National Employment Opportunity Network (NEON)

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National Employment Opportunity Network's comments to the Committee on Finance's Working Group on Business Income Tax
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The National Employment Opportunity Network (NEON) is pleased to submit comments on the Work Opportunity Tax Credit (WOTC) to the Senate Finance Committee's tax reform working group on Business Income Tax. NEON is comprised of management assistance companies that help businesses to set up and administer hiring tax incentives programs on the national, state, and local levels. As you take up tax reform, NEON and the companies we work with believe that WOTC needs to be part of any final rewrite of the tax code.

WOTC gives employers an incentive to take a second look at those eligible and give them a chance to compete for a job. The Work Opportunity Tax Credit (WOTC) has been one of the most cost-effective public-private partnership jobs programs Congress has enacted. In 2001, GAO concluded that employers significantly changed their hiring practices in response to WOTC. Since its inception in 1996 in conjunction with the major reform of the nation's welfare programs, WOTC has helped over twelve million people transition from dependence on public assistance into the job market and onto the path to advancement.

For nearly forty-five years, Congress has recognized the need to have a hiring incentive in the tax code, and that, absent a hiring incentive, employers would be reluctant to hire those on public assistance because these individuals are stigmatized as a result of a perception that their work skills are deficient and lack work experience. The first hiring tax incentive was the Work Incentive Program (WIN) credit, which was followed by the Targeted Jobs Tax Credit, and later became the Work Opportunity Tax Credit when Congress enacted welfare reform in 1996. Congress and a variety of economic analysts concluded the stigma that those eligible for WOTC face dramatically reduces the employment opportunities available to them under normal circumstances.

In itself, lowering the corporate rate will do nothing to encourage employers to look past that stigma and hire those on public assistance. In fact, having more dollars to spend on labor could cause employers to be more reluctant to hire such individuals. As we have recently seen, Walmart, Target, McDonalds, TJ Maxx, and other large employers announced that they were raising their entry-level wage because they wanted to attract better-qualified employees whom they believe will stay longer on the job. Thus, absent the WOTC incentive, more cash to devote to wages would encourage employers to select candidates for entry-level jobs with such qualities as a high school diploma, work experience, and marketable skills – characteristics that a preponderance of WOTC-eligible individuals lack.

There is clear evidence that the cost to federal and state governments of not providing a hiring incentive is dramatically greater than the cost of doing so – not to mention the cost to society of having a permanent dependent underclass. As we will document, WOTC is an essential cost-effective tool to helping those dependent upon public assistance to enter and stay in the work force.

In 2012 study, Dr. Peter Cappelli, a labor economist at the University of Pennsylvania's Wharton School of Business, indicated that WOTC is a cost-effective way to encourage employers to hire certain categories of individuals who have limited work skills and/or other barriers to employment. Dr. Cappelli points out that WOTC significantly affects the probability of someone who is eligible obtaining employment, and that individuals hired under WOTC tend to stay on the job longer and are more likely to advance than non-WOTC entry level workers. He also indicates that WOTC expands the number of people in the workforce, as two-thirds of non-WOTC job applicants are already employed.

Dr. Cappelli concluded in his 2012 study that, while WOTC is generally only a one-year credit (except for long-term welfare recipients), the savings to both the federal and state governments continue for every year that the individual hired remains in the workforce. Dr. Cappelli's 2012 calculations did not consider the savings to the states for their share of public assistance payments for Medicaid, TANF, and SNAP. However, he did conclude that WOTC is one of the most cost-effective jobs programs ever enacted.[1] It should be noted that a New York State Department of Labor study indicates that those hired through WOTC stay in the workforce and do not go back on the public assistance rolls.[2]

In 2013, Dr. Cappelli took a second look at WOTC to quantify the federal savings. He looked at federal data on the likely employment tenure for entry-level workers; the likelihood that WOTC played a significant role in the hiring decision; and the savings to federal public assistance programs that result when a recipient is hired thanks to WOTC. Because benefit levels vary widely in many federal programs and it would require a major effort to analyze the data for all federal assistance programs, Dr. Cappelli restricted his second study to the federal savings in only four federal programs: TANF, Medicaid, Supplemental Nutrition Assistance Program (SNAP) and Housing. He did not include savings from programs such as Supplemental Security Insurance, Vocational Rehabilitation, veterans' assistance programs, etc. all of which would have significantly increased the federal savings from WOTC.

Dr. Cappelli calculated that for TANF, Medicaid, SNAP, and federal housing programs, the annual savings are roughly $12,570. In addition, he concluded based upon DOL data and available WOTC studies that WOTC should be given credit for approximately 75% of those hired under the program – that is, WOTC was a major factor in hiring decision in 75% of the hires and that average tenure of employment for individuals hired is 2.3 years. Taking those factors into

[1] Peter Cappelli, "Assessing the Effect of WOTC," 2012.
[2] NYS Department of Labor, "The Work Opportunity Tax Credit: The New York State Experience, 1996-2003," November 2003.

consideration, the amount saved from the four federal programs that he looked at is $19,282. He then reduced those savings by $1,560, which is the maximum net value of the credit to the employer (even though the average net credit is $1,200) of hiring a WOTC certified individual, and concluded that WOTC results in a net savings to the federal government of $17,722 per hire.[3]

Dr. Cappelli also pointed out that there are significant, but harder-to-quantify, savings from reduced crime, more stable communities, lower healthcare costs due to less social tension, potentially higher business profits as a result of greater economic activity, and payroll and income taxes paid by workers hired as a result of WOTC.

In 2014, NEON, under the supervision of Dr. Cappelli, quantified the savings for each state in just three programs: TANF, SNAP and Medicaid. The state savings study looked at the state contribution for each program (which varies by state). Adjustments were made to account for the percentage of individuals that CBO estimates that are on both SNAP and TANF (60%), as well as the percentage of individuals who will not earn enough to come off of TANF and SNAP (11%). In addition, the estimate takes into account that 50% of those certified will remain on Medicaid because their earnings are lower than the eligibility ceiling for Medicaid, or because they are entitled to transitional Medicaid relief as they move from public assistance into the workforce. Finally, adjustments were made to take into account the 2.3 years that Dr. Cappelli concluded a WOTC worker stays in a job and off public assistance as well as that WOTC may not be the driving factor for 25% of those hired. The savings generated do not account for state financed programs such as housing, healthcare, crime prevention, incarceration, and state-run training programs. The savings to the states collectively in the three programs considered was $1.9 billion a year, nearly twice the annual cost of WOTC.

Finally, we wanted to quantify the total annual value to both federal and state government of WOTC. Based upon Dr. Cappelli's calculation that there is a net savings to the federal government of $17,722 over 2.3 years, the annual federal savings is $7,600 per WOTC hire from the TANF, SNAP, Medicaid and HUD programs. DOL indicates that there are 850,000 WOTC certifications per year, which amounts to an annual federal savings of $6.5 billion. When that is added to the annual $1.9 billion in state savings, we found annual savings to government of $8.5 billion or $85 billion over the ten year budgetary window.[4] Not only does this represent dramatic savings to federal and state governments, but it also has proven to be one of the most cost-effective ways of helping those on public assistance programs to become productive members of society.

When the Committee does move forward on tax reform, we would urge you to both include WOTC in your final package and modernize the program by adding a long-term unemployment category.

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[3] Peter Cappelli, "A Detailed Assessment of the Value of WOTC," April 2013.
[4] National Employment Opportunity Network, 2014.

Long Term Unemployed – Despite the fact that the unemployment rate has come down from a high of 10% in October of 2009 to 5.5% as of March 2015, the long-term unemployed still face significant barriers to finding work. Economists estimate that the United States needs to create 180,000 jobs per month to keep pace with population growth. During the recession, the US economy lost over 8.8 million jobs and failed to produce enough jobs in in forty-nine of the last eighty-eight months to keep up with population growth. Over the eighty-eight months since the recession began in December of 2007 according to the Bureau of Labor Statistics (BLS), when the US economy should have created 15.8 million jobs, it created only 9.3 million jobs – 6.5 million fewer jobs than needed to keep pace with population growth.

Because job creation has not kept pace with population growth, the long-term unemployed have found it very difficult to re-enter the workforce. This is borne out when one looks at the labor participation rate which according to BLS has gone down from 66% at the beginning of the recession to 62.7%. Research indicates that anyone who has been out of work for six months or longer is significantly less likely to be hired then someone with the same skills who has been unemployed for less than six months. According to a 2012 Brookings study, only 11% of Americans who are long-term unemployed find steady full time work a year after they lost their job and only 39% find any work at all. As a result, many of those who have been unemployed for more than 6 months have dropped out of the labor force, and are thus no longer even considered when the unemployment rate is calculated. Absent a government incentive, these individuals may never work again. This will mean that they will look to welfare, food stamps, housing assistance and when possible SSI to sustain themselves.

Adding a new category to WOTC which would cover the long-term unemployed would provide a sufficient incentive to encourage employers to take a second look at people in this population and help them to re-enter the work force. Senators Rob Portman (R-OH) and Ben Cardin (D-MD) added such a provision last year to the EXPIRE Act, which was reported out unanimously by the Finance Committee in April 2014. On the House side, Congressmen Bill Pascrell (D-NJ) and Tom Reed (R-NY) reintroduced the Long-Term Unemployment Hiring Incentive Act, H.R. 481, early in the 114th Congress to address this issue. NEON strongly urges the Committee to include this provision as part of tax reform.

We have attached all of the Cappelli studies discussed in this submission for the working group's consideration. Taken together, these documents articulate NEON's message: WOTC is an efficient, cost-effective hiring incentive that is inexpensive to administer and which saves the taxpayer considerable costs at the federal, state, and local levels while helping to produce a notable social benefit by moving individuals from dependency into productive work. At the same time, we want to remind the working group that, absent a hiring incentive, employers will have little reason to make special efforts to hire the structurally unemployed who have few job skills and little, if any, work history. Simply put, not only does WOTC help the structurally unemployed enter and, in the vast majority of cases, stay in the workplace, but WOTC also improves America's fiscal health.

Enclosed:

- Study One: "Assessing the Value of WOTC"
- Study Two: "A Detailed Assessment of the Value of WOTC"
- Study Three (states): explanation of calculations
- NEON projections of savings over ten years
- Overview of WOTC savings to each state

Individual breakdowns of WOTC's savings to each state are available upon request.

Assessing WOTC:

Executive Summary

The Work Opportunity Tax Credit (WOTC) was created to address the problems of the chronically unemployed and to do so by helping them get jobs. The mechanism behind the program is to give tax credits to employers who hire individuals targeted by WOTC, effectively subsidizing the cost of hiring and employing them.

The central idea behind the program is that getting a job helps break the vicious cycle affecting these individuals, who often find that a lack of job experience prevents them getting hired. The central idea behind the mechanism used by the program is that these employment subsidies leverage private funds, adding enough assistance to tip the balance so that employers hire the targeted applicants.

In the analyses below, I review relevant evidence to assess whether the WOTC program is successful in its goals. Addressing that question begins by recognizing that there are at least three different standards used in assessing success: Does the program generate statistically significant improvements in desired employment outcomes? Are those outcomes big enough to be meaningful? Are the results cost effective – are they better than what could be achieved through other means, and how do the benefits stack up against the costs?

The goal of WOTC is to get targeted individuals into jobs, which is different than the goal of creating new jobs associated with other employment subsidies. The jobs do not have to be permanent to provide the desired effect of offering work experience, although it would be troublesome if employers "churned" through existing employees – laying them off to hire WOTC-subsidized applicants.

There is very little direct evidence on the WOTC program per se, so the analysis here also uses evidence for programs that are similar to the WOTC. That evidence shows:

- That targeted wage subsidies appear to be among the most effective – for some analysts the most effective – labor market policy for getting individuals into jobs.

- US specific evidence shows that the effects of WOTC and similar programs on targeted individuals are uniformly positive: Significant effects on the probability of getting jobs, of length of employment, on wages, and on tenure (the studies do not all find the same effects, but all the effects are positive).

- The increase in the probability of targeted individuals getting employed is relatively modest because the size of the program is small relative to the population of potential applicants.

- On the other hand, the cost-effectiveness of the program is quite high because subsidies are only paid when targeted individuals are placed in jobs.

- The benefits to taxpayers from moving a targeted individual into a job are meaningful. Indeed, a reasonable estimate is that those benefits are easily twice the magnitude of the maximum subsidy payment, suggesting that the WOTC quite likely more than pays for itself.

In terms of potential negative effects:

- The evidence seems strong that employers who use the WOTC program are adjusting their hiring and employment practices to the targeted individuals. In other words, it does not appear that they would have hired such individuals even without the program: It is not a windfall for them, although they may well capture a great deal of benefit from the subsidies.

- There is no evidence that employers "churn" their workforce to exploit the subsidies. While the idea behind the program is to get employers to prefer targeted to non-targeted applicants, there are reasons for believing that negative effects on non-targeted applicants are less of a concern because many applicants for jobs are already employed.

Assessing the Effect of the Work Opportunity Tax Credit

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WHAT IS THE WOTC?

The Work Opportunity Tax Credit (WOTC) is a Federal program designed to help those individuals who have attributes that may make success in the labor market difficult. It does so by providing subsidies for employers who hire and keep them in jobs for a specified period of time. The subsidies come in the form of tax credits, hence the program's name. An important issue for this program, indeed for all Government programs, is to assess how well it achieves its goals.

HISTORY: The motivation behind programs that subsidized employment begins with the notion that getting individuals into work not only has the immediate benefit of getting them income in the form of wages but that doing so improves their longer-term employability, their economic circumstances, and the quality of their life. In part, the benefit of work comes from learning personal discipline that comes from following workplace schedules; in part from learning through practice to get along with other workers and to take direction, what many call the "soft skills" of the workplace; in part through on-the-job and other training programs that teach task-specific skills; and in part through overcoming the stigma in the labor market associated with not having any previous employment. In this context, the stigma represents something of a "catch 22" paradox in that not having had much employment experience is seen as a proxy for some unobserved fault that has kept one from getting a job. Not having had a job therefore becomes a reason for subsequent employers to reject one's application. The problem is significant enough that the Equal Employment Opportunity Commission is investigating the employer practice of not accepting job applications from those who are unemployed.[1]

The ultimate motivation for these subsidized employment programs comes from the idea that getting jobs may improve the circumstances of the targeted individuals in a variety of ways that go beyond earned income. Workplace discipline, for example, helps stabilize the lives of individuals, improving many aspects of their well-being. Society and taxpayers benefit when individuals move out of unemployment, especially chronic or structural unemployment, and into regular jobs because they make fewer demands on social services. These benefits include reductions in crime, improved health with associated drops in publicly provided healthcare, reduced use of income-related public assistance such as welfare programs, less government provided job training and skills programs, and a variety of potential benefits to the economy as

[1] See http://www.eeoc.gov/eeoc/newsroom/release/2-16-11.cfm

a whole associated with increasing both the supply of labor and the skill level of the labor force (see below for evidence).

WOTC, like many contemporary government programs, has a long lineage. Decades of programs beginning with the 1960s War on Poverty have attempted to improve the economic circumstances of disadvantaged groups in society by helping them secure access to wage income. A fundamental conclusion from these efforts is that improving outcomes for these groups is very difficult in part because so many factors can contribute to failure: Health issues, individual attitudes and dispositions, family constraints and distractions, lack of skills and experience, and of course a lack of demand for workers. Any of these may be enough to keep individuals from securing steady employment.

The most important precursor – indeed, the immediate predecessor - to the WOTC was the Targeted Jobs Tax Credit, which operated from 1978 to 1994. That program was designed to encourage employers to hire applicants from targeted groups, especially low-skill unemployed, by subsidizing their hiring through tax credits eligible employers would receive.

The outcomes associated with the Targeted Jobs Tax Credit program were far from perfect, however. Most of the complaints focused on the details of its administration. Specifically, the complaint was that employers who used it would have hired the same people even without the tax credit. Although a counterfactual argument like this is difficult to prove, there was at least circumstantial evidence suggesting that the attributes of individuals hired through the program did not differ much from those hired without it. There was also concern that job tenure in the program was too short to offer enough benefits to participants.

After the Targeted Jobs Tax Credit ended in 1994, the WOTC program was created as part of the Small Business Job Protection Act of 1996 to serve similar goals but with more effective administrative requirements. The basic goal remained the same – to facilitate the employment of targeted job applicants through subsidies in the form of tax credits for hiring. The administration of the program was changed to target more specifically those individuals who most need help, and the length of time individuals need to be employed before the employer can receive the tax credits was extended.

WOTC was enacted as a complement to welfare reform as a way to facilitate the transition of individuals from welfare to employment by providing employers with an incentive to hire individuals with little if any jobs skills and prior work experience.

WOTC has been amended and reauthorized seven times since then, most recently with the American Recovery and Reinvestment Act (ARRA) of 2009, which extended coverage to unemployed veterans and "disconnected youth." Eleven categories of individuals have been covered under WOTC. They are:

A-Qualified IV- A Recipient
B-Qualified Veteran
C- Qualified Ex-felon
D-Designated Community Resident

E-Vocational Rehabilitation Referral
F-Qualified Summer Youth Employee
G-Qualified Food Stamp Recipient
H-Qualified Supplemental Security Income Recipient
I-Long-Term Family Assistance Recipient
J-Unemployed Veteran (no longer covered)
K-Disconnected Youth (no longer covered)

Assessing Whether WOTC is Worth Continuing

The reauthorization of programs like WOTC should turn on whether they are worthwhile. While this seems like a straight-forward question, answering it is complicated by many factors, the most basic of which is that there are different definitions of what constitutes "worthwhile." The standards differ in the difficulty in assessing the benefits from such programs.

The simplest approach, and one that we typically use for most government programs, is whether the program does what is says it will do. For example, if we are assessing a new classroom teaching approach, the outcome we're looking for would be, does the program improve student learning? We might quibble as to what measure of learning outcomes we should use, but generally the standard would be whether we see a statistically significant improvement in test scores or other accepted measures of student learning. We might ask next as to whether the improvement is big enough to be meaningful in practice, even when it is statistically significant. But in general, if we can show that the program raises student learning in a meaningful way, we declare it a success.

In the context of the WOTC program, such a standard might be, do targeted individuals who participate in the program have better labor market outcomes? And is the improvement meaningful?

A related approach is to take a longer-term view to see whether the immediate objectives translate into longer term objectives. In the context of a teaching intervention, for example, we might ask whether higher test scores after the intervention translate into longer-term improvements in educational outcomes, such as higher graduation rates. The equivalent approach in the context of the WOTC program might be to ask whether participants who get jobs stay in the workforce longer and whether they earn more money than non-participants.

A more complete picture of the outcomes of a program might include looking at all the related outcomes that might be affected by the program. Beyond one measure of impact, are there other effects that we should be considering? In education programs, for example, we might want to see whether there are spillover effects on discipline and student behavior problems or on academic subjects that were not the focus of the intervention. With respect to WOTC, we might want to include reductions in public assistance associated with employment-related participation as part of the benefits. We might also want to consider possible negative effects on non-participants, such as whether it reduces their chances of getting a job.
The final approach to assessing whether a program is worthwhile involves asking about the value of the benefits relative to the costs. Does the program generate more benefits than it

costs? In the context of money, does it save more money than the program costs to operate? This is quite a high standard and is not commonly used for most government programs. (Here the premise is generally that net public expenditures are merited to produce a desired result.) But for economic programs in particular it is appropriate to know how the value of the benefits corresponds to the costs. Consider, for example, tax incentives used to lure employers to a region of the country. Beyond knowing whether employers relocate because of those incentives, we would like to know the other consequences of those moves and, ultimately, what the overall costs and benefits are. For example, to what extent is the lost tax revenue associated with a real estate tax abatement made up by the increased revenues from sales taxes associated with more business in the location or by wage taxes on additional employees? Is the net gain from such taxes worth the cost of additional services needed to support the new businesses? In principle, any program that meets this standard should be expanded as it is unequivocally generating value.

There have been a great many attempts to assess active labor market programs designed to improve job outcomes. For the most part, those assessments use only the first standard: What is the impact on a particular outcome, such as employment rates, and is the effect statistically significant? Less typical but nevertheless influential are assessments that consider the cost of the program against that single outcome. The most common of these is to assess the cost of the program against the number of new jobs created by it. Approaches like this are not necessarily designed to be true cost-benefit assessments because they are not actually calculating the value of the benefits. They are often interpreted as such, however, and as a consequence stack the deck against a positive evaluation of the program by leaving out other benefits and their value.

In the analysis that follows, I use a range of evidence to provide a more complete assessment of WOTC. They include whether the program meets its stated goal, whether longer-term and broader-based outcomes improve as well, and how the overall benefits of the program match up to its costs.

The Mechanism Behind WOTC

As noted above, WOTC encourages the hiring of targeted groups through a subsidy given to employers who hire individuals from such groups. The idea is the commonsense notion that if we subsidize something and make it cheaper, we will use more of it. In this case, the subsidy means that we should expect employers to make greater use of individuals from these groups in their hiring decisions.

The textbook treatment of hiring subsidies like WOTC is that they have the effect of reducing the cost of hiring and then employing workers. As such, we can think of subsidies as causing a shift in the demand for labor, an increase equivalent to the amount of the subsidy. Employers who receive, say, a $1 per hour wage subsidy can pay $11 per hour to workers while the cost to them is only $10 per hour. So the demand curve shifts up by $1. This increase should encourage employers to hire more labor than they would have previously.[2] The more elastic

[2] See George J. Borjas. 2010. Labor Economics, 5th edition. New York: McGraw-Hill, p.160 for a literal textbook treatment of the subject.

the supply of labor is, the bigger the increase in labor that employers will hire (i.e., if a one dollar increase in demand will lead many more qualified applicants to show up, then employment subsidies will have a much bigger effect on actual hiring). The effects on wages move in the opposite direction: When labor supply is more elastic, employment subsidies have a big effect on hiring but little effect on wages. When labor supply is inelastic, they have a big effect on raising wages but little effect on hiring.

The idea of subsidizing employment is not new. Whether to do so by creating subsidies for hiring or subsidies paid to employees is a topic of some debate. Employment subsidies are paid directly to targeted workers once they are hired while hiring subsidies are paid directly to employers once they hire a targeted worker.

WOTC is a hiring subsidy, and such programs have been popular for some time. A 1994 Federal Reserve convening of prominent US macro and labor economists found as close to a consensus as a room of economists could get that such subsidies should be a useful part of economic policy for reducing unemployment[3].

In terms of practice, employment subsidies have been and continue to be used more extensively outside the US, especially in Europe. We consider their experience with such programs at some length below.

The largest of the hiring subsidy programs in the US was the New Jobs Tax Credit that operated from 1977 to 1978 and applied to all new hires as did the Hiring Incentives to Restore Employment Act that operated in 2010. These programs were designed to create new jobs and help the labor market recover from recessions. Most wage subsidy programs like WOTC, however, apply only to targeted workers. For example, the Job Opportunities in the Business Sector for hiring disadvantaged workers, Work Incentives Tax Credit for AFDC recipients, the Targeted Jobs Tax Credit mentioned earlier, temporary subsidies for firms providing training for Job Training and Partnership Act participants, the Welfare to Work Tax Credit for welfare recipients, and a range of state-level programs.[4]

The distinction between the goals of programs like WOTC that target particular groups within the population and more general hiring subsidies is crucial for assessing them. Whereas general hiring subsidies are designed to increase the number of jobs in the economy as a whole, targeted subsidies like those for WOTC are designed to expand the employment of the targeted group. The latter does not require adding jobs to the economy.

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[3] See Byron Higgins. 1994. Reducing unemployment: Current issues and policy options--a summary of the bank's 1994 Symposium: Economic Review. Vol. 79 Issue 4, 45-60.

[4] For a descriptive account of these hiring subsidy programs, see David Neumark. Policies to Encourage Job Creation: Hiring Credits vs. Worker Subsidies. Cambridge, MA: NBER Working Paper 16866 March 2011.

Potential Drawbacks to Hiring Subsidies:

The description above suggests the appeal of hiring subsidy programs. They allow the government to make use of the private sector to expand employment opportunities and to do so with minimal levels of intervention and administration. Employment is an excellent treatment for a great many social problems, and this approach to expanding employment seems simple and straightforward.

The main objections to these programs come from perverse incentives created by flaws in designs that lead to unintended and undesirable consequences. For example, programs that offer incentives for employers to hire will cause such employers to maximize hiring, arguably for a reasonable period of employment. One way to maximize hiring is to dismiss workers and then hire new ones, an approach that creates more new hires by shortening job tenure. Dismissing workers simply to hire new ones certainly seems like a less than desirable social outcome even if it does in the end lead to more employment for targeted applicants.

Similarly, hiring subsidies may not lead to permanent jobs even if employers are not deliberately laying off new hires. But that may not be a bad outcome. A program that leads to targeted applicants being employed for, say, a year and then a new group of targeted applicants come in may be very successful if the goal is to get work experience for lots of individuals, they learn useful skills and abilities during that year, and they move on to other jobs elsewhere.

Potential perverse incentives can be addressed by adjusting the terms of the subsidy program. In the case of the WOTC, for example, the terms of the program were altered as compared to the Targeted Jobs Tax Credit program so that new hires had to be employed longer before the tax credits could be received. This effectively reduces the incentive to churn through new hires quickly.

Another complaint about hiring subsidies, arguably the most common one as noted above, is that the subsidies end up being used by employers who would have hired someone anyway. Such subsidies are obviously most attractive to employers who were going to hire already as it requires nothing new from them. And in that situation, the argument goes, the subsidy is simply a windfall for the employer.

This complaint should only apply to programs that are designed to expand the total number of jobs in the economy. It is not relevant to those like the WOTC that are designed to encourage the hiring of targeted individuals, which is quite a different goal. For targeted programs like WOTC where the goal is to expand the employment of targeted groups, it is simply a bonus if the program also expands the total number of jobs.

Overall, it is not a surprise that those already planning to hire make use of these programs. As noted above, the extent to which employment subsidies in the economy as a whole expand the number of jobs depends on the elasticity of labor supply. Part of this complaint, then, is that supply is apparently not elastic enough in most cases to generate many new jobs. Because the subsidies typically apply only to a subset of an employer's total jobs (those that suit typically low-skill targeted populations), it is also not surprising that the net effect on overall jobs in the economy should be quite small and hard to measure carefully. Unless the demand for labor is elastic, it would take a substantial reduction in employment costs, no matter what the source, to cause a typical employer to expand hiring in a substantial way.

Subsidies also lead to substitution effects. Some of those are desirable and intended, as in the case of WOTC. As noted above, making something cheaper implies that we will use more of it. In the case of targeted subsidies, what gets cheaper are the targeted applicants. What gets relatively more expensive are non-targeted job applicants. We will use less of the substitutes as we use more of the subsidized item. There is as a result some trade-off between the employment prospects of targeted vs. non-targeted job candidates: Targeted applicants are more likely to be hired and non-targeted employees less likely to be hired, other things equal.

If the economy were completely static, and there were only a set number of jobs available, then one could argue that programs like WOTC simply take jobs away from other workers and give them to targeted workers. But there are good reasons for thinking that this view is not correct. Labor markets do adjust to additional workers, the extent of the adjustment depending on the elasticities of supply and demand. Given the size of the US labor market, the relatively small number of individuals affected by the WOTC has a trivial effect on overall labor supply.

The most important reason why hiring WOTC candidates is not a zero-sum exercise begins with the fact that the vast majority of individuals who are hired in the US for most every job, including newly created positions, are already employed**.** It is difficult to know with certainty the exact percentage of job applicants who are already employed, and the rate no doubt varies considerably across labor markets. But about two-thirds of individuals who leave jobs immediately move to another. In other words the huge amount of voluntary turnover in the economy is largely accounted for by individuals who are already employed moving into job openings.[5]We also know that proprietary surveys of individuals suggest that half or more of those employed are searching for new jobs (although what counts as searching varies across individuals) at any given time.[6]Further, many employers refuse to consider job applications from unemployed individuals, suggesting that they have enough applicants from those with jobs already. As noted above, the incidence of employers who would not accept job applications from individuals who were not currently employed is great enough for the Equal

[5]See George Ackerlof, Andrew Rose, and Janet Yellen. 1988. Job switching and job satisfaction in the U.S. labor market. ***Brookings Papers on Economic Activity,*** (2): 495-592. See also Bruce Fallick and Charles A. Fleischman. 2004. Employer-to-Employer Flows in the US Labor Market: The Complete Picture of Gross Worker Flows. Federal Reserve Working Paper # 2004-34.

[6]The largest of these surveys has been conducted by Towers-Perrin (now Towers-Watson). There most recent data in 2010 suggests that even when US employment topped 9 percent, almost 20 percent of employed respondents were actively searching for jobs. See**http://www.towerswatson.com/press/1365.**

Employment Opportunity Commission to develop policies to address such situations.[7] Finally, there is evidence that employed applicants "crowd out" those who are unemployed, demonstrating the stigma affect that is one of the motivations for the WOTC program in the first place.[8]

In other words, it is wrong to think that the employer's choice is between hiring an unemployed applicant who is eligible for WOTC tax credits and an unemployed applicant who is not. It is much more likely to be a choice between an applicant who already has a job and an unemployed WOTC candidate.

When employed individuals apply for a different job and do not get it, there is relatively little economic loss. They still have a job, and they do not move into unemployment. When a WOTC eligible individual gets a job, it is a net addition to the employed population. They have been moved from the ranks of the unemployed to those who are employed. That has a great many more positive benefits, especially for taxpayers, as compared to a situation where an employed individual moves from one job to another.[9]

If WOTC indeed causes employers to shift toward hiring unemployed WOTC candidates and away from employed candidates, it might actually expand the number of employed in the economy even if no net new jobs are created. The reason is because it would reduce "frictional unemployment" and vacancies caused when workers quit one job and move to another. This issue is explored in more detail below.

Again, the idea behind WOTC is that the individuals it targets have been disadvantaged in their ability to participate in the workforce in part because of a lack of any initial job experience. So WOTC increases the chances that they will get some work experience, which will help them secure jobs later. The program is temporary so the extent that it advantages each recipient is only temporary as well. The overall negative effects on non-targeted employees should be modest or even trivial.[10]

There are two other practical concerns raised about employment subsidies generally. The first is simply that the subsidy may not be big enough to cause employers to hire from the targeted

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[7]See also Zeller, Shawn. 2011. Wanted: Jobs For the Jobless. Congressional Quarterly Weekly. 2/28/2011, Vol. 69 Issue 9, p447-447.

[8]Burgess**,** Simon **M.. 1993. A Model of Competition Between Unemployed and Employed Job Searchers: An application to the Unemployment Outflow Rate in Britain.** Economic Journal**, Sep 93, Vol. 103 Issue 420, p1190-1204**

[9] It is certainly possible to tell a story suggesting that hiring subsidies like the WOTC that cause employers to hire more targeted applicants lead to less good matches between candidates and job requirements than would otherwise be the case and that this overall economic efficiency. The ability of employers to predict who will be successful in jobs in practice is so poor, however, that in practice, this is at best a minor concern.

[10] The exception is for those unemployed job seekers who are not covered by the WOTC. They are placed at a relative disadvantage, but many of those not covered have attributes that give them advantages in getting a job as compared to WOTC recipients. Indeed, those attributes are precisely what defines WOTC coverage.

group. This situation is likely to occur when the attributes of the targeted group are those that make them more difficult and expensive to employ. A typical example would be someone who has had little labor market experience and therefore could be expected to need more support from an employer, such as a longer lead time getting comfortable with a job, before they could become productive. Such individuals who are targeted for support by subsidy programs are more expensive to hire: They might have a higher probability of quitting or being fired or have other problems that require investments to offset. But this is not a problem with targeted subsidies per se. It is simply a problem with creating the appropriate size for the subsidy.

The second practical concern is the notion that subsidies to targeted workers create a stigma of sorts that may actually make it more difficult for them to be hired. The idea is that the attributes of the targeted groups are ones that make it difficult to be hired, and that subsidy programs effectively label such individuals and exacerbate the problem of getting hired. Burtless suggested that in a Dayton, Ohio program, the stigma of hiring subsidies actually reduced the hiring rate among program participants relative to the control group[11], although Bartik points out that the specific attributes of participants in that program made the likelihood of stigma unusual high as did the fact that they were coached to advertise their identification with the program during the recruiting process, before applicants had been screened for more serious selection processes.

To be clear, the subsidies do not themselves create a stigma. The attributes that individuals have that impede their ability to be hired are already there. The concern comes because some of those attributes might otherwise not be knowable by an employer, such as with the WOTC where some participants receive food stamps. Some of the eligibility requirements for WOTC, such as being a qualified ex-felon, may well reflect attributes that could lead employers not to hire a candidate. State law may prohibit an employer from asking about felony convictions, but the employer might assume that WOTC eligibility reflects at least a chance of such a conviction.

An employer who is sophisticated about employee selection would be able to identify the attributes among applicants that truly predict job performance and would not be so interested in the attributes that lead to WOTC eligibility. Moderately sophisticated employers interested in WOTC-related attributes could probably identify those attributes with relative ease in any case. The concern is mainly with unsophisticated employers who rule out candidates based on their personal views and might do so with WOTC eligible applicants. To the extent that this situation occurs, it reduces the effectiveness of the WOTC program.[12]

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[11]Gary Burtless. 1985. “Are Targeted Wage Subsidies Harmful? Evidence from a Wage Voucher Experiment.”*Industrial and Labor Relations Review,* 39, 105–114.

[12]Further, economists raise a conceptual concern about all government interventions in the market referred to as “deadweight loss.” It is the notion that in market, the choices made by buyers and sellers represent their true preferences, and any interference with market outcomes leads to decisions that are less than optimal. The value of the distortions is the deadweight loss. Any government regulation, taxes, or subsidies in theory creates

Evidence about the Effects of Hiring Subsidies and of WOTC in Particular:

Understanding the effects associated with a program like hiring subsidies seems like a reasonably straight-forward question. But it is devilishly tricky to answer clearly. It is not difficult to look and see what happens to participants in hiring subsidy programs. But knowing whether those outcomes are truly the result of the subsidy is the hard part. That requires being able to first say, what would have happened to the participants had they not been in the program? Only knowing that answer allows us to look at the difference between what happened to participants and what would have happened to them had they not participated in the program. That difference provides information about the program's true effect.

To see what the challenges are to making that assessment in practice, consider the following questions. Participants in programs like hiring subsidies are obviously different from those who are not eligible for such programs. Those differences not surprisingly include attributes that make it difficult for them to find jobs, such as low skills and limited work experience. To what extent is their experience after participating in a wage subsidy program still tied to those initial attributes, the ones that caused them problems in the first place, as opposed to being the result of the subsidy program? The answer is probably a lot, but we cannot easily tell how much. We call such problems "omitted variables" because they represent factors that could account for effects but have been left out of the story

In some programs, participants have to take the initiative to become part of the program. We say that such people "self-select" into the program, and the factors that motivate them to take that initiative may also influence their subsequent experience in the labor market. Can we sort out the effect of factors like the motivation that caused them to participate in the program from the effects of the program per se? We call these problems "selection biases" because the process of self-selection into the program or selection by the program team itself causes participants to be different in important ways from non-participants. Whether differences in outcomes are due to differences in the factors that cause individuals to be participants in the program or due to the experience with the program itself are hard to sort out.

Finally, we have the more general problem of endogeneity, of which self-selection is a special case. Endogeneity implies that the outcome of the program and participation in the program may be intertwined in ways that make them hard to differentiate. For example, attributes of the individuals in the program may cause the tax credits to be used differently and to have

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deadweight loss. Employment is already regulated by the federal, state, and local government in dozens of ways, taxed in almost as many, and essentially regulated privately by unions, professional organizations, and administrative policies. There is no straightforward value of what the current deadweight loss is with employment relationships. The net distortion effect of a wage subsidy on top of that mass of existing distortions is unlikely in practice to be relevant. It is even possible that interventions like WOTC could offset other distortions.

outcomes that vary across individuals. In some communities, attributes of the employers may lead to more chronic unemployment and to more eligibility for WOTC, which in turn may reduce the odds of program participants getting a job.

We need to keep the above issues in mind when assessing the effects of WOTC. Among other things, that implies paying attention to evidence that addresses those issues explicitly.

Empirical Evidence: Because hiring subsidies have been used in many different programs and have often involved considerable investments by governments, there are a fair number of studies attempting to assess their effects. The reason for reviewing studies of programs other than WOTC is first because evidence about similar programs gives us insight as to the effects of WOTC itself and second because studies specifically about the WOTC are very limited.

Experience with hiring subsidies is more extensive outside the US, where the conclusions about their effectiveness on increasing employment are quite positive. The OECD, for example, currently advocates using general hiring subsidies to deal with current high levels of unemployment in the US and other countries. Among OECD member states, Austria, Korea, Portugal and Sweden are currently using hiring subsidies as a strategy to recover from the Great Recession. Most of the EU countries also use targeted hiring subsidies like WOTC to improving the employment outcomes of disadvantaged groups.[13]

Estevao reviews prior studies of European hiring subsidies and concludes that they have substantial positive effects on increasing employment, effects that are much stronger than those of training programs, for example. These include studies of programs in Australia, Poland, Sweden, Switzerland, and France. His own analysis across 15 countries shows that employment subsidies have the strongest effects on job creation of any active labor market policy.[14]

DeKoning reviews 13 prior studies of the effects of subsidies on employment outcomes in Europe and finds that all but two showed positive effects (the two find no significant relationship).[15]Kluve’s 2006 review reaches a similar conclusion, emphasizing the fact that the employment outcomes associated with subsidy programs are substantial.[16]

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[13]OECD 2010. Return to Work After the Crisis. OECD Economic Outlook, May 2010, Vol. 1 Issue 87, p251-292.

[14] Marcello Estevao. 2007. Labor Policies to Raise Employment. IMF Staff Papers, Volume 54 No.1.http://www.imf.org/external/pubs/ft/staffp/2007/01/estevao.htm.

[15]De Koning, J. 2005. Active labour market policies: relevance, expenditure and effectiveness. SEOR Working Paper 2005/2. Rotterdam: SEOR Erasmus School of Economics.

[16]Kluve, J. 2006., The Effectiveness of European Active Labor Market Policy. IZA Discussion Paper no. 2018, March 2006. Bonn: IZA – Institute for the Study of Labor.

Among noteworthy country studies are those by Kangasharju (2007) showing sizeable effects for hiring subsidies in Finland[17]; by Blundell et al. (2004) finding that targeted subsidies in the UK raised the employment level of the affected groups by a full five percentage points, a level 26 percent higher than the control group; and by Bucher (2010), who presents evidence suggesting that the French program not only improved employment levels for the targeted group but reduced welfare-related costs enough in the process that the program paid for itself.

The evidence that hiring subsidies and more specifically targeted hiring subsidies have significant effects on improving the employment outcomes of participants in Europe and the UK is substantial. These countries are different from the US, of course. The most obvious differences are the greater fixed costs of hiring in Europe (because of the difficulty in dismissing them), which we should expect would make employers there less sensitive to the equivalent hiring subsidy than their US counterparts. But there may be other, less obvious differences that could affect the take-up rate across countries, so focusing on US evidence clearly makes more sense.

US Evidence: There have been fewer hiring subsidy programs in the US than in Europe, which may account for the fact that there have been fewer US studies of such programs.

With respect to broad-based hiring subsidies designed to create more jobs, there is clear evidence that they do so. The question is simply how many, and at what cost. The New Jobs Tax Credit, which operated from 1977 to 1978, is thought to have created a significant number of jobs. But because it applied to most of the economy and many other factors were in play at the same time, it is difficult to know exactly how many and therefore the cost per job.[18]

The effects of broad-based state-level hiring subsidies are reasonably positive. Faulk reports that a Georgia program generated between 23.5 and 27 percent more jobs among employers who used it, other things equal, at a cost of about $630 per job.[19]Bartik and Erickcek examine Michigan's program that ties tax credits to employee income taxes on new or retained jobs and conclude that it added jobs to the state at a cost of $4000 per job. The value of such jobs to the State, they argue, is $20,000 per job, so the program more than pays for itself at least in terms of overall value to the community.[20]Chirinko and Daniel look at hiring subsidy programs across

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[17]Aki Kangasharju. 2007. Do Wage Subsidies Increase **Employment** in **Subsidized** Firms?Economica, Vol. 74 Issue 293: p51-67.

[18] Among these studies are Perloff and Wachter (1979) and Bishop (1981). Retrospective assessments by Katz (1998) and Bishop (2009) suggest that the effects were positive but modest and positive but substantial, respectively.

[19]Dagney Faulk. 2002. "Do State Economic Development Incentives Create Jobs? An Analysis of State Employment Tax Credits."*National Tax Journal* 55(2) 263-80.

[20]Timothy J. Bartik& George Erickcek, 2010."The Employment and Fiscal Effects of Michigan's MEGA Tax Credit Program," Upjohn Working Papers 10-164, W.E. Upjohn Institute for Employment Research.

all states that were put in place since the Great Recession and conclude that the effects on employment are on balance positive but more modest overall than the Georgia and Michigan examples above.[21]

Our interest here is in targeted hiring subsidies as opposed to general hiring subsidies of the kind described above. There have been more such programs but not necessarily more assessments of them. For example, there are no good assessments of the Job Opportunities in the Business Sector (JOBS) program, which targeted low income individuals, or of the Work Incentives Tax Credit, which targeted welfare recipients. There is a small body of research on the Targeted Jobs Tax Credit, in place from 1979 to 1994, which suggested that employment gains were positive but modest[22]perhaps in part because the program design was flawed in ways that made it easy for employers to claim credit for jobs that would have been created in any case.[23]

Arguably the most extensive studies are of the Job Training and Partnership Act, which provided
temporary wage subsidies to firms that provided on-the-job training in the context of jobs with long-term prospects. Economically disadvantaged individuals were eligible for the program, and employers received a subsidy equivalent to half the wages paid to participants. The most rigorous study of the program, based on a randomized experimental design, found positive effects on labor market outcomes: Employment rates were 2.4 percent higher for women (3.9 percent for men) as compared to the control group, wages were 8.6 percent higher (6.3 percent for men), and hours of work were six percent higher (6.3 percent for men).[24]

Two smaller programs targeted at welfare recipients combined hiring subsidies with other forms of support. The Supported Work Demonstration project provided a wide set of support mechanisms that continued while the Home Health Aide Demonstration project added initial classroom training before the subsidized employment began.[25] Participants in these programs earned substantially more than non-participants, and the effects persisted two years later.[26]

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[21]Chirinko, Robert S., and Daniel J. Wilson. 2010. "Job Creation Tax Credits and Job Growth:Whether, When, and Where?" Federal Reserve Bank of San Francisco Working Paper 2010-25.

[22] Larry Katz. 1998. "Wage Subsidies for the Disadvantaged." In *Generating Jobs,* edited by Richard Freeman and Peter Gottschalk. Russell Sage Foundation, New York.

[23] Edward C. Lorenz 1995. "TJTC and the Promise and Reality of Redistributive Vouchering and Tax Credit Policy."*Journal of Policy Analysis and Management*, Vol. 14, No. 2, Spring, pp. 270-90.

[24]Howard S. Bloom, et al. 1994. "The National JTPA Study: Overview: Impacts, Benefits, and Costs of Title II-A." Bethesda, MD: Abt Associates, January.

[25]Edward Pauly and Judith M. Gueron. 1991. From Welfare to Work. New York: Russell Sage Foundation.

[26]Stephen H. Bell and Larry L. Orr. 1994. Is Subsidized Employment Cost Effective for Welfare Recipients? Experimental Evidence from Seven State Demonstrations. Journal of Human Resources. 29(1)

Long-term follow-up showed that earnings were significantly higher eight years later.[27] In addition to higher wages, participants made less use of welfare and other forms of government support, leading to the conclusion that the programs effectively paid for themselves.

The WOTC Evidence: The direct evidence on WOTC per se is unfortunately very limited: Two studies spread across four published papers and a case study from New York State. It is worth examining these studies carefully, of course, to be clear about what they say and do not say about the effectiveness of the WOTC program.

The first study is based on data from a single large employer operating in the state of Georgia. The authors identify employees within that company who are WOTC participants and compare them to employees in the same jobs who are not WOTC participants but otherwise are similar to them. They find that WOTC participants are significantly less likely to leave the company than are the non-participants, although their average tenure is only trivially longer.[28]At least with this employer, there is no evidence of "churning" through WOTC participants to maximize the subsidy. If we believe that job tenure is at least in part a sign of good employee performance, then WOTC participants were on this dimension better than their counterparts. Such evidence is at least suggestive of the broad claim for targeted wage subsidies, that if we can get the participants into jobs, they may be able to prosper.

Among those who leave the company, the researchers find that WOTC participants are just as likely to move to another job and not to unemployment as are non-participants, although when they do move, they make less money than do non-participants.[29] Again, such evidence is at least suggestive of the notion that the WOTC-induced experience is either screening in people who can succeed or that the experience per se helps them succeed past the initial, subsidized job.[30]

A caveat to these results, which makes them more positive, is the omitted variable problem above. WOTC participants are different from the comparison group is significant ways that worsen their employment prospects. (Indeed, some of those differences are precisely what make them eligible for the WOTC program.) Non-participants do not have at least those same negative attributes or they would have qualified for WOTC. Once they are in these jobs, WOTC recipients should be relatively disadvantaged because of those attributes as compared to non-

[27]Kenneth A. Couch. 1992, "New Evidence on the Long-Term Effects of Employment Training Programs," *Journal of Labor Economics*, 10(4), 380-388

[28]J.M. Gunderson and Julie L. Hotchkiss. "Job Separation Behavior of WOTC Hires: Results from a Unique Case Study." *Social Service Review,* 81, 2007, 317-42.

[29] J. Fitzpatrick and Julie L. Hotchkiss. 2009. Job Separation Outcomes of Welfare Hires: Insight from Linked Personnel and State Administrative Data. Contemporary Economic Policy, Vol. 27 Issue 2, p137-146.

[30] WOTC participants who left this company, with very few exceptions, would not be eligible for the WOTC program at another employer because they were not unemployed at the time of switching jobs.

participants and should have worse outcomes, other things equal. So the deck here is arguably stacked against finding positive effects for WOTC.

The fact that WOTC recipients do as well as non-participants in finding new jobs when they leave the company and, more important, stay in their jobs even longer than non-participants is surely an encouraging outcome.

What cannot conclude from this study is anything about whether participation in WOTC makes it more likely for the individuals to be employed in the first place because everyone we observe in this study is by definition already employed. To the extent that the non-participants are truly similar to participants except for WOTC support, then involvement in WOTC seems to produce very good subsequent outcomes: lower average turnover and at least as good subsequent employment records, despite the attributes of disadvantage that led to them being covered by the program. WOTC seems to have offset any initial disadvantage.

The second study is based in Wisconsin and looks at wage and employment outcomes for welfare recipients. In the first set of analysis, participation in WOTC is established by looking at only those who meet the welfare criterion for program eligibility, which is being on welfare nine or more months within the past 18 months. There are ten other attributes that can also qualify individuals for WOTC participation, so an important caveat to these results is that they apply only to WOTC participants eligible through welfare status, a subset of the WOTC population.

The study then combines participation in WOTC with participation in the Welfare-to-Work Tax Credit program (WtW), a program that was created by the Taxpayer Relief Act of 1997 and ran for two years. That program also had a wage subsidy component. WOTC welfare-based participants and WtW participants are then compared to individuals who are just shy of having been on welfare long enough to meet the WOTC and WtW eligibility criteria. The reason for this comparison is that such individuals are likely to be similar to the WOTC participants except for their enrollment in the WOTC program.

During the period of the study, the State Government in Wisconsin was engaged in a significant effort to move all welfare recipients into jobs. Most welfare recipients in the State were required to work. Community service jobs were available for those who are unable to handle regular jobs, and a variety of support services were also available to help them keep and stay in jobs.[31] As a result, many if not most of the comparison group are likely to be employed as well. The effect of WOTC/WtW is net of these other efforts, and for that reason, the effects observed are likely to be diminished substantially in comparison to a more typical state because here the comparison group is subject to other efforts to get them into jobs. In other words, the most employable of the individuals who are eligible for WOTC/WtW in this sample as well as in a potential comparison group already have jobs. So we are effectively looking at the least employable subset of both groups.

[31] See Wisconsin Works (W2) Overview http://dcf.wisconsin.gov/w2/wisworks.htm for eligibility requirements.

Those who are eligible for WOTC/WtWwere 5.9 percent more likely to be employed in the second quarter of participating in the program than roughly equivalent but ineligible individuals. After a year, however, there are no differences.[32]

An important caveat to the study and to these results is that it is measuring the effect of being eligible for WOTC/WtW subsidies, not actual participation in them, even for the long-term effects. The author notes that one reason why long-term effects may not appear is because relatively few of the WOTC/WtW eligible individuals who were in jobs were actually claimed as such by their employers. Their employers were not receiving the tax credit subsidy.

There is no reason why eligibility for these programs per se rather than participating in the program should improve employment outcomes once one is in a job. If the employer is not participating in the program and not receiving the subsidy for the WOTC/WtW eligible employees, it is unlikely that they are doing anything different for those employees, such as making additional investments in them, and no reason to expect any difference in outcomes. Indeed, eligibility without participation should actually worsen outcomes because it proxies attributes that are likely to make it harder to be employed, albeit it trivially so in the context of this study. The relevant subsample of employers who actually participated in the program is quite small, making it difficult in a statistical sense to find true estimates even when such effects might actually exist.

The author also finds that WOTC/WtW participants earn nine percent more than non-participants soon after their jobs begin. That gain represents a little more than one-third of the value of the tax credits received by their employer. This is a surprising result suggesting that the employers must see more value in hiring these participants than non-participants, arguing against the stigma notion presented earlier. There is no effect on job tenure or on long-term earnings. A change in the sample that eliminates individuals who are coded as WOTC/WtW participants but on closer examination not apparently eligible for the programs (perhaps as a result of coding errors) leads to significant long-term results for earnings and tenure.

A second analysis looked only at WOTC/WtW participants (again defined only by the welfare recipient criterion) employed in the temporary help industry. They find again that earnings are higher for participants but only in the short-term and that job tenure was similar to the non-participant comparison group.[33] A caveat to this study concerns the nature of participation in

[32]Sarah Hamersma, Sarah. 2008. "The Effects of an Employer Subsidy on Employment Outcomes: A Study of the Work Opportunity and Welfare-to-Work Tax Credits."*Journal of Policy Analysis and Management,* Vol. 27, No. 3, Summer, pp. 498-520.

[33]Sarah Hamersma and Carolyn Heinricht. 2008. Temporary Help Service Firms' Use of Employer **Tax** Credits: Implications for Disadvantaged Workers' Labor Market Outcomes.Southern Economic Journal. Vol. 74 Issue 4, 1123-1148.

the temporary help industry, where the idea is that such jobs serve as stepping stones to permanent jobs elsewhere. In that sense, it is not clear whether longer tenure in such jobs would necessarily be a positive outcome.[34]

What we learn from the above two studies is rather focused. First, they apply only to the welfare-based participants in WOTC, and second they refer to a state context where differences in employment outcomes between WOTC participants and non-participants should be narrowed because of other programs underway to get them into jobs. Although the results are not especially robust to choices concerning the sample, they seem to replicate closely those of earlier studies of hiring subsidy programs with the caveat that here, the longer-term effects are smaller, at least until the sample is adjusted.[35]The studies look at one or two employment outcomes that could be attributed to participating in a hiring subsidy like that provided by WOTC.

Does WOTC Work?

The two studies/four papers above are too limited to constitute by themselves the basis for overall conclusions concerning WOTC's effects. What we learn from them, however, is that the findings are generally consistent with those of other wage subsidy programs both here and abroad. Those programs, along with WOTC, work in that they achieve the result hoped for, which is being associated with statistically significant improvements in the labor market outcomes of participants. As noted above, this conclusion is the equivalent of finding that an educational intervention leads to better student outcomes on relevant measures of learning.

The tougher standard is how meaningful the effects are in terms of their size and, ultimately, whether the overall effects of the program are worthwhile. At the extreme, is the expenditure on the program worth the costs?

There is no single measure and certainly no individual study that allows us to answer whether WOTC meets this much higher standard of effectiveness. One approach to the question is to assess whether the program is more effective than other, equivalent programs designed to meet the same goal. This would be the equivalent of saying that an educational intervention was more effective at raising learning outcomes than other competing approaches. A higher standard still would be that the intervention is more cost-effective than other approaches in

[34] A surprising observation in this study is the finding from interviews that local managers at the temporary help agencies were not aware of who was eligible for the WOTC/WtW program although the companies as a whole were aware as to who was eligible and collected the appropriate subsidies. The reason this result is surprising is that the subsidy cannot be collected unless the participants were kept on long enough to meet the tenure requirement, and if the local supervisors did not know who was eligible for the program, they could not make job decisions to ensure that tenure was achieved and the subsidy was paid. Our own discussions with a major temporary help agency found that their local managers not only knew who was eligible for the WOTC but received bonus payments based on securing the associated wage subsidies.

[35] The judgments that Hamersma 2009 draws from these results are less optimistic than those of other authors whose studies produced similar results, but the actual results are more important than the judgments about them.

that it produces a better result for the same level of expenditure. Some of the studies above, such as Estevao's (op cit) do assert that wage subsidy programs are more effective than other arrangements for expanding employment as well as increasing employment rates for targeted groups.

The highest standard of effectiveness noted above is whether the costs of the program exceed the benefits. If so, then the argument for continuing the program and indeed expanding it is straight-forward.

We can get at the answer to this last, most difficult question in a convincing fashion through the process of backward induction: What is required in terms of results from the program to equal its costs? In other words, how big do the effects need to be, and are those effects broadly consistent with the range of findings from the various studies above?

Establishing whether WOTC is worth the costs spent on it requires first establishing what counts as a benefit and how those benefits should be measured. The basic goal of WOTC is to increase employment among targeted groups, but how do we assess the value of achieving that goal? What is it worth to move someone from long-term, chronic unemployment into employment?

The answer turns in part on another question, "worth to whom?" The benefits to the individual who moves out of chronic unemployment are obviously huge. An employee being paid $10 per hour would earn the full $6000 subject to WOTC credits when the 600 hours of work threshold has been met for an employer to receive the maximum $2400 subsidy. A WOTC eligible employee working a full year would earn $20,000 at 40 hours per week. The longer the eligible employee keeps a job, the greater is the return to them from the government's $2400 subsidy.[36]

Not everyone would agree that the goal of government programs is to enhance the well-being of specific individuals, of course, or that the value of a program should be assessed based on how much those individuals benefit from it. A more general standard, which clearly is accepted for economic programs run by the government, is to consider benefits to taxpayers.

What are those taxpayer benefits in this context? They include costs to the broader community associated with unemployment including indirectly associated with it, such as crime rates, that are reduced when targeted individuals move into jobs. We know, for example, that a one percent decline in unemployment is associated with as much as a 2 percent decline in property

[36] Because an employer's tax deductions for wages as a business expense are reduced by the amount of the subsidy, the net benefit of the subsidy could be considerably less, depending on the tax rates an employer is paying.

crime (relationships with violent crimes are less clear) and that levels of incarceration also rise with unemployment.[37] Such costs affect citizens both as individuals and as taxpayers.

A similar story can also be told about health and healthcare costs. Unemployment is associated with increased rates of health problems, both physical and mental, many stress-related.[38] The cost of these illnesses is borne in part by the individuals, but they spillover to Medicaid payments and state-level programs for the unemployed, which of course are funded by taxpayers.

The benefits obviously also include reductions in expenditures that the government otherwise make to those who are chronically unemployed. Not counting unemployment insurance, which is funded by employees and employers, those include welfare and public assistance payments, alternative job training or job finding programs, and other forms of subsidies and support for low or no income individuals and families.

And there are some direct financial benefits to taxpayers associated with having individuals move into employment, such as taxes collected on the wages of newly employed individuals. Whether one should count all the taxes paid by targeted individuals who are employed as a result of a wage subsidy program or only those employed in net new jobs goes back to the earlier conversation about whether the total number of jobs in the economy is fixed so that targeted hires are displacing other workers (in which case count only net new jobs) or more elastic such that jobs expands elsewhere (in which case count all jobs). As noted above, all of the WOTC participants by definition are moving from unemployment to employment, so all such moves count for this purpose, not net new jobs per se.

Finally, there are macro-economic benefits to improving the quality and supply of labor to the economy.

Calculating the Value of WOTC:

New York State's Department of Labor attempted to calculate the overall benefits of the WOTC program in that state as compared to its costs over the period since 1996. The benefits they see include economic stimulus effects and reduced expenditures on public service programs for

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[37]See, e.g., S.D.Levitt. 1996. The Effect of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Litigation, Quarterly Journal of Economics 111, 319-352.Raphael, S. and Winter-Ebmer. 2001. Identifying the Effect of Unemployment on Crime, Journal of Law and Economics 44, 259-283.

[38] A popular survey of the literature on the negative effects of unemployment on health is Don Peck. 2010. How a New Jobless Era Will Transform America. The Atlantic, July 24th.

recipients who move into jobs.[39] Their estimates are based on potential savings, and unfortunately, they do not explain how those estimates were calculated, but they conclude that every dollar spent on the program generates two dollars of net savings for taxpayers. Getting a clearer sense of the value of WOTC requires looking at other sources.

We can get a sense as to whether WOTC pays off by looking at cost-benefit studies that have been conducted for similar programs. Paula Greenberg and Andreas Cebulla calculated cost-benefit ratios for 50 studies of welfare-to-work programs. These programs do not include WOTC, unfortunately, and again not all WOTC participants receive welfare. But the results are still suggestive of some of the benefits associated with moving individuals who are unemployed into employment where their welfare payments are reduced if not eliminated.

They estimate average and median benefits to program participants, to individuals not in the program (other employees), to the government in the sense of expenditures on the program minus expenditures that would have been made in the absence of the program and its success in moving individuals off welfare, and then society as a whole, which sums all of the above.[40]

There is considerable variance across programs and some large outliers in terms of their effects. But both mean and median results suggest net positive benefits for society. Much of that is driven by the benefits to the individual participants, not surprisingly. And again, some will see that result as a distributional practice.

If we focus purely on costs to the government, we see an interesting picture. There is a sharp division between those programs that continued to provide benefits to individuals who gain employment, albeit at a diminished rate in line with the idea of a negative income tax, and those that did not. The former are associated with much bigger benefits to individual participants but much higher net costs to the government. The latter have much lower benefits to participants but greater net benefits to the government, both in the median and mean contexts. WOTC falls into this latter category because the benefits stop being paid relatively soon. WOTC's effects should therefore be more like those of the non-incentive welfare to work programs, which are net positive for the government. The results from this study suggest that programs like these not only "work" in the sense of having statistically significant effects on participants that are economically meaningful. They save more money for the government than they cost, and they further create net benefits for society.

We attempt below to perform somewhat similar calculations directly for the WOTC program. The backward induction exercise starts with the cost of the WOTC subsidy, which is a maximum of $2400 paid to employers who have hired a targeted applicant and kept them employed long

[39]New York State Department of Labor. 2003. The Work Opportunity Tax Credit: The New York State Experience. Albany, New York.

[40]David Greenberg and Andreas Cebulla. 2008. The Cost Effectiveness of Welfare to Work Programs: A Meta-Analysis. Public Budgeting and Finance. Volume 28 Issue 2, p. 112-145.

enough to qualify for the subsidy.(As noted above, the tax deduction for wages paid is reduced by the amount of the WOTC credit, so the value of the credit is less than the $2400 maximum, depending on the employer's tax situation.)

The first step in the analysis is to determine the benefits of the program, and that begins by getting a sense of the gains from moving an individual from unemployment to employment. The way to get at those gains is first by understanding the costs to the public and taxpayers of having an individual unemployed. This question is a bit more complicated to answer than one would think because WOTC participants are a diverse group who receive different amounts of government support based on their attributes.

Timothy Bartik and John Bishop cite a Congressional Budget Office estimate that each additional dollar of GNP will cut the budget deficit by 38 cents, presumably because of the stimulative and multiplier effects of that additional expenditure and the subsequent effects on tax revenue. That benefit comes when new jobs are created. They assert that there are fiscal benefits even if new jobs are not created, i.e., if the subsidy goes to employers who would have had the job open in any case. In such situations, the subsidy is a windfall to employers, accruing directly to their bottom line profits. Those marginal profits are subject to a 35 percent Federal tax rate as well as local and state taxes. So the government recoups at least some of the subsidy in those situations.[41]

Job subsidy programs like these have a great fiscal advantage in that they leverage private sector funds when net new jobs are created. If the WOTC maximum subsidy of $2400 leads to a new job that lasts a year and pays $20,000 (i.e., $10/hour), then each subsidy dollar adds eight dollars to GNP, and each subsidy dollar therefore cuts two dollars off the government deficit. (This requires that the job be a net addition to the economy.)

The goal of the WOTC program is to get targeted workers into employment, not to create new jobs per se. How do the benefits change if a targeted worker gets a job that would have been filled in any case? The fact that a targeted individual, who by definition was unemployed, gets a job has significant net economic benefit. As noted above, most applicants for jobs are already employed. If applicants who already have jobs are hired, unemployment is not reduced. The hire would simply create a vacancy elsewhere in the labor market. When a targeted, unemployed individual is hired, in contrast, unemployment is reduced, even though no net new job was created.

[41] Bartik, Timothy J., and John H. Bishop. 2009. "The Job Creation Tax Credit: Dismal Projections for Employment Call for a Quick, Efficient, and Effective Response." Economic Policy Institute Briefing Paper No. 248, Washington, DC, October 20.

How can the total amount of employment be increased if there no new jobs are created? Because frictional unemployment is reduced. Frictional unemployment is that which occurs when employed individuals move from one job to another. There is no frictional unemployment when an unemployed individual fills a vacancy, but there is when employed applicants fill those vacancies. The larger the WOTC program is, the more difficult it would be to move substantial numbers of targeted workers into subsidized jobs without adding net new jobs to the economy, in other words, to absorb those targeted new hires through reductions in frictional unemployment. But given that the program is so small, it is not hard to imagine how unemployed applicants could be absorbed into the labor force with a small reduction in frictional unemployment.

Beyond simply helping secure a job, we know from the studies above that wages are often higher for WOTC recipients and that those jobs may last longer than for non-eligible individuals. Although we think of these effects as being private benefits, there is some wage-related tax collected on that earned income that benefits the government. The Earned Income Tax Credit ensures that low wage jobs of the kind that are most common with WOTC subsidies will have very low Federal tax rates, but payroll taxes and state and local taxes, which are less progressive, still apply.

There are a series of arguments for other, economy-wide benefits associated with moving individuals from chronic unemployment into jobs. One is that bringing such individuals into the labor force expands labor supply, puts downward pressure on wages, and lowers the natural rate of unemployment. Another is that the work-related experience and skill that targeted individuals receive improves their productivity, spilling over to benefit the economy as a whole. It is hard to put a value on these effects, and it might be fair to consider them as something like conceptual counterweights to other conceptual notions like deadweight loss that argue against wage subsidy programs.

As noted earlier, the most obvious benefits to the government and to taxpayers from moving disadvantaged individuals from unemployment and into jobs comes from various forms of public assistance that no longer need to be paid. The NY State study calculates, for example, that two-thirds of all WOTC certified individuals were welfare and food stamp recipients (it is possible to keep receiving food stamps even when employed under the WOTC program, when jobs are low-wage).That study also estimates that vocational rehabilitation services are equivalent to about half the level of federal welfare payments to WOTC recipients.

Bartik and Bishop (op cit) calculate that the safety net costs per year of supporting an unemployed worker are roughly $5000. The costs of supporting a chronically-unemployed individual targeted by WOTC are likely to be considerably higher. They do not define what elements are in those costs. If we look at Federal welfare payments under the Temporary Assistance for Needy Families (TANF) program, however, annual payments for a family of three under the program can equal that amount alone (payments vary by state), not counting other

Federal forms of assistance, such as food stamps and job training under the Workforce Investment Act, as well as state-level programs for healthcare, childcare, etc. The Bartik and Bishop estimate is that the savings is roughly double the cost of the maximum WOTC subsidy. Further, the latter is only paid once while the savings can accrue for more than a year.

The New York State Department of Labor study noted above asserts that reduced criminal conduct and jail time should be included in WOTC's benefits in addition to reduced expenditures on vocational rehabilitation. The latter is especially sizable, and neither is included in the safety net costs above of a typical unemployed individual.

Even if we only look at the reduced safety net costs associated with moving a targeted individual into employment, they seem to far outweigh the costs of the subsidy. The macroeconomic benefits described above are difficult to calculate, but they seem to be only icing on the cake of a positive story.

The caveat to this positive account, and an important one conceptually, is that while the WOTC program is a sufficient condition for getting a targeted individual into a job, it is not a necessary condition: Every subsidy payment is associated with a targeted individual moving from unemployment into a job, but the studies above suggest that many individuals in the control groups (those similar to the targeted population but not eligible for the WOTC subsidy) get jobs as well. That implies that some of the WOTC eligible individuals would have gotten jobs even without the WOTC program.

The most positive results for wage subsidy programs similar to WOTC imply that they raise the probability of getting a job for targeted individuals by as much as 25 percent above what those in control groups would experience; at the other end of the estimates are more modest effects of about five percent.[42]These are arguably the most effective programs for getting individuals into jobs, but they are still modest effects when compared to the total number of WOTC eligible individuals. Further, as noted above, the overall number of WOTC candidates getting jobs needs to be adjusted downward to reflect the fact that some would have gotten jobs anyway.

But how do we square the modest assessment above with the a much more positive assessment based on the fact that the subsidy is only paid when employers hire targeted individuals and are unlikely to have hired such an individual without the subsidy? That evidence suggests that the subsidies are highly effective in moving targeted individuals into jobs.

Logicians refer to the above conflict as a frame of reference problem: From the perspective of the employer, the WOTC subsidy is changing their behavior and causing them to shift from hiring a non-targeted individual (typically one already employed) to hiring one targeted by the

[42]The 25 percent figure comes from Richard Blundell, Monica Costa Dias, Costas Meghir and John VanReenen. 2004. Evaluating the Employment Impact of a Mandatory Job Search Program Journal of the European Economic Association, Vol. 2 Issue 4, p569-606.

WOTC. The effect on an individual employer in that context is very large. From the perspective of the typical targeted individual, on the other hand, the WOTC program improves the likelihood of being hired significantly in a statistical sense but only modestly in a practical sense. How can these both be true at the same time?

If all employers participated in the WOTC program, they could not both be true. The effects on employers and their jobs and the effects on targeted individuals would have to be identical: If the subsidy caused all employers to shift from hiring non-covered to WOTC covered applicants, then the probability of a targeted individual being hired would have to be dramatically greater than for a non-targeted individual.

In practice, though, relatively few employers participate in the program. For each of those who do, WOTC subsidies could make a big difference to their hiring decisions. But the effect of those decisions on the probability of a targeted individual getting hired is modest because there are few such employers and hiring decisions relative to the large number of WOTC eligible individuals. It is possible that the subsidy could account for every WOTC-eligible hire made by employers and for the increase in the probability of a typical WOTC-eligible individual getting hired still to increase only modestly.

The point of reference problem illustrated above explains why framing questions carefully is so important. If we ask, has the WOTC program had a substantial effect on moving the typical targeted individual into jobs, the answer would appear to be only modestly so.

But if we ask, is the WOTC a cost-effective approach to moving targeted individuals into jobs, the answer seems to be decidedly positive. Note that only employers who hire targeted individuals receive the subsidy, so the costs only come to bear when such individuals move into jobs. If the subsidy causes employers to shift their hiring to a targeted individual, then all the benefits of moving them into employment should be attributed to the WOTC. It does not have to be the sole factor for hiring the targeted individual. It simply has to be enough to tip the balance toward hiring. The empirical issue is whether the subsidy in fact does so.

The argument that the subsidy changes the behavior of such employers to hire targeted individuals seems strong. To see it, consider what is required for the WOTC to not have that effect. That would occur only where employers would have hired WOTC-eligible individuals, as opposed to other applicants, even without the WOTC subsidy. In that case, the subsidy is entirely a windfall for employers.[43] The very reason for being eligible for WOTC is because those individuals have attributes that are associated empirically with greater difficulty in getting hired. If we think about jobs paying $10/hour, the subsidy knocks off over half the employer's wage costs for the first 400 hours of employment and more for lower-wage jobs. It is hard to

[43] It might seem equally the case that the WOTC would have no effect if the subsidy was not big enough to affect their decision to hire, but remember that in such a situation, the subsidy would not be paid. There would be no expenditure to offset with benefits.

imagine an incentive of that magnitude not factoring into typical hiring decisions, especially where an employer has the choice of hiring candidates that appear more qualified than those certified by the WOTC.

Here we have some conflicting empirical evidence. A set of case studies conducted for the US Department of Labor in 2001 concluded that while employers liked the program and the WOTC-certified employees they hired seemed to do about as well as other candidates, the employers would have hired those employees in any case and that the subsidies played little role in the hiring decisions.[44]

A more thorough study conducted by the Government Accounting Office (2001) the same year used a random sample of employers participating in WOTC in California and Texas to examine their behavior. This study concluded that the tax subsidy was by far the factor motivating employers to hire WOTC eligible workers, followed in importance by being a good corporate citizen. They estimate that three-quarters of employers changed their employment practices in some way to accommodate WOTC recipients, and half changed training practices. These changes cost money. If employers would have hired applicants like the WOTC candidates even without their participation in the program, it is very difficult to understand why they went to the trouble of putting in these new practices. But no doubt some WOTC candidates might have been hired without the subsidy. The question is how many.

It is certainly possible to argue that for many employers, the subsidy is bigger than would be necessary to entice them to hire a targeted applicant. In that situation, the difference between the subsidy and the minimum amount needed to shift them to hire a targeted individual is something like consumer surplus, which the employer captures. Nevertheless, the subsidy in such cases still tips the balance toward hiring and therefore should get credit for any associated benefits. The ratio of benefits to costs of moving the targeted individual into a job would be unchanged.[45]

[44] These two findings together are puzzling. If the employers were willing to hire candidates like those the WOTC targets, it would be irrational for them to ignore the subsidies. See West at and Decision Information Resources, Inc., Employers' Use and Assessment of the WOTC and Welfare-to-Work Tax Credits Program. Washington, D.C.: U.S. Department of Labor, Employment and Training Administration, Office of Policy and Research, Mar. 2001.

[45]To pin down exactly how big the effect of the WOTC is on an employer's hiring decisions would require a different kind of study than the ones we have seen so far. Such a study would begin with a sample of applicants at a given employer where some were WOTC eligible and others not, see which ones were hired, and then calculate – other things equal - how much of the hiring outcome was associated with WOTC eligibility. It is possible for that effect to be modest and still not influence the cost/benefit value of the program, however. If the effect was small because the subsidy was not big enough to induce employers to hire targeted individuals, that also implies that subsidies are not being paid. If the subsidy mattered in only a few cases, the benefit to cost value of the subsidy could still be very substantial.

A very reasonable conclusion about WOTC is that the subsidy is not big enough to cause many employers to shift their hiring decision to WOTC-eligible applicants. We know that is true because the program has only modest effects on improving the employment prospects of the average targeted individual: Not many employers participate. On the other hand, there is every reason to believe that the arguably too modest subsidy currently available is a highly cost-effective way to move targeted individuals into jobs because it is not paid unless a WOTC applicant is hired. Given that, expanding the size of the subsidy is a reasonable action to take as it would lead to more participants and bigger benefits.[46]

A Cost-Benefit Calculation:

Given the general conclusion that expenditures on WOTC are a good way to move eligible individuals into jobs, we still need to know whether the value of doing so is worth the costs of the subsidy. Returning to our backward induction exercise, how big do the specific benefits of moving a targeted individual into employment have to be to offset the cost of the $2400 subsidy (less after tax adjustments)? First, if we assume that an employer receiving the subsidy would not otherwise have hired a targeted individual, then virtually all the benefits associated with moving an individual from long-term unemployment into a job should be credited to the WOTC program. If, on the other hand, we thought that there was, say, a 20 percent chance that the targeted individual would have been hired in any case, then the WOTC gets credit for 80 percent of all the above benefits.

Not all the benefits from WOTC need to be adjusted by that probability, however. The economic benefits associated with any net new jobs of the kind Bartik and Bishop discuss above are free from that qualification as are the fiscal effects on taxes associated with raising corporate profits for jobs that would have been filled in any case. Any effects that occur once targeted individuals are in the subsidized job are also free from that reduction. For example, if targeted individuals stay in jobs longer or earn more money than control groups, those effects can be directly attributed to the subsidy.

Working backwards from the $2400 maximum subsidy, what assumptions about benefits are necessary to show that the program is cost-effective? Assume the Bartik and Bishop estimate of $5000 as a conservative starting point for the taxpayer savings per year of moving an unemployed individual into a job. The studies above suggest that WOTC recipients stay on these jobs at least as long as non-recipients. Many of each group may stay in their jobs less than a year, in which case the subsidy/cost is reduced, and if they then move into jobs elsewhere, the benefit to cost ratio is higher. And some may stay in those initial jobs longer than a year, in which case the benefit to cost ratio is also higher because the subsidy is capped

[46] It is certainly possible, of course, to have too big a subsidy in that the cost of it could exceed the benefits. But the type of increases that are possible in the current context (e.g., keeping up with inflation since the subsidy began in 1996) will not cause that to happen.

at $2400. So an assumption of one year of benefits versus one year of costs seems reasonable, albeit conservative.

The important judgment for cost-effectiveness then is to what extent the WOTC program actually changed the behavior of the participating employers and caused them to hire WOTC recipients when they would not otherwise have done so. If we take a conservative view that only those employers who changed their practices would have hired WOTC recipients (i.e., for the others, the program was simply a windfall), then based on the GAO report, we should adjust the benefits by that amount – 75 percent of $5000. That would leave the benefit just in terms of taxpayer savings at $3750 against a cost basis of $2400. In other words, the benefits are about 50 percent greater than the costs. If we adjust the cost basis by tax offsets, the cost falls considerably. For a business in a 30 percent marginal tax bracket, the net subsidy is roughly half the benefits making the latter twice as great as the former.

Conclusions:

The difficulties that disadvantaged individuals face in securing jobs are difficult to crack. Programs designed to improve those outcomes face many obstacles. Employment subsidies appear to be the best approach in part because they tap private funds and in part because they are directed closest to the problem, which is to get individuals into jobs. Especially compared to other active labor market policies, the evidence on the effectiveness of hiring subsidies is quite positive. The direct evidence on the WOTC program per se is very limited, but we can make reasonably informed judgments about its effectiveness – especially its cost-effectiveness – by using a variety of evidence about the program and about similar programs.

The evidence we have suggests that even with conservative estimates the program is very cost-effective. The benefits to taxpayers appear to exceed the costs of the program. This is the case without counting many positive aspects of the program that are difficult to quantify, such as reductions in crime, healthcare costs, and other social programs, and positive macro-economic effects. Beyond the goal of assisting disadvantaged job seekers, the WOTC program should also be seen as a cost-saving program for the government.

Executive Summary

- In his second WOTC study, George W. Taylor Professor of Management at The Wharton School - University of Pennsylvania Dr. Peter Cappelli analyzed savings to the Federal Government from moving individuals on public assistance to finding employment under the Work Opportunity Tax Credit (WOTC).

- Dr. Cappelli considered data on: the likely employment tenure of WOTC participants; the likelihood that WOTC played a significant role in their hiring; and the savings to public assistance programs that are achieved as a result of the WOTC eligible individual entering the workforce. To simplify the analysis, Cappelli focused on the Temporary Assistance for Needy Families (TANF) program.

- Dr. Cappelli concluded that:
    - Federal TANF savings (welfare, Medicaid and food stamps) for moving an individual into a job is roughly $12,570 per year;
    - the average tenure in employment for individuals hired under WOTC is 2.3 years; and
    - WOTC should be given credit for 75% of individuals transitioning into the workforce.

- Taking these factors into account, the amount of saved TANF benefits is $19,282. When reduced by the value of the credit ($1,560), the savings in the TANF category is $17,722 per employee.

- The figure should be higher for SSI and much higher for Veteran participants in WOTC because the cost of the associated assistance they receive when unemployed is much higher.

- There are also significant, but harder to quantify savings, in the form of reduced crime, more stable communities, lower healthcare costs due to less social tension, and potentially higher business profits as a result of greater economic activity and taxes paid by workers hired as a result of WOTC.

- In sum, the cost of WOTC is heavily outweighed by the savings it generates.

A Detailed Assessment of the Value of WOTC

A Follow-Up Study to “Assessing the Effect of the Work Opportunity Credit”

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The current fiscal challenges facing the U.S. have heightened the need for programs to demonstrate that they are cost-effective. The benefits to disadvantaged individuals that come when they are employed through the Work Opportunities Tax Credit program (WOTC) are certainly the main justification for the program. In contrast to other social policy programs, though, WOTC also has the potential to actually reduce government spending on its target population. Virtually all the demographic groups for which employers may use WOTC subsidies receive government assistance in some fashion, typically through a broad range of programs. When individuals in those groups move into employment, they no longer need and are no longer eligible for as much public assistance. In most cases, they may no longer receive any government assistance. Further, unlike most other forms of assistance, WOTC tax credits only come into play when it has essentially succeeded, when an eligible individual moves into employment. The cost of getting such individuals into jobs through WOTC is therefore more than offset by the reduced costs associated with programs for which they are no longer eligible.

Whether WOTC turns out to be “revenue neutral” or can contribute to a net reduction of government spending is an empirical question. The answer turns on a careful assessment of the costs of WOTC and the costs of the programs that individuals no longer use once they move into jobs, such as TANF (Temporary Assistance to Needy Families) and SNAP (Supplemental Nutrition Assistance Program) and Medicaid.

The place to begin that analysis is with the costs of using WOTC. The cost to the Government of administering WOTC is relatively low ($18.5 M in FY 2012), and there are considerably higher administrative costs associated with running the programs that individuals exit when they move into WOTC-eligible jobs. Such costs are difficult to estimate with any precision: Given that the developments we examine are only likely to reduce the scale of programs and not eliminate them, the appropriate accounting convention should be the marginal costs of administration (i.e., for the marginal participant) and not the average costs. The former cannot be estimated carefully without internal data that are not available to the public. For convenience, therefore, we ignore both the administrative expenses associated with WOTC on the cost side and the administrative expenses associated with programs that would no longer be used when individuals move into jobs on the benefits side.

WOTC Costs: The calculation of the costs per individual (net of administrative expenses) is straight-forward. Because the WOTC tax credit is only applied when an individual is hired, the program is very inexpensive: a maximum of $2400 per WOTC-eligible individual (hereafter referred to as "WOTC workers."). [1] As noted earlier, the concern that many individuals might have been hired even if the tax credit was lower does not affect the cost-benefit calculation. It merely suggests that the cost-benefit ratio could be driven to a more favorable level if the credit was reduced. (Overall benefits to society would also be reduced by a smaller program, however.)

A more serious concern is whether employers would have hired WOTC workers even if there had been no tax credit. If so, then the conclusion would be that WOTC played no role in the move of WOTC-eligible individuals into jobs. The program is based on evidence that the target population has difficulty finding jobs, and as noted earlier, it is hard to imagine a context where the tax credit is irrelevant to employers (as opposed to a context whether they are not aware of the tax credit). No doubt it is also difficult to imagine a context where no WOTC-eligible candidate would have gotten a job without the tax credit. To what extent has the WOTC program actually changed the behavior of the participating employers and caused them to hire WOTC recipients when they would not otherwise have done so can be estimated?

A conservative estimate is driven by the evidence from the GAO report that 75 percent of employers changed their hiring and employment practices to accommodate WOTC-eligible candidates. It is difficult to imagine that any employer would put in place such practices and then ignore the WOTC program. It is certainly likely that employers without such programs might still consider WOTC candidates as those practices and programs are neither a necessary nor a sufficient condition to hire them. It is difficult to guess what the appropriate figure should be, but 75 percent represents a very strong lower limit. What this figure implies is that WOTC should get credit for 75 percent of any benefits associated with moving WOTC-eligible hires into jobs.

ESTIMATE: 75 percent of benefits from employment are due to WOTC.

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[1] * Employers may not receive both the full value of the wage deduction and the tax credit. Accordingly, the maximum enhanced value to the employer of hiring someone using the credit vs. hiring them without it is $1,560. This is because employers do not receive a deduction to the extent of the amount of the credit claimed. Under WOTC, when the maximum $2,400 credit is claimed, the $6,000 wage deduction is reduced by $2,400. As a result, the value of wage deduction is reduced to $3,600 x 35% or $1,260 vs. $2,100 (35% of $6,000 in wages) absent the credit. This reduces the value to the employer of the credit by $ 840 ($2,100 - $1,260 = $840). Consequently, the maximum enhanced value to the employer of hiring a WOTC vs. a non-WOTC eligible individual $1,560 not $2,400.

A Detailed Assessment of the Value of WOTC

Another important question for addressing the cost savings associated with the WOTC program is how long participants stay employed. If WOTC participation causes individuals to move into employment and out of various government assistance programs, then the savings are huge: the annual costs of those programs year after year. On the other hand, if the participants only stay in employment a short time, then the benefits are only short-term as well.

There are no good assessments as to how long WOTC individuals stay in employment. The case study cited earlier found that they stayed with the employer as long or longer than non-WOTC employees, which is certainly encouraging. It is also fair to note that these individuals – indeed those in the case study – may not be typical of the workforce as a whole. How should we estimate how long WOTC participants stay employed and off other government programs?

Not surprisingly, there is no available information on the average age of WOTC participants. We do know the age distribution of TANF participants, however, and that is highly relevant because any savings from WOTC comes in large measure from moving individuals off TANF and other programs that have similar eligibility requirements. Fifty-one percent of TANF recipients are between age 20-29, and 25 percent are between ages 30-39. Relatively few are in the youngest and oldest segments of the age distribution. [2]

Given that knowledge, we can then turn to Bureau of Labor Statistics estimates of workforce tenure. This measure only tells us how long an individual stays with an individual employer, not whether they stay employed after they move. Other evidence suggests, though, that when individuals leave an employer, they are twice as likely to move to another job as to unemployment.[3] While this estimate may be considerably smaller for WOTC recipients, there is still no reason to believe that average tenure represents the limit of their average employment. If they do lose their job, especially given their work experience, they will not necessarily return to government assistance. Tenure therefore represents a very conservative estimate of how long WOTC recipients may stay employed.

It is difficult to say to what extent WOTC recipients are similar to the average worker. Tenure is less than average for high school dropouts, who are more prominent among the WOTC population, but is no higher for college graduates than for high school graduates. WOTC participants might be more likely to be fired for cause than other workers. Whether they are less likely to quit for a job elsewhere is not clear, the more common reason for tenure to end.

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[2] These figures come from the Office of Family Assistance, US Department of Health and Human Services. http://www.acf.hhs.gov/programs/ofa/resource/character/fy2010/fy2010-chap10-ys-final.

[3] See Fallick, B. and C. Fleischman (2004). The importance of employer-to-employer Flows in the U.S. labor market. Federal Reserve Bank Board of Governors mimeo.

In 2012, average tenure for the workforce was 4.6 years. Estimates are not calculated for the 20-29 or 30-39 age groups described above for TANF. For ages 20-24, it is considerably lower, 1.3 years; for 25-34, it is 3.2 years; and for 34-44, it is higher, 5.3 years. [4] If we use the proportion of TANF recipients in each age group and the mean tenure figure for individuals in the closest BLS age bracket (that is, weight the tenure according to the approximate age distribution), we have a rough estimate of 2.3 years of employer tenure for an age distribution equivalent to that for TANF recipients. We use that figure below to calculate the total value of WOTC benefits. It is certainly possible that average tenure for WOTC workers might be less. But this is still very conservative because is it assumes that all WOTC recipients would immediately return to full use of government assistance when their current job ends, and that is certainly not the case.

ESTIMATE: 2.3 years of employment tenure.

The more difficult calculation is the total benefits associated with a WOTC hire in part because there are many benefits and several are difficult to quantify. Among the latter are the benefits when a WOTC candidate is hired to fill an opening as opposed to a candidate who is already employed elsewhere. Such benefits could be considerable: They reduce the overall unemployment rate by adding a net employed worker to the economy, stimulating the economy in the process. If WOTC encouraged employers to create a new job, then the benefits are even greater as the taxes paid by the new hire add considerably to payroll taxes and state and local income taxes. (It is less likely that the wages of WOTC jobs would pay enough to lead to net Federal income tax payments.)

For those 25 percent of cases where we suggest that candidates might have been hired even without the WOTC tax credit, there are still benefits associated with higher corporate profits and the taxes paid on such profits. Other benefits associated with moving an individual into jobs include the fact that rates of crime for individuals and for communities rise for those who are not in the workforce as does stress and stress-related illnesses. Not only is it difficult to calculate the relationships between the move to employment and reductions in crime and illness but the economic costs associated with those reductions are even harder to measure. Still, government expenditures on these programs are massive: California, for example, spends over $200,000 per year for every youth who is incarcerated and $46,000 per year for every adult.[5]

Most tangible benefits that are far easier to estimate come from reductions in expenditures for other programs in which WOTC eligible individuals participate. These reductions directly

[4] These figures are from the Bureau of Labor Statistics http://www.bls.gov/news.release/tenure.t01.htm.

[5] http://www.lao.ca.gov/reports/2011/calfacts/calfacts_010511.aspx#zzee_link_45_1294170707

reduce other government spending. The number of such programs is potentially huge in part because WOTC covers 11 different categories of individuals – Veterans, ex-felons, long-term unemployed, etc. Each category is targeted by a separate set of assistance programs. For example, there are more than a half dozen Federal programs to support jobless Veterans. These categories are not mutually exclusive, of course, so individual participants could get benefits from many different programs at the same time. We return to that issue below.

Beyond the Federal programs are an even larger maze of State-level programs that could account for even more expenditures on the WOTC-eligible population. There are State-level supplements to virtually all the Federal programs: TANF, SNAP, and Medicaid in particular are administered by the States, and the States spend more on training. There are also special State programs for enterprise zones as well as a range of programs for Veterans. The problem of overlap of categories of State programs may be even bigger than for Federally-mandated programs.

An additional complication associated with assessing any savings from State programs obviously comes from the fact that each State has different programs and funds the common programs at different levels. If we restricted the analysis to, say, just the 10 most prominent Federal and State assistance programs through which WOTC eligible individuals could receive benefits, and each of those 10 programs varies across the 50 States, there are 90,720,000 possible combinations of benefits (10!/2 x 50). In other words, it is conceivable that any WOTC eligible individual picked at random from the US population could have one of roughly 90 million possible combinations of total government assistance. When we ask what the savings might be when a WOTC eligible individual moves into a job, the answer depends very much on the category that individual might fall into.

To simplify the analyses, we ignore State-specific programs and focus only on Federal programs. Most of those programs are administered by the States. Where benefit levels vary by State, we use the national averages. Leaving out State-level programs certainly makes for a much more conservative estimate of the cost of supporting individuals who are not in the workforce, and, in turn, of the savings associated with moving them to jobs through WOTC.

We also ignore several programs for the unemployed that are prominent as well as expensive because the likelihood that WOTC-eligible individuals are using them is not high. The Job Corps, for example, is a very intensive and costly program ($25,000 per participant)[6] for unemployed, disadvantaged youth. It is not clear what percentage of Job Corps participants are eligible for WOTC. But because the Job Corps has many attributes that are designed to get jobs

[6]This estimate was calculated as part of an assessment of the Job Corps conducted by Mathematica. http://www.mathematica-mpr.com/labor/jobcorps.asp

for its participants, it would be difficult to assume that an individual participating in both programs got their job because of WOTC. A second example is unemployment insurance. This is a very expensive program that obviously targets the unemployed. Most individuals would have to exhaust their unemployment insurance benefits before meeting the eligibility requirements for programs like TANF and SNAP, which could then make them eligible for WOTC. It is therefore unlikely that many WOTC eligible individuals would have been receiving unemployment insurance benefits at the time they became WOTC workers. In fact, most WOTC eligible individuals have little if any job history and therefore do not qualify for unemployment benefits.

The programs we examine below are the main Federal programs for which WOTC-eligible individuals may also participate. Indeed, TANF and SNAP participation are among the criteria for WOTC eligibility:

- TANF – benefit levels set by each State
- SNAP – administered by the States and supplemented by the States
- Medicaid – administered by the States and in some cases supplemented by them
- HUD-based housing assistance – supplemented by States and localities
- WIA (Workforce Investment Act) training – administered and supplemented by States and localities
- SSI (Supplemental Security Income) – administered by the Federal government. Only five states pay any supplement beyond the Federal benefit levels

Despite the public attention given to TANF-based welfare and its prominence in the WOTC eligibility criteria, it is by far the smallest of the Federal expenditures in the above set. The SNAP budget, for example, is seven times larger than TANF's. Even rental subsidies are five times larger. Medicaid is 37 times larger. Savings in other areas are likely to swamp the benefits associated with a reduction in TANF.

As noted earlier, WOTC-eligible individuals may well receive benefits from several sources. The most difficult task is to estimate the overlaps among programs. Fortunately, the Department of Health and Human Services has provided one important map, that between TANF and other programs.[7] We use the percentage of TANF recipients who receive another benefit and the size of that benefit to calculate an estimate of the total Federal expenditure on assistances for those individuals. Specifically:

[7] US DHHS Office of Family Assistance. Characteristics and Financial Circumstances of TANF Recipients, Fiscal Year 2010.

Eight-two percent of TANF recipients receive SNAP payments, and the average such payment is $377/month or $4524/year; Ninety-seven percent receive Medicaid with an average expenditure of $2838; Thirteen percent receive some form of public housing where the payment from HUD costs $589/month or $7068 per year; Eleven percent participate in training associated with the Workforce Investment Act (WIA), where $2738 estimates the average expenditure across the US[8]; Ten percent get supplemental cash payments of $215/month $2556 per year. TANF payments themselves average $395 per month across the US, or $4740 per year. The expected value of these separate benefits (probability x benefit) can be added together to calculate the total of all expected benefits of a TANF recipient because the probabilities of receiving each one are not independent from each other. They each depend on virtually identical criterion associated with financial resources.[9]

ESTIMATE: $12,527 per year of Federal benefits for TANF recipients.

Individuals who qualify for WOTC under other categories are typically eligible for virtually all the above benefits as well as additional ones. Specifically, SSI recipients receive special benefits from the Social Security Administration that are tailored to income. Because the criteria for determining benefit amounts are tailored to attributes of the individual, it is very difficult to determine average payments, and given the wide variance in payments, the average figures may not be so meaningful. The estimate of average SSI benefits for individuals, however, is $710/month or $8520/year and $1060 per month or $12720 per year for a couple.[10] There are often state-level supplements to the SSI program. While SSI income may count against eligibility thresholds limits for some other programs like TANF, SSI recipients are eligible for those other programs as well. Given that, the total amount of benefits they receive should be considerably higher than the TANF-based estimate above.

Veterans are the group within the WOTC eligibility criteria that have the most assistance programs. Veterans are eligible for all of the above programs – indeed, in many states, they have preferential access to them and have lower eligibility requirements. Beyond that, there are a number of special programs to assist unemployed veterans. The most significant of these is

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[8] WIA is another block grant program, and the range of expenditures across states is considerable. The figure used here comes from a Mathematica estimate of the average across states. See Ten Years of the Workforce Investment Act (WIA): Interpreting the Research on WIA and Related Programs. Paul T. Decker, Mathematica Policy Research, February 2010. **Ten Years of the Workforce Investment Act (WIA): Interpreting the ...**umdcipe.org/.../**WIA**Washington/Pa**per**s/Decker%20-...

[9] If the probabilities of receiving each benefit were independent of each other, as in the odds of getting "heads" in two separate coin tosses, then the appropriate response would be to multiply them. The probability of individual receiving overlapping benefits would then be very small.

[10] http://www.socialsecurity.gov/pgm/ssi.htm

special unemployment insurance, paid for by the Federal government but administered at the state level, for those who cannot find a job when they leave military service. Unemployment benefits are typically pegged at 50 percent of one's most recent employment wage, although for veterans, adjustments are made on a state-by-state basis to compensate for the lower wages and higher benefits associated with military service. The cost of this benefit alone can easily exceed the TANF-based estimate above, although if so, the fact that these other benefits are means-tested would reduce any benefits from them substantially.

Other Federal programs for unemployed veterans include the Veteran's Workforce Investment Program as well as apprenticeship programs and education-based job training associated with the GI Bill. At the State level, there is a vast array of assistance – from protection against evictions to lower credit card rates – that are difficult to monetize. There is little doubt, though, that the combined value of Veteran-specific assistance and more general assistance for unemployed gives Veterans by far the highest level of benefits of any WOTC-eligible group.

Ex-felons, another category for WOTC eligibility, are also eligible for the above set of programs, although unlike the disabled and veterans, there are no expensive assistance programs specific to them. They account for roughly six percent of the US population. [11] Assuming all of them are able and interested in working that translates into roughly 12 percent of the workforce. But WOTC eligibility is restricted to the period one year after release from prison or conviction, whichever is longer, and that represents a relatively small number of individuals. The costs and also the savings attributable to WOTC for this group are likely to be modest.

Does Assistance End with Employment? An important caveat to the conclusions above is the extent to which individuals who move from not participating in the workforce to employment through the WOTC program might still receive financial assistance from these government programs even though they are employed. Some assistance programs are based simply on whether one is employed. With very few exceptions, job training programs like WIA or unemployment insurance cannot be used by individuals who are employed. The other programs are means-tested, which means that it is possible to have earned income and still receive assistance from those programs, albeit at reduced levels.

Determining whether assistance ends with employment begins by asking what level of income should we expect WOTC workers to earn? Estimating the expected earnings of those working under the WOTC program is a difficult thing to do. The few studies noted in the report that

[11] GROWTH IN THE U.S. EX-FELON AND EX-PRISONER POPULATION, 1948 TO 2010. Sarah Shannon, Christopher Uggen, Melissa Thompson, Jason Schnittker, and Michael Massoglia. http://paa2011.princeton.edu/papers/111687.

looked at the effects of WOTC examined wages and outcomes for WOTC *eligible* individuals whether they were employed or not. Our concern is with the earnings of those who have jobs where their employer is receiving WOTC tax incentives and, specifically, for those with jobs with employers that meet the test for an employer to earn the maximum tax credit.

A reasonable assumption is that WOTC workers will probably be hired into non-exempt, hourly jobs and probably as well for those positions that are relatively unskilled. Two estimates anchor the upper and lower bounds of probable earnings. (Because the assistance programs considered below typically report benefit levels at a per month level, the estimates of potential earnings for WOTC are also expressed per month.) The first is the average monthly earnings for hourly paid employees in the US, which is $3072. This is quite likely to be above, perhaps well above, what the average WOTC worker could earn, given that this figure includes highly skilled jobs such as craft workers. The lower bound is represented by the Federal minimum wage, with no State-level supplements, overtime work, or other supplements: roughly $1260 per month. This is likely to be below the average WOTC worker wage. Only 4.7 percent of workers earn this low a wage, and they are disproportionately teenagers, typically in part-time work: The majority of those paid this little are in the 20 percent of all workers who are younger than 25. [12]

Estimates that are somewhere in between include the median wages for high school dropouts and for high school graduates, which is roughly $1900 per month ($12/hr.) and $2600 per month ($16/hr.), respectively.

The next step is to examine which programs allow an individual to have work-related income and still receive benefits and what the upper limit on that income is. If it is less than the expected wage for a WOTC worker, then no benefits are paid, and WOTC gets credit for the associated reduction in such benefits.

Starting with the TANF program: Because it is a State-run program (although funded largely by Federal block grants), the rules determining how much income participants can earn and still receive payments vary considerably state-by-state. Efforts to examine practices across states are rare. A 2004 Urban Institute study concluded that only 13 States allowed a family of three to earn more than $1000 and receive benefits. [13] Benefit levels since then have on average declined, and there is no reason to believe that the ceiling for earnings has increased. Most states therefore will not allow an individual earning even minimum wage to receive TANF benefits. More recently, though, some states have changed policies to allow TANF recipients who move to a higher-earning position to keep some proportion of any earnings above that ceiling in order to

[12] All the wage and income estimates here come from the Bureau of Labor Statistics for 2012. The BLS does not often report mean and median measures for the same series, which is why the text here sometimes switches between them. The median is less sensitive to outliers but may be more complicated to use in calculations.
[13] http://www.urban.org/publications/900772.html

create incentives for them to earn more money. Mississippi, for example, allows recipients to receive TANF benefits six months after they take a job with wages that would otherwise disqualify them from eligibility. Washington State and Maine have a 50 percent offset, so benefits are reduced by 50 cents for every dollar of income above the eligibility threshold, up to a different, higher ceiling. Illinois is even more generous, with a 25 percent offset again up to a ceiling. Those higher ceilings are typically still below the pay level we expect for WOTC workers, though, and this offset arrangement has relative short time limits: One cannot keep collecting benefits indefinitely with income above the basic eligibility level. And most States do not have these offset arrangements.

SNAP benefits can be paid to individuals with income at higher levels than TANF, up to 130 percent of the poverty level based on family size. Benefits above the basic eligibility level are reduced by a 30 percent offset or tax as income rises to that 130 percent level. Beyond that point, eligibility ends. SSI has a much stricter eligibility limit, which is the benefit amount, minus various income deductions, and a dollar-for-dollar offset on additional income up to that level.

Medicaid income eligibility requirements vary by state but appear to be below the level that a WOTC worker could expect to earn. In New York State, for example, the limit is $750/month or $8994/year for an individual and $1114/month or $13360/year for a family of three. As with most States, eligibility ends when income rises above that income level. Eligibility in California is set at a slightly higher limit reflecting higher average costs of living ($908/month for individuals and $1545/month for a family of three). The program allows for six additional months of coverage if a covered individual sees their income rise above that level but still be below180 percent of the poverty level.

Housing assistance through HUD is the one benefit that can extend well into and beyond the wage level we expect for WOTC workers. In Mississippi, for example, a low-cost state, benefits can still be received for individuals making up to $27,000/year. Benefits decline with income, though, and the decline begins with income near the poverty level.

With the exception of HUD-based housing benefits, we do not expect that individuals earning WOTC-level jobs will be able to access much if any Federal assistance. A conservative estimate might be that only half the HUD-based benefits would be saved when an individual moves from public assistance to a WOTC-paying job. Some modest reduction in SNAP benefits seems appropriate, given that some reduced level of benefits can be paid roughly up to the level of income we expect for the median WOTC job. (Half the jobs would therefore be below that level-perhaps 20 percent.)

The income eligibility levels for TANF and Medicaid are lower still, implying that far fewer WOTC workers would qualify for any benefits. The fact that there are provisions in some States to taper down benefits rather than eliminate them altogether when pay rises above the eligibility level does reduce the savings in assistance associated with moving those not in the workforce into WOTC jobs. Any adjustment to these benefits should be even smaller, perhaps 10 percent. These adjustments are incorporated in the final estimate below.

SUMMING UP:

The estimate of Federal assistance saved by moving a TANF-eligible individual into a job was $12,570 per year. The adjustments above bring that figure down to $11,178.

The estimate above is that such individuals will then remain off assistance for a minimum of 2.3 years. We earlier estimated that WOTC could conservatively be given credit for 75 percent of WOTC-eligible individuals transitioning into jobs. That would put the value of the reduction in Federal assistance associated with that transition at $19,282.

Subtracting the $1,560 value of the WOTC tax credit from that figure leaves a net gain of **$17,722 from the WOTC program**. The figure should be higher for SSI and much higher for Veteran participants in WOTC because the cost of the associated assistance they receive when unemployed is much higher.

WOTC STATE LEVEL SAVINGS
EXPLANATION OF COMPUTATIONS

In his April 2013 study, "A Detailed Assessment of the Value of WOTC" Professor Peter Cappelli of the Wharton School quantified the savings in social spending programs to the United States Government that are generated by moving an individual from public assistance to private sector employment through the work opportunity tax credit (WOTC). The study that follows, prepared under Professor Cappelli's supervision, quantifies the savings at the state level in three programs which formed the basis his 2013 Federal level study.

The computations are as follows:

TANF – The percentage which states contribute to TANF was taken from the FFIS report, derived in turn from Federal Government statistics. The number of participants in TANF in each state and the average TANF benefit per state are taken from Federal Government statistics in a November 21, 2011 report of the Center for Budget and Policy Priorities. These figures were used to derive the average amount of the annual TANF benefit that each state contributes to recipients.[1]

Individuals hired in several WOTC categories are recipients of TANF benefits and the number certified (and hired) in each category is provided annually by the US Department of Labor. Two WOTC categories are specific to individuals on TANF. The Congressional Budget Office in a 2012 report on the food stamp (SNAP) program found that 60% of individuals on SNAP are also on TANF, and as a result, 60% of individuals certified for SNAP are added to the TANF categories to compute the total TANF state level savings under WOTC.

SNAP - Although SNAP is a federally funded program, states contribute to the administration of SNAP and the amount of that state level expenditure is also listed in the FFIS report. The chart derives these savings by dividing the total spent by each state to administer its SNAP program by the number of SNAP participants in each state (that number was taken from the USDA February 2014 report on the "Characteristics of SNAP Households)." The average expenditure for SNAP per individual was multiplied by the number of individuals certified for WOTC under the SNAP category to determine savings.

A reduction adjustment was made to the overall WOTC savings in SNAP and TANF in the amount of 11% to account for the likelihood that not all WOTC hires will earn sufficient amounts to completely come off of these programs as was done in the April 2013 Cappelli study.

MEDICAID – Using figures from the Kaiser Family Foundation the WOTC savings in state Medicaid programs were added to the TANF and SNAP totals. These were derived by determining the total state contribution to Medicaid (by multiplying the total Medicaid spending in a state by the state's FMAP – its share percentage – and multiplying that by the number of WOTC hired individuals who are on Medicaid. This last number is a combination of 60% of all SNAP certified individuals (CBO statistics indicate that 60% of individuals on SNAP are also on

[1] These calculations have since been updated to consider each individual state's TANF-related expenditures.

Medicaid) and 98% of the WOTC TANF certified individuals who statistics show are also on Medicaid.

The total Medicaid savings are adjusted down by 50% to account of individuals who are hired at wage levels that would continue to qualify them for Medicaid.

Final Adjustments – Two final adjustments are made to the savings totals. First, based on a study by New York State under Governor Pataki that showed the average WOTC recipient is retained in the job and is off public assistance for 2.3 years, even though the credit with one small exception is provided for just one year, the total is multiplied by a factor of 2.3. (Because years overlap, the states will realize the total amount of savings computed in these charts in a single year; the first year savings of someone certified in that year should be added in each year to the second year for savings for some certified in the prior year and so on).

A second adjustment reduces the savings by 25%, consistent with Professor Cappelli's finding that while WOTC is a very effective program, an allowance should be made for the possibility that WOTC may not be the main factor driving every hire under the program. Professor Cappelli uses a 25% reduction factor in this regard.

The overall savings figures may in reality be greater because the chart does not take into account state programs which are very difficult to quantify., including housing, health and wellness, crime prevention, and government run training programs.

THE WORK OPPORTUNITY TAX CREDIT (WOTC)
A CRITICAL COMPONENT OF
ENTITLEMENT REFORM

First enacted in 1996 as part of welfare reform, WOTC provides an incentive for employers to move more than 850,000 individuals a year **out of poverty and into the productive workforce**. Recent studies by Wharton School of Business Professor Peter Cappelli quantify the WOTC economic benefit to federal and state budgets given that WOTC eligible individuals are among the most expensive to maintain in public assistance.

Cappelli found that it can be too costly for employers to hire individuals with low job skills and experience, as well as disabled and unemployed veterans, absent an economic incentive. Based on Professor Cappelli's analysis, a conservative estimate of the WOTC savings to the federal and state budgets over a ten year budget cycle is **$85 billion!**

These savings are derived as follows:

Under the Cappelli analysis, the federal government saves an average of $7,600 per year for every WOTC hire based on savings in Medicaid, TANF, SNAP and HUD programs, net of the cost of the tax credit to the US Treasury Department. The US Department of Labor reports that 850,000 individuals are hired (certified) for WOTC on average per year.

In addition, a study of state savings under WOTC focusing only on Medicaid, TANF, and SNAP, found that the aggregate savings to state budgets under WOTC is just under $2 billion a year.

Taken together, the $8.5 billion per year in savings, net of the $10.5 billion that the Administration estimates as the cost of a permanent (10 year extension of WOTC) reduces federal and state entitlement program costs by **$85 billion over ten years**.

These estimates only take into account savings in four federal entitlement programs on the federal level, including state contributions to those programs on the state level, and do not include possible savings in veterans' programs and in state sponsored poverty programs. The inclusion of other programs could increase the savings estimates.

Without WOTC the cost of entitlement programs would be much higher. Using these conservative estimates, WOTC saves government close to ten times the cost of the program in forgone tax revenue while helping to advance a key priority in economic growth, to move individuals from dependence on public assistance to productive private sector employment.

Congress should make WOTC a permanent as part of its efforts to bring down the cost of entitlement spending and add a category to WOTC, individuals that are falling into poverty as a result of having exhausted their long-term unemployment benefits.

WOTC Impact, State-by-State

State	WOTC Annual Savings to State	DOL FY 2013 Certifications	FY 2013 Pending Certifications
Alabama	$27,512,523	49,502	35,834
Alaska	$4,287,002	1,099	4,557
Arizona	$21,290,800	32,485	37,048
Arkansas	$12,441,875	24,592	16,877
California	$176,606,743	103,770	164,317
Colorado	$79,405,954	21,767	4,983
Connecticut	$14,066,370	3,956	21,469
Delaware	$4,274,317	3,136	3,156
District of Columbia	$2,770,840	1,080	3,750
Florida	$93,400,097	148,262	1,765
Georgia	$46,481,566	81,019	77,206
Hawaii	$3,179,344	1,727	850
Idaho	$5,315,348	7,148	1,066
Illinois	$42,255,266	31,818	2,627
Indiana	$32,303,300	30,516	98,283
Iowa	$21,384,612	14,365	55,194
Kansas	$20,076,587	15,549	26,833
Kentucky	$40,438,770	63,690	5,204
Louisiana	$27,233,769	14,844	103,334
Maine	$18,464,728	3,637	11,412
Maryland	$23,873,646	11,867	49,208
Massachusetts	$36,022,265	13,948	32,405
Michigan	$62,306,042	36,574	97,830
Minnesota	$44,945,568	25,780	17,561
Mississippi	$12,997,626	24,920	18,021
Missouri	$50,814,832	35,421	58,421
Montana	$2,652,310	4,666	0
Nebraska	$16,608,156	12,632	11,585
Nevada	$3,320,860	4,276	43,060
New Hampshire	$7,902,263	3,736	3,595
New Jersey	$8,887,860	2,548	65,265
New Mexico	$5,392,289	6,991	30,680
New York	$178,492,537	53,868	70,153
North Carolina	$57,252,865	45,329	59,015
North Dakota	$4,349,054	6,156	0
Ohio	$138,454,701	88,801	140,170
Oklahoma	$22,913,358	27,353	82,318
Oregon	$9,305,850	8,999	79,389
Pennsylvania	$156,461,600	85,171	1,502
Rhode Island	$3,046,017	614	13,475
South Carolina	$25,506,679	54,031	5,651
South Dakota	$5,571,727	7,023	181
Tennessee	$57,793,535	54,000	40,853
Texas	$153,752,873	201,835	34,024
Utah	$11,258,083	15,818	1,903
Vermont	$3,029,546	1,052	597
Virginia	$70,001,577	33,625	16,277
Washington	$42,051,837	26,487	45,820
West Virginia	$14,111,019	13,445	13,140
Wisconsin	$36,877,688	26,669	14,102
Wyoming	$1,228,095	849	11,854