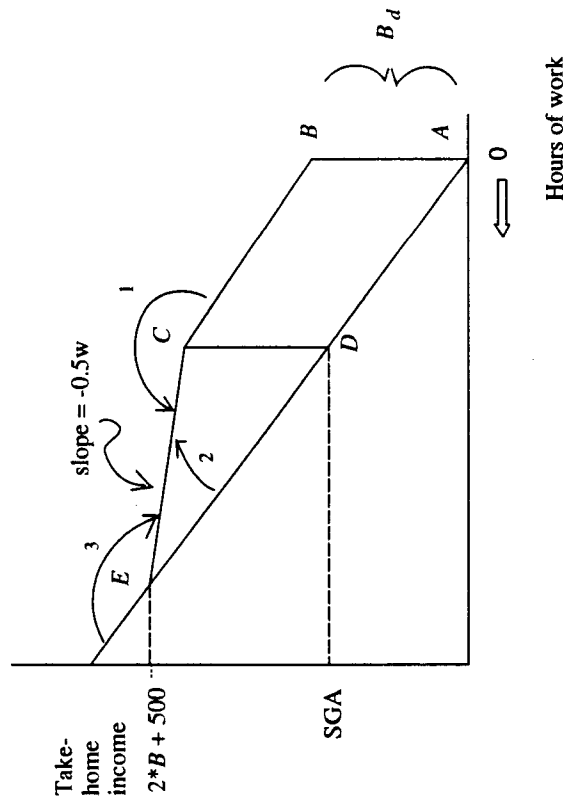
Figure 4. Effect of Increasing SGA on EPE Budget Constraint



Similarly, adding a partial benefit or MTR on earnings during the EPE will tend to increase work levels among current DI recipients, but the impact on overall work effort among all disabled persons is indeterminate in direction (the caseload will unambiguously rise). Figure 5 shows the budget constraint for the EPE before and after the introduction of the partial offset, where the MTR is imposed only on earnings over the SGA. Under current law and with this expansion, the slope of the budget constraint below the SGA (ABC) is w , reflecting an MTR of zero. With the expansion, above the SGA there is an MTR of 50 percent, which operates until benefits are reduced to zero. As before, arrow 1 shows the likely movement in work levels among current recipients. This increase in work effort is the intended effect of the expansion. However, a positive income effect and negative substitution

effect suggest that work levels will fall for others, as shown by arrows 2 and 3, both from reduced exit and increased entry. The potential growth in the caseload is quite large under this expansion. Using the average benefit in 1993 of \$642, the break-even earnings level increases from SGA to about \$1,800 per month or about \$22,000 per year.³⁴

Figure 5. Partial Benefit Offset (50 percent) over SGA



Extending the length of the TWP also has ambiguous effects on work incentives. By allowing recipients to work for more months before being taxed (e.g., before entering the EPE), the effective MTR in the program decreases. This will probably increase work levels and the length of time on the program for current participants. In addition, it may reduce exit rates for current participants and attract new participants, with both of these groups working fewer hours during the additional 12 months than they would have otherwise. This would augment the caseload as well.

The empirical literature, as described, provides limited insight into the likely results of these proposed reforms to DI work incentives. In general, the impact on overall work effort depends critically on the relative sizes of the income and substitution effects for current recipients and potential entrants. Existing research provides very little reliable information on these parameters. The total effect also depends on the size of the increase in break-even income and on the density of the eligible population in these areas of the earnings distribution, that is, on the relative numbers of disabled individuals who can and prefer to work just above the SGA.

Conclusions and Policy Implications

As the issue of increasing work incentives in the DI and SSI programs becomes of greater policy interest, the lessons from similar provisions in plans for the nondisabled should be studied. Our review of the nondisability program literature demonstrates that simple financial inducements or changes in benefit formulas are unlikely to be as effective as they first appear. The empirical research on such reforms in nondisability programs is quite uniform in its failure to find strong responses to financial incentives and decreased MTRs. A set of possible explanations includes new entry into the programs as well as decreased exit. Our review of the empirical research on DI and SSI does not allow us to reach any conclusions about whether the magnitude of the responses in DI programs is likely to be greater than that in nondisability programs. However, the different types of responses to financial considerations, both the intended increases in work effort and the unintended reductions, should be present in DI and SSI, at least to some degree. This leads us to urge caution in using financial inducements as a means of work-incentive reform in those programs without further, concrete evidence of their effectiveness.

Policy for AFDC recipients has evolved away from financial incentives in recent years and has shifted toward the use of education and training programs to directly encourage, and sometimes require, work. This transition began in the 1970s and occurred in part because of the perceived failure of financial inducements, such as provided by the

1967 Social Security Amendments, to increase AFDC recipient employment levels and to reduce caseloads. In addition, the move reflected a society-wide change in attitudes toward work by women with children, as it became increasingly the norm for such women to be employed rather than to stay at home. A similar change in attitudes toward the disabled appears to have occurred, with many arguing that all recipients should work to the degree they can. However, the use of financial inducements is still more favorably viewed in policy discussions of SSI and DI than of AFDC and other welfare programs. As we have stressed, this perspective is not necessarily justified by the evidence.

Finally, a recent policy direction taken for AFDC and related programs is to provide financial incentives to *leave* the welfare rolls via earnings and wage supplements for private sector work. The most prominent of these programs is the Earned Income Tax Credit (EITC), which provides supplements to low-income families and which has been greatly increased in generosity. The attractiveness of the EITC is that it has the potential to increase work and earnings and to reduce the welfare caseload at the same time. The philosophy behind the EITC and similar private sector wage subsidy programs is diametrically opposite to that behind the use of financial inducements to work more while on welfare; the latter has the potentially deleterious consequences of increasing the caseload and reducing some individuals' work effort, which we have discussed at length. These undesirable results would not occur if financial incentives were offered only for off-welfare (or both on- and off-welfare) work. Policy discussions of disability assistance might fruitfully turn to wage subsidies, perhaps by investigating special private sector earnings subsidies for the disabled or modifications in the EITC to make more disabled individuals eligible for its benefits.

NOTES

NOTE: The authors would like to thank Gary Painter for excellent research assistance and John Bound, Richard Burkhauser, David Stapleton, and Finis Welch for comments.

1. The rules described in this section can be found in the 1994 "Green Book" (U.S. House of Representatives 1994).
2. The \$30 flat deduction is eliminated after 12 months of earnings. Both the twelve months of a \$30 deduction and the four months of the one-third deduction can be reestablished after one year, provided that the recipient has gone off AFDC and not returned in the interim. We should

also note that some states use a payment method called "fill-the-gap," which permits a total disregard of earnings up to a certain maximum, after which the tax rates noted in the text are applied.

3. Unlike the AFDC program, the FSP has two maximums, one on gross income and one on net income (i.e., income after deductions). A family loses eligibility if either maximum is exceeded.

4. We should note that the AFDC benefit is included in countable income for those FSP recipients who are also on AFDC. This inclusion tends to lower the cumulative MTR for those who are on both programs, since an increase in earnings generally reduces the AFDC benefit, which, therefore, increases the FSP benefit. In simple cases, the cancellation is complete: a \$1 increase in earnings lowers the AFDC benefit by \$1, so countable income in the FSP is unchanged, and hence the FSP benefit is unchanged.

5. We have not discussed the MTR arising from participation in public and subsidized housing programs because there has been too little research on their effects. Keane and Moffitt (1994) provide estimates of these MTRs.

6. Another possible response can occur if there are initially individuals along segment AC who are eligible for benefits but do not receive them, either because of a stigma associated with AFDC receipt or because the "hassle" and other costs of applying for and receiving assistance outweigh the benefits of the potential payment. A reduction in t , which increases potential payments, may induce some of these individuals to go onto welfare after all, with an associated reduction in work effort.

It should be noted that the welfare program caseload unambiguously rises. Providing work incentives by lowering the tax rate increases the caseload.

7. In this discussion, we have to a degree shifted to a model of exit and entry, unlike the static model of our diagrams. In truth, even in the presence of "fixed" budget constraints, there are continual flows onto and off the rolls, in response both to unforeseen and uncontrollable events (layoffs, health events, etc.) and to conscious decision and purposeful behavior (e.g., leaving the rolls to take a job offer). Purposeful behavior that takes relative income and work incentives into account will result in a long-run equilibrium similar to that portrayed in the static model, as a larger proportion of the population ends up with higher income.

8. Although very little is known of underreporting among AFDC recipients, many suspect it to be common, based on anecdotal evidence. One study of 50 AFDC families in Chicago found that all 50 were receiving some form of unreported income (Edin 1991). The general presumption in the literature is that the frequency and magnitude of income underreporting are positively associated with the level of the tax rate.

9. Technically, these studies estimated the substitution and income elasticities assuming that the budget constraint segment upon which individuals were located did not change.

10. That is, income elasticities are estimated to be negative, and substitution elasticities are positive.

11. Another approach taken to estimating the net impacts of tax rates has been to simulate those effects from a microsimulation model, applying estimated elasticities from the econometric literature to representative household data bases (Moffitt 1992; Fortin, Truchon, and Beausejour 1993). These studies confirm that lowering tax rates in welfare programs may reduce work effort, depending upon the size of the estimated responses but also upon the relative numbers of eligible individuals in different portions of the income distribution.

12. A recent study by Yelowitz (1995) did examine the impact of the Medicaid notch, however, and found that it had negative effects on the probability of working.

13. See Moffitt and Kehrre (1981) for details.

14. The experiments further excluded eligible nonrecipients, whose responses would also affect the net result in real-world welfare programs.

15. Other public programs that provide cash benefits for the disabled include several veterans' compensation programs, workers' compensation, and (optional) state-provided temporary disability benefits. The discussion in this paper will be limited to the DI and SSI programs.
16. The SGA is not indexed for price changes and has been increased nine times in the program's 35 years. The SGA started in 1957 at \$100 and was set at \$300 from 1980 to 1990 before the latest increase to \$500.
17. To qualify for DI, applicants must have worked 20 of the last 40 quarters preceding the quarter of application, although the rules differ somewhat for younger workers. The work history required for DI is virtually the same as that required for Social Security retirement benefits.
18. The benefit can be as large as 150 percent of PIA for disabled workers with families.
19. The earnings figures refer to the worker's average indexed monthly earnings (AIME) in Social Security employment. The DI benefit, equal to the worker's PIA, is a function of the AIME. Benefits are adjusted for changes in the cost of living. The PIA and AIME are calculated in roughly the same way as they are for Social Security retirement benefits.
20. If a person has never achieved SGA, the EPE is extended indefinitely. However, benefits will be discontinued the first time that SGA is achieved.
21. Medicare benefits are available after 24 months of DI benefit receipt. Once the individual enters the EPE, Medicare benefits are obtainable for the next 39 months. Thus, Medicare is provided for three months past the end of EPE. Once a worker reaches age 65, the DI case is automatically transferred to the Social Security retirement system.
22. All figures refer to 1994 levels.
23. The original DI program did not have the TWP or EPE features. The TWP was introduced in 1960 and the EPE in 1980.
24. Once again, such exit rates can only be understood if it is realized that a dynamic model involving normal flows onto and off the rolls underlies the static diagrams we have drawn. Normal exits from the rolls occur, for example, due to job opportunities, even though the budget constraint does not change in the ordinary sense of the word. Whether an individual takes advantage of such opportunities will no doubt be based in part on the relative income gain or loss associated with leaving versus staying on the rolls. These are the same considerations that underlie the arrows in our static diagrams, although in a dynamic context.
25. The EPE may also reduce exit rates from DI when averaged over the 36-month period. For example, recipients may try out a job with possibly short duration, knowing that they will probably return within a few months to collect benefits. While this encourages employment among those who would not have worked at all, it discourages work effort by those who would have otherwise chosen to go off the rolls altogether at a job with greater prospects of stability and longevity.
26. Some important dynamic considerations of the DI program have been left out of this discussion. For example, even though benefits are not reduced during the TWP, potential benefit cuts begin after nine months of work if the recipient enters EPE. Consequently, taking advantage of the TWP will increase income at the time but decrease prospective income, effectively raising the MTR and reducing work effort. Similarly, individuals who consistently work above SGA during the EPE will eventually be dropped from the system altogether after 36 months, thus losing Medicare benefits as well as the insurance of DI benefits if wages fall below SGA. This also operates to increase the effective MTR. Lastly, Medicare benefits will be lost three months after the end of the EPE when leaving the DI rolls. There is anecdotal evidence that losing health benefits may be a larger work disincentive for the disabled than the prospect of losing cash benefits (National Academy of Social Insurance 1994).
27. This discussion shows that the main difference between SSI and DI is in the treatment of earnings. In SSI, SGA is only used when determining initial eligibility, and benefits are reduced

with increases in earned income. The notch in the DI budget constraint during the EPE does not exist in SSI. However, this difference is only a result of recent legislative changes in the SSI program. Provisions referred to as 1619(a) and 1619(b) started in 1980 and were made permanent in 1986. These provisions dramatically changed the earnings opportunities for disabled workers. Previously, SSI recipients had a trial work period, and Medicaid and cash benefits were lost when a worker had countable earnings that exceeded SGA. In that case, there was an MTR of 50 percent below SGA, at which point the remaining benefits (and Medicaid coverage) were lost in entirety. Provision 1619(a) allows SSI (and Medicaid) benefits to be continued even at earnings exceeding SGA (until sufficiently high earnings move a person off the rolls completely). To ease the transition back to work, provision 1619(b) extends Medicaid coverage when workers' earnings render them ineligible for SSI benefits.

27. This literature is critically reviewed in Leonard (1986) and in the exchanges between Parsons (1984) and Haveman and Wolfe (1984a) and Parsons (1991b) and Bound (1991).

The empirical studies of the work disincentive effects of the SSI and workers' compensation program are much less developed. McGarry (1993) considers the impact of potential benefits on the take-up of SSI benefits among the low-income elderly.

28. The majority of the literature defines the dependent variable to be labor force participation or nonparticipation (de Jong, Haveman, and Wolfe 1988; Gruber and Kubik 1994; Haveman and Wolfe 1984b; Parsons 1980a, 1980b; Slade 1984). Leonard (1979) specifies the dependent variable as DI participant or nonparticipant. Operationally, there is little difference between these approaches. Halpern and Hausman (1986) consider three states: DI recipient, DI-rejected applicant, and nonapplicant. Haveman, Wolfe, and Warlick (1988) consider the DI recipient, Social Security early retirement, and labor force participant choices.

29. The elasticities cited are from the econometric studies that utilized cross-sectional data. The time series studies are summarized by Leonard (1986).

30. Some of the studies (e.g., Parsons 1980a and 1980b) do include wages, but only their pre-disability level, and only in the form of a replacement rate, which results in neither an income nor a wage elasticity. There are many difficulties in estimating the work-incentive effects of the DI program that are not encountered in the literature for the nondisabled. Such problems include the endogenous nature of DI benefits, due to the relationship with previous work experiences, the uncertainty of DI receipt, and the difficulty in imputing DI benefits for nonrecipients. These issues and their relevance for the empirical literature are discussed in Leonard (1986), Haveman and Wolfe (1984a), Bound (1991), and Hoynes and Moffitt (1996).

31. It is clear that DI recipients confront different obstacles to labor market success than do female heads of household. Disabled individuals may face difficulties in labor supply (due to the physical or emotional conditions impacting the ability to work) and labor demand (due to the availability of jobs for persons with disabilities). Furthermore, contrasted with AFDC, receipt of DI benefits is uncertain and subject to long waiting periods because of difficulties in evaluating the medical definition of disability. Lastly, the availability of public health insurance may be quite important for disabled workers, especially due to preexisting condition clauses in private insurance.

32. Specifically, the National Academy of Social Insurance report (1994) outlines five possible reforms: indexing the SGA amount to keep pace with wage growth; raising the SGA to the level for the blind (\$930 in 1993) and indexing to keep pace with wage growth; providing a partial offset (MTR) of 50 percent to be imposed after the TWP on earnings above the monthly SGA; providing a partial offset (MTR) of 50 percent to be imposed after the TWP on earnings above \$85 a month; and extending the TWP by 12 months. With the partial offset, the work-incentive effects of the DI program are made more similar to those in the SSI program.

33. Increasing the SGA would also expand eligibility for SSI. The impacts are likely to be larger for the DI program since the SGA only affects initial (but not continuing) eligibility for the SSI program.

34. This is calculated by setting benefits $[B - 0.5 * (wH - 5000)]$ equal to zero, where w is the hourly wage and H is hours worked, and solving for the earnings level where benefits are just exhausted.

Imposing a 50 percent MTR on earnings over an \$85 exclusion during the EPE would result in closer parity between the SSI and DI work incentives. This change differs from those considered in the text: since the \$85 exclusion is below the SGA level of \$500, benefits would be lower than they are under current law for some ranges of earnings. By increasing the tax rate (from 0 to 50 percent), we may see a reduction in work effort for current recipients. However, eliminating the notch (and its high MTR) and extending benefits past the SGA may result in an increase in work levels among some recipients. For this program change, the caseload as well as the net work effects are ambiguous. The direction of the change in entry and exit rates is not predictable since for some ranges for hours worked the program has been expanded while, for others, the program is less generous.

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