

Changes in the Corporate Income Tax and Implications for the Job Market

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Introduction: The discussion below considers the relationship between the United States corporate income tax, proposed changes in that tax, and hiring, particularly with respect to the job prospects of individuals covered by the Work Opportunity Tax Credit (WOTC). Specifically, will cuts in the corporate income tax improve job prospects enough for those individuals such that the hiring subsidies provided by WOTC would no longer be necessary to help them secure a job?

The challenge in helping individuals who are eligible for the WOTC program find jobs is that, in the absence of the tax credit or subsidy to employers for hiring them, such individuals would otherwise be at the bottom of the queue that employers implicitly use to rank candidates for jobs. This is true by definition, given that WOTC has been a program to help individuals whom evidence has shown are disadvantaged in the labor market. The goal of WOTC is not to create new jobs. It is to shift the incentives of employers to give greater priority in hiring to WOTC-eligible candidates. In other words, the goal is to move them up in the queue by making it cheaper to hire them.

In the absence of those subsidies – without moving such individuals up the hiring queue – the only way to improve the hiring prospects for WOTC eligible individuals is to get everyone in front of them in the queue hired. That will require creating a very strong labor market, one that we have rarely seen in the U.S.

There is nothing in corporate income tax cuts that moves WOTC-eligible individuals up the queue of possible job applicants, nor is there anything about such tax cuts that creates incentives to use tax savings specifically for job-creation. The mechanism through which corporate tax cuts stimulate hiring is standard fiscal stimulus. The cuts would have to be substantial, far beyond those currently proposed, (and assuming they are not offset by any spending cuts) for the economy to grow fast enough to draw down the pool of job seekers in any meaningful way. Thus, WOTC-eligible individuals would not move to the top of the hiring queue. The corporate tax cuts currently being proposed are nowhere near large enough to have that effect. Indeed, current proposals for cuts in the tax rate may not reduce the *effective* tax rate because they eliminate tax credits, deductions, and the graduated element of the current system that lowers the total tax that corporations pay.

How Do Corporate Taxes Affect Hiring?

The most basic frameworks for thinking about the effects of changes in tax rates see it through the eyes of an individual, either a businessperson or an employee. Here the idea is that individuals have a choice as to how they use their time. In the simplest model, they either work or they pursue leisure, where the assumption is that work is no fun but it gets us money; leisure is fun but it costs us money.

With this framework, tax increases reduce the rewards from work, making it a less attractive use of our time. Tax cuts increase our take home rewards from work, making it more attractive. This relationship is known as the "substitution effect," where you substitute one activity for the other based on the relative returns and costs of each.

The caveat to the conclusion above is that it takes money to enjoy leisure. If our net income goes up a lot because of tax cuts, we might decide to spend more of it on leisure, such as taking longer vacations. This relationship is known as the "income effect." Similarly, if our net income drops very low, we cannot shift completely away from work, given various obligations we have, including an interest in having money to spend on leisure. We might feel some pressure to work harder or longer with an income cut.

When the topic shifts to corporate tax rates, however, the analogy with individuals does not apply. Businesses do not have the alternative of leisure. If business tax rates go up, the owners of the businesses have nothing to gain by holding back production in their businesses.

There are costs to businesses of raising business taxes, of course. They create another operating expense which affects how the businesses operate. With respect to employment, the cost of employees is a deductible expense from income used to calculate those taxes, as are all business expenses.

The presence of a corporate income tax arguably encourages business to reinvest or spend on the business rather than passing income to shareholders in the form of profits, specifically dividends. Income that is reinvested makes the business more valuable, raising its price or share price. From the perspective of an owner and/or shareholder thinking about their post-tax income, other things being equal they would rather have additional rents distributed to them in the form of higher share prices and greater company value than in the form of dividends because the taxes on the former (capital gains) are lower than on the latter (income).

The effects on businesses of corporate taxes come from the response of their owners to those taxes. When taxes and therefore costs rise, businesses have the option to try to pass those costs onto customers through higher prices. The more elastic the demand for their products or services, the lower the share of the cost increases businesses can pass onto consumers. To the extent that they cannot be passed onto customers, other things being equal, taxes reduce profits.

If there are tax cuts, on the other hand, the extent to which businesses keep the gains from them also depends on the elasticity of demand for their products or services. If demand is elastic, tax cuts, which function as cost cuts, are passed along to consumers in the form of lower prices; if demand is inelastic, businesses keep more of the tax cuts in the form of higher profits.

If profits turn negative, then the business fails; if they fall below the cost of capital, then investors will shift future capital to other locations where the taxes do not apply; if the cost increases are economy-wide, as with a national tax increase, investors will shift capital to opportunities in other countries. The effects of corporate taxes on jobs therefore depend on how investors react to them. Where investors shift investment away from businesses because taxes hurt profits, jobs fall; where they shift investment to business because of relatively lower taxes, jobs grow.

An important issue for the question here – how do changes in corporate income taxes affect jobs – is therefore to understand how those changes affect investors. Cuts in corporate income taxes, other things being equal, provide more profits to distribute to investors, either immediately in the form of dividends or in the form of more valuable businesses through reinvestment in those businesses. Investors are more willing to place money with businesses when taxes are lower.

The complication with that simple story is that a relatively small amount of the resources that support businesses come from individual investors either directly or indirectly through the stock market. For established businesses, capital investment is funded almost completely by loans from financial institutions and through bonds.¹ Greater profits certainly make it cheaper for firms to borrow or raise money through issuing debt and bonds, but the relationship is not linear. Predictability of income is arguably the most important factor driving the price of debt. At present and in the recent past, the price of debt in the U.S. has been so low that greater firm profitability (as opposed to income stability) arguably has had little effect on the price of debt.

Tax rates matter most to businesses funded directly by individuals, typically small businesses, but also venture-backed start-ups, initial public offerings, and private equity firms. For start-ups, corporate taxes tend not to be important constraints because they typically do not make money until they are larger.

The final and most important mechanism through which corporate taxes affect employment is through overall consumption levels in the economy, what is sometimes referred to as aggregate demand. To the extent that lower corporate tax rates translate into greater payouts to shareholders and owners, a proportion of the payouts are spent by investors, raising

¹ In 2014, for example, the US corporate sector acquired approximately no net new assets from equities but \$26.5 billion from debt. See Table F131 Funding Corporations, in Financial Accounts of the United States, 3rd Quarter 2015. Federal Reserve Statistical Release. Washington, D.C.: Board of Governors of the Federal Reserve System.

the level of demand in the economy. Greater demand, in turn, creates opportunities for business. New businesses start up, existing ones expand, and that adds jobs to the economy.

The caveat to this story is that these payouts to individuals count as income, which is taxed through personal income taxes at the Federal, state, and local level. To illustrate, assume corporate income and personal income tax rates were identical at 35 percent, and a business produced \$1 million in 2015. The business would pay \$350,000 in corporate tax, distributing \$650,000 to the owner, who would then pay \$227,500 personal tax on that amount, leaving the owner with \$422,500 to spend. Eliminating the corporate income tax would mean that the owner of a business now received the full \$1million and pays \$350,000 in personal income tax, leaving \$650,000 to spend. The additional \$227,500 the owner has to spend is less than the \$350,000 reduction in corporate taxes but still a sizeable increase.

What matters in practice about business taxes is the actual amount of tax that business have to pay, and that is calculated net of exemptions, deductions, and other exclusions from the taxes. This is sometimes known as the “effective” tax rate. Cutting the tax rate while also reducing exemptions and so forth may make for sensible and sound policy. It makes taxes simpler and more predictable for businesses. The effective rate might not be reduced by nearly as much, however, when exemptions and deductions are eliminated.

Evidence on Corporate Tax Rates and Job Growth

Most of the studies examining the relationship between corporate income taxes and the relationship with employment have been conducted at the state level. The reason for this is convenience: There are fifty states, they vary in their tax rates, and the fact that some of them change tax rates creates more opportunities to examine the effects of changes. We might well expect the effects associated with state corporate income tax rates to be greater than effects associated with national tax rates because of the ability to move businesses and jobs across states. A company that moves operations from one state to the other can cause a very swift change in job levels across those two states. At the level of the economy, however, changes in employment occur more slowly either through the changes in rates of growth (or shrinkage) within existing companies or through the creation (or failure) of new businesses.

One conclusion from prior studies is that the relationships have been highly sensitive to that situation in the overall economy when the studies were conducted, and the relationships – especially with changes in taxes – depended a great deal on which state was making the changes. In short, it was difficult to draw firm conclusions about corporate tax rates.² Evidence that companies actually shifted locations based on state corporate income taxes was also in short supply. (However, personal income tax rates did matter to location decisions.³)

² R.J. Pesky. 2006. “What Do We Know about Taxes and State Economic Development? A Replication and Extension of Five Key Studies.” *The Journal of Economics*, 32(1): 25–40.

³ Mark P. Gus and Phillip Frees. 2002. The impact of state personal and corporate tax rates on firm location *Applied Economics Letters*. 47-49.

A more recent study found that the level of tax rates across states was negatively associated with job growth: Corporate income taxes that were one percent higher led to job growth that was roughly 0.05 percent lower. Cuts in the corporate tax rate did not consistently affect job growth.⁴

What about changes in the Federal corporate income tax rate? Unfortunately, there are no studies about that. The studies above and our earlier discussion suggest that the effect of a change in the corporate tax rate plays out through a change in income to investors, a factor we consider below.

Corporate “Inversions”

The exception to that conclusion that corporate income taxes affect jobs through the effects on personal income might be the notion that cuts in corporate income taxes will draw back to the U.S. more companies that had been based here and prevent others from leaving. Corporations have the ability to change the legal definition of their headquarters, in some cases through mergers and acquisitions, to another country, typically one with lower tax rates, a process known as “inversion.” What is important about this development is that the common explanation for these inversions is to avoid U.S. corporate income taxes.

The tax issue involved is the treatment of corporate income earned outside the U.S. Corporations are treated as “domestic” if they are incorporated under U.S. Federal or State laws. In that context, income they earn anywhere in the world is subject to U.S. taxes once that income is brought back to the U.S., with tax credits given for taxes paid abroad. The income does not have to be brought back to the U.S. It could be reinvested or remain on the books for use at a later time. Corporations incorporated elsewhere are treated as “foreign.” Only income they earn in the U.S. is taxed by the U.S.

The important concern for U.S. based companies, therefore, once again comes back to the effects on individual owners, in this case shareholders. They cannot repatriate their foreign earnings and distribute them to shareholders, or invest them domestically, without paying corporate income taxes on them. That affects the desirability of owning their shares and impacts the ability of that capital to be invested in job-creation.

The American Jobs Creation Act of 2004 allowed U.S. corporations to relocate abroad without exit taxes. It also made it more difficult to execute inversions.⁵ The U.S. Congressional

⁴ Xiaoping Shuaib and Christine Chmura. 2013. The Effect of State Corporate Income Tax Rate Cuts on Job Creation. *Business Economics*. 48:183–193.

⁵ Congress of the United States Joint Committee on Taxation Memorandum May 23 2014. “Revenue Estimate Request.” The memorandum also estimates the tax savings associated with certain tightening of the definition of foreign companies.

<http://democrats.waysandmeans.house.gov/sites/democrats.waysandmeans.house.gov/files/113-0927%20JCT%20Revenue%20Estimate.pdf>

Research Service noted the increase in inversions after the 2004 Act. Forty-seven U.S. corporations have made that move in the years between 2004 and 2014.⁶ The *Wall Street Journal* reports that the spike in inversions, which occurred after 2011, was the result of a new legal strategy created by the firm Skadden, Arps, Slate, Meagher & Flam rather than any change in tax differences across countries. It was reported that explosion of inversions in 2014, was related to the belief that new regulations will close the ability to pursue that strategy.⁷ New restrictions began September 2014.

There may be many reasons for corporate inversions besides differences in corporate income taxes, such as where U.S.-based companies see their business operations shift to overseas companies, as well as enticements from those foreign governments to relocate their headquarters. Corporate tax returns are private, and the taxes that companies pay to different governments can only be learned about from the information that any given company discusses in public. That makes it extremely difficult to know how much economic impact these corporate inversions have on the U.S. economy. (The figure of \$20 billion total tax savings from 2015-2024 that appears in some media reports appears to come from the Joint Committee on Taxation Memorandum (footnote 5), which is actually an estimate of the savings from a specific proposal to tighten the rules concerning inversions.)

A range of regulations affect the ability to execute corporate inversions and more generally even for domestic U.S. multinational companies to allocate income across their different operations. Although efforts to get around regulations are continuous, and regulations need to be adjusted continuously in response to new circumstances, there is little doubt that regulations can limit and even eliminate inversions if they are drawn tight enough. While underlying differences in tax rates and associated tax treatments across countries clearly drive the interest in inversions, it is important to recognize that this is a tax question rather than a standard economic question. Changes in policies not just in the U.S., but also in a host of competitor countries affect the use of the inversion strategy, as does the interpretation of those policies and in the internal practices that businesses develop to reduce those taxes.

Tax rates are only one factor shaping overall taxes, of course. What is treated as "income," what kinds of credit subsidies are available across countries, and so forth can be just as important. Cutting U.S. corporate tax rates to the level of each country where U.S. companies could relocate would clearly have a powerful effect on reducing inversions. But those other countries might well retaliate by lowering their rates further. They might also alter their tax codes in other ways to tailor benefits to particular companies, as some currently do, in offering credits and subsidies for relocation.

Similar competition occurs across states within the U.S. Here the research above showing that tax cuts at the state level were not associated with changes in corporate

⁶ New CRS Data: 47 Corporate Inversion in Last Decade. Ways and Means Committee Democrats. July 7 2014. <http://democrats.waysandmeans.house.gov/press-release/new-crs-data-47-corporate-inversions-last-decade-2>

⁷ Shanda Raise. 2014. How Tax Inversions Became the Hottest Trend in M&A. *Wall Street Journal*, August 5th.

headquarters is instructive. The conclusion is obviously not that tax rates and tax cuts are irrelevant to location decisions. It is that relocation decisions are not that sensitive to tax changes because a great many other factors shape them. We return to this question below.

The Effect of Corporate Rate Reductions on Job Growth

There is some evidence about the effect of changes in Federal income tax rates on job growth in the economy. Cuts in corporate taxes do affect personal income tax payments, and those in turn affect economic growth.

The important factor in estimating the relationships between changes in personal income tax rates and changes in the economy is that tax rates are not changed in isolation: Cuts usually happen when the economy is having difficulty, so disentangling those circumstantial effects from the tax is difficult. Another important concern is whether tax cuts are offset by spending cuts. If so, the cuts do not have a stimulating effect. Because not all the gains from tax cuts are spent while all of government spending by definition is, the net effect of tax cuts offset by spending cuts is to reduce demand in the economy.

A recent study attempted to examine the effects of income tax changes controlling for these other changes. The caveat for applying its conclusions, though, is again the point about circumstances and generalizability: the context in which a change in taxes is introduced may be as important as the change in the tax itself. In this case, the results suggest that a tax cut equivalent to one percent of U.S. gross national product (GNP) would lead over a 2.5-year period to an increase in GNP of about three percent above the prior level. After that, the increase in GNP growth would regress toward a more natural level.⁸ At an annual rate, that would be the equivalent of about one percent per year.

The explanation for the effect is a classic fiscal stimulus story. We can use that conclusion to estimate what the effect of a change in corporate income taxes would be on GNP and then, in turn, on job growth. For simplicity and for illustration purposes, we begin by assuming that the corporate income tax in the U.S. was eliminated and not offset by spending cuts. The relevant data comes from National Income Accounts.⁹

The corporate income tax in 2013 raised \$440.2 billion. If it was eliminated and was transferred to individuals, \$57.1 billion would go to additional personal income taxes under the conservative estimate first that companies would not reinvest any of it and second that the tax rate on that new income would be the same as the average personal income taxes paid on all

⁸ Christina D. Roomer and David H. Roomer. 2010. The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks. *American Economic Review* 100: 763–801

⁹ Stephanie H. McCullum, Alyssa E. Holden, and Shelly Smith. 2014. The 2014 Annual Revision of the National Income and Product Accounts. Washington, D.C.: Bureau of Economic Analysis Annual NIPA Revision. http://www.bea.gov/scb/pdf/2014/08%20August/0814_2014_annual_nipa_revision.pdf

income in the U.S., which was 13 percent. The remaining \$383.1 billion in net income is the equivalent of 2.3 percent of GNP in 2013.

To be clear, a cut of this magnitude would be extremely large, almost half as big as the 2009 economic stimulus package, which played out over 10 years. Applying the rule of thumb above, a tax cut of that size would lead to an increase of GNP of about 2.3 percent each year, close to doubling the typical growth rate, at least for that 2.5-year period. Again, such a conclusion assumes that there are no other changes in fiscal policy, no offsetting cuts in spending elsewhere and no increases in taxes elsewhere to offset these cuts.

What would an increase in GNP of that magnitude mean for job growth? Osun's Law approximates the historical relationship between GNP growth and unemployment rates. The law suggests that a one percent increase in GNP above a normal growth path leads to a roughly 0.5 percent reduction in the unemployment rate. Recent research has supported that rough rule of thumb, noting that in situations like the present where discouraged workers are numerous it may overstate the true relationship by a noticeable amount.¹⁰ In this context, it would suggest a reduction in the unemployment rate of a little over one percent at least for each of the first two years. One could quibble as to the exact effect of such a change, how many new workers would be brought into the labor force and so forth, but it would surely produce one of the tightest labor markets in history. It would also likely produce considerable upward pressure on wages that would contribute to inflation.

What about a more realistic reduction in corporate tax rates? The American Business Competitiveness Act introduced by Congressman Nuns is a good starting point. It proposes a reduction in the corporate tax rate to 25 percent, eliminating in the process the graduated aspects of the tax, most of the business tax credits currently in effect, and other tactics that reduced taxable income in the past.

The first question to ask is how much of a reduction in actual taxes would this proposal represent. The evidence on the effective tax rate on U.S. corporations at present is somewhat surprising. Although one typically hears that the corporate income tax rate is 35 percent, the U.S. actually has a graduated corporate income tax that rises from a low of 15 percent to a maximum of 35 percent. As noted above, deductions and special exemptions reduce actual taxes paid as a percentage of income. It is predictable, therefore, that the effective tax rate, what corporations actually pay as a percentage of some standard estimate of income, will be below 35 percent. Exactly how far below 35 percent that figure will be depends on judgment calls about what counts as the true measure of income.

A recent study by the Government Accountability Office describes in detail the effective tax rate based on different assumptions about how income should be defined in using data from 2010. The estimates of corporate income it uses vary, but its estimate of "taxable income"

¹⁰ Mary C. Daly, John Fernald, Oscar Jordi, and Fernanda Nacho. 2014. Interpreting Deviations from Osun's Law. Federal Reserve Bank of San Francisco Economic Letter, April 21st.

includes some current deductions and tax credits. The GAO estimates that the effective tax rate measured as a percentage of taxable income was roughly 21 percent for firms paying tax. The figures are much lower for alternative measures as income; they are also somewhat lower for all firms filing taxes. ("All firms" include those with losses, and while they pay no tax, their negative income lowers the denominator for calculating the effective tax rate across all companies.)¹¹

An earlier GAO report found that the ability to structure income and deductions in ways that reduce the effective tax vary across firms. For example, a majority of the largest U.S.-controlled companies, which other things equal are more profitable than their smaller counterparts, paid no corporate income tax for one or more years in the period 1998-2005.¹² (The effective tax rates for personal income have even more caveats than do their counterparts for corporate income,¹³ so it is not clear which of the two is actually higher.)

A tax rate of 25 percent without any deductions or credits would almost surely be higher than the GAO's estimate of the current effective tax rate. In other words, there would be no net tax savings to businesses and no possibility of significant employment effects associated with that change.

This conclusion also speaks to the corporate inversion issue noted above. A cut in tax rates to 25 percent and one that eliminates credits and special deductions might make inversions less attractive to some companies, depending on the credits and deductions they currently use, and more attractive to others. It surely would not reduce substantially the interest in inversions given that it is likely to be above effective tax rates that U.S. companies now pay on their foreign income.

Suppose instead we approach the question about the impact of a corporate tax cut on job growth differently, through the process of backward induction, to estimate how big a tax cut would need to be to have a substantial effect on employment levels. Consider, for example, a tax cut that would bring the labor market to a level roughly equivalent to that in the year 2000 – roughly four percent unemployment. Although there was no persuasive evidence that wage-driven inflation had reached the point of accelerating at that time, given a standard definition of full employment, the conclusion was that most able individuals who wanted a job of some kind could find one then. (How many of the individuals without jobs who are eligible for the Work Opportunities Tax Credit would actually be able to find jobs is a question we pursue below, but surely many would.)

¹¹ Government Accounting Office. Corporate Income Tax: Effective Tax Rates Can Differ Significantly from the Statutory Rate. 2013. Washington, D.C.

¹² See Government Accounting Office. 2008. Tax Administration: Comparison of the Reported Tax Liabilities of Foreign and US-Controlled Corporations, 1998-2005. Washington, D.C.

¹³ See, e.g., Congressional Budget Office. 2004. Effective Federal Tax Rates Under Current Law, 2001-2004. Washington, D.C. The Congress of the United States.

Changes in the tax code that cut corporate income tax revenue roughly in half would achieve that goal. That would mean either cutting the current tax schedule in half or eliminating the deductions and credit as in the Nuns proposal and bringing the tax rate down to roughly 12.5 percent. Following the argument above, such a reduction would reduce the unemployment rate by roughly half of one percent for each of the first two years following the cut. That would bring the unemployment rate down to about four percent.

Will Tighter Job Markets Lead to Jobs for WOTC-Eligible Individuals?

The final question is to what extent individuals who are eligible for WOTC would be able to find jobs when the labor market tightens even if the WOTC subsidy disappears. There is no doubt that tighter labor markets help them find jobs. The question is how much do they help.

The prelude to this discussion begins with a reminder as to whom the WOTC program covers. The definition is complex and has changed over time, but the common theme across the different subgroups is that they have attributes that are associated with difficulty in finding jobs. Causes of this difficulty include lack of experience, discrimination, special needs and disabilities, and logistical challenges, such as finding childcare or reliable transportation. The purpose of WOTC is to provide a tax credit to subsidize employers to overcome their resistance to hire eligible job seekers.

WOTC participants by definition are seeking jobs: There is no subsidy unless a job is secured. Some of them are “unemployed,” which is defined as being without a job but actively seeking work. Some are “out of the workforce,” defined as without a job and not actively seeking work. The proportion of the out of the workforce group that would like a job but have given up looking because they do not believe they can find one is typically referred to as “discouraged workers.” Others who might describe themselves as “retired” or “in school” but who would take jobs in they could find one are described as “marginally attached” to the labor force.

The first point to note is that most of the jobs employers want to fill today require experience. Thinking of vacancies in companies as entry-level roles where employers provide new hires with the skills they need today is a mistake as those are exceptions. In part because of that, when employers seek job candidates, their first preference is to look to individuals who are currently employed elsewhere. Those individuals may not necessarily be actively looking for jobs, nor do they necessarily need to apply for jobs. In fact, the majority of people hired into jobs recently have not been looking for jobs.¹⁴ The fact that individuals with attributes associated with eligibility for WOTC are not employed puts them at the back of the queue to get any new jobs created.

¹⁴ Carlos Carrillo-Tupelo, Bart Hoban, Patryk Perkowski, and Ludo Visschers. 2015. Majority of Hires Never Report Looking for a Job. Federal Reserve Bank of San Francisco Economic Letters March 30th 2015.

As noted earlier in a previous report on WOTC, the labor market could tighten, net new jobs created and filled, without any new individuals getting jobs when hiring takes place from the pool of currently employed individuals. In that case, “frictional” unemployment rises, by which we mean the number of vacancies rises as a new hire who leaves their current job creates a vacancy at their old job and, as a result, more jobs remain open longer while we wait for individuals to move from one company to another.

Other attributes would place WOTC-eligible individuals at the bottom of the pool of candidates even among those who are not employed. The reason is illustrated by a seminal study that compared individuals who had been laid off as a result of a plant closure to those who had been laid off for other reasons. The latter had a more difficult time getting hired.¹⁵ Both groups were “laid-off” in the legal sense that they were not fired/dismissed for cause – i.e., not their fault – and both were eligible for UI. But employers more easily believe that individuals who were laid-off for other reasons were actually poor performers.

Other studies found, for example, that at least for young workers, those who had been unemployed for long periods of time seemed to have been effectively stigmatized by that experience in ways that hurt their ability to find a job later on.¹⁶ Most relevant here, another study found that the ability of the short-term unemployed to get a job depends much more on the business cycle than it does for the long-term unemployed. In other words, unlike other unemployed individuals, it doesn’t help those who have been out of work for a long time all that much when the economy picks up.¹⁷

A number of field experiments, known as “audit” studies, investigated the problems facing those who have been out of work for a while. These include showing, for example, that at eight months of unemployment, callbacks of applicants for a job interview were about 45 percent lower than for identical candidates who had been out of a job only one month.¹⁸ Another found that virtually no employers in the U.S. responded to applicants who had been unemployed for more than 10 months and that applicants without jobs and without relevant experience were actually preferred to those with experience when the latter had been without a job longer than 10 months.¹⁹ The notion that perhaps long-term unemployment was some proxy for relevant experience was rejected.

¹⁵ Gibbons, R., Katz, L.F., 1991. Layoffs and lemons. *Journal of Labor Economics* 9, 351–380.

¹⁶ Lynch, L.M., 1989. The youth labor market in the eighties: determinants of re-employment probabilities for young men and women. *Review of Economics and Statistics* 71, 37–45.

¹⁷ Alan B. Krueger, Judd Cramer, and David Cho. *Are the Long-Term Unemployed on the Margins of the Labor Market?* Brookings Papers on Economic Activity | Spring 2014 Conference.

¹⁸ In one study, the authors report that at eight months of unemployment, callbacks are about 45 percent lower than at one month of unemployment. See Kroft, Kory, Fabian Lange and Matthew J. Notowidigdo (2013). *Duration Dependence and Labor Market Conditions: Evidence from a Field Experiment*. *Quarterly Journal of Economics*, 128(3): 1123-1167.

¹⁹ Ghayad, Rand. 2013. “The Jobless Trap.” Working Paper (http://media.wix.com/ugd/576e9a_f6cf3b6661e44621ad26547112f66691.pdf).

One way to summarize the above arguments is simply to note that WOTC-eligible individuals, in the absence of a WOTC subsidy, are likely to get a disproportionately smaller share of new jobs created in the economy. If 10 percent of unemployed job seekers find a job in 2016, for example, the proportion of WOTC-eligible job seekers getting a job without a hiring subsidy would be far less than 10 percent. If the unemployment rate continues to fall and job candidates that do not have the stigmas associated with WOTC eligibility have increasingly been hired, then the proportion of job seekers with WOTC attributes getting employment will surely grow even without the subsidy. But the labor market will need to be extremely tight before that happens. Absent those conditions, WOTC is the best way to move individuals at the bottom of the hiring queue from public assistance to the workforce.

In my April 2013 study, "A Detailed Assessment of the Value of WOTC" I found that on average, the US Government saves close to \$18,000 net of the value of the credit in public assistance program costs (Medicaid, SNAP, HUD subsidies, and TANF) for every individual hired as a result of WOTC. Subsequent studies have shown that state budgets also have savings in reduced costs of their programs. Individuals eligible for WOTC are among the most expensive individuals to maintain on public assistance programs, and by helping move them into gainful employment, WOTC is a very cost-effective way to reduce government spending on those programs.

A cut in the Federal corporate tax rate without a WOTC program would do little to improve the job prospects for those eligible for WOTC. Because the effective tax rate on corporations is now so much lower than the actual rate, proposals to eliminate tax credits and offsets would need to cut the tax rate dramatically - more than most current proposals - to actually lower the effective rate that the average corporation pays. Even in that situation, WOTC-eligible individuals would likely be the last hired and continue to draw on public assistance programs and the public expenditures associated with them. It makes sense, therefore, to view WOTC as one way by which budget deficits can be controlled as tax rates come down and a very necessary component of a new tax code.

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The challenge in helping individuals who are eligible for the WOTC program find jobs is that, in the absence of the tax credit or subsidy to employers for hiring them, such individuals would otherwise be at the bottom of the queue that employers implicitly use to rank candidates for jobs. This is true by definition, given that WOTC has been a program to help individuals whom evidence has shown are disadvantaged in the labor market. The goal of WOTC is not to create new jobs. It is to shift the incentives of employers to give greater priority in hiring to WOTC-eligible candidates. In other words, the goal is to move them up in the queue by making it cheaper to hire them.

In the absence of those subsidies – without moving such individuals up the hiring queue – the only way to improve the hiring prospects for WOTC eligible individuals is to get everyone in front of them in the queue hired. That will require creating a very strong labor market, one that we have rarely seen in the U.S.

There is nothing in corporate income tax cuts that moves WOTC-eligible individuals up the queue of possible job applicants, nor is there anything about such tax cuts that creates incentives to use tax savings specifically for job-creation. The mechanism through which corporate tax cuts stimulate hiring is standard fiscal stimulus. The cuts would have to be substantial, far beyond those currently proposed, (and assuming they are not offset by any spending cuts) for the economy to grow fast enough to draw down the pool of job seekers in any meaningful way. Thus, WOTC-eligible individuals would not move to the top of the hiring queue. The corporate tax cuts currently being proposed are nowhere near large enough to have that effect. Indeed, current proposals for cuts in the tax rate may not reduce the *effective* tax rate because they eliminate tax credits, deductions, and the graduated element of the current system that lowers the total tax that corporations pay.

How Do Corporate Taxes Affect Hiring?

The most basic frameworks for thinking about the effects of changes in tax rates see it through the eyes of an individual, either a businessperson or an employee. Here the idea is that individuals have a choice as to how they use their time. In the simplest model, they either work or they pursue leisure, where the assumption is that work is no fun but it gets us money; leisure is fun but it costs us money.

With this framework, tax increases reduce the rewards from work, making it a less attractive use of our time. Tax cuts increase our take home rewards from work, making it more attractive. This relationship is known as the "substitution effect," where you substitute one activity for the other based on the relative returns and costs of each.

The caveat to the conclusion above is that it takes money to enjoy leisure. If our net income goes up a lot because of tax cuts, we might decide to spend more of it on leisure, such as taking longer vacations. This relationship is known as the "income effect." Similarly, if our net income drops very low, we cannot shift completely away from work, given various obligations we have, including an interest in having money to spend on leisure. We might feel some pressure to work harder or longer with an income cut.

When the topic shifts to corporate tax rates, however, the analogy with individuals does not apply. Businesses do not have the alternative of leisure. If business tax rates go up, the owners of the businesses have nothing to gain by holding back production in their businesses.

There are costs to businesses of raising business taxes, of course. They create another operating expense which affects how the businesses operate. With respect to employment, the cost of employees is a deductible expense from income used to calculate those taxes, as are all business expenses.

The presence of a corporate income tax arguably encourages business to reinvest or spend on the business rather than passing income to shareholders in the form of profits, specifically dividends. Income that is reinvested makes the business more valuable, raising its price or share price. From the perspective of an owner and/or shareholder thinking about their post-tax income, other things being equal they would rather have additional rents distributed to them in the form of higher share prices and greater company value than in the form of dividends because the taxes on the former (capital gains) are lower than on the latter (income).

The effects on businesses of corporate taxes come from the response of their owners to those taxes. When taxes and therefore costs rise, businesses have the option to try to pass those costs onto customers through higher prices. The more elastic the demand for their products or services, the lower the share of the cost increases businesses can pass onto consumers. To the extent that they cannot be passed onto customers, other things being equal, taxes reduce profits.

If there are tax cuts, on the other hand, the extent to which businesses keep the gains from them also depends on the elasticity of demand for their products or services. If demand is elastic, tax cuts, which function as cost cuts, are passed along to consumers in the form of lower prices; if demand is inelastic, businesses keep more of the tax cuts in the form of higher profits.

If profits turn negative, then the business fails; if they fall below the cost of capital, then investors will shift future capital to other locations where the taxes do not apply; if the cost increases are economy-wide, as with a national tax increase, investors will shift capital to opportunities in other countries. The effects of corporate taxes on jobs therefore depend on how investors react to them. Where investors shift investment away from businesses because taxes hurt profits, jobs fall; where they shift investment to business because of relatively lower taxes, jobs grow.

An important issue for the question here – how do changes in corporate income taxes affect jobs – is therefore to understand how those changes affect investors. Cuts in corporate income taxes, other things being equal, provide more profits to distribute to investors, either immediately in the form of dividends or in the form of more valuable businesses through reinvestment in those businesses. Investors are more willing to place money with businesses when taxes are lower.

The complication with that simple story is that a relatively small amount of the resources that support businesses come from individual investors either directly or indirectly through the stock market. For established businesses, capital investment is funded almost completely by loans from financial institutions and through bonds.¹ Greater profits certainly make it cheaper for firms to borrow or raise money through issuing debt and bonds, but the relationship is not linear. Predictability of income is arguably the most important factor driving the price of debt. At present and in the recent past, the price of debt in the U.S. has been so low that greater firm profitability (as opposed to income stability) arguably has had little effect on the price of debt.

Tax rates matter most to businesses funded directly by individuals, typically small businesses, but also venture-backed start-ups, initial public offerings, and private equity firms. For start-ups, corporate taxes tend not to be important constraints because they typically do not make money until they are larger.

The final and most important mechanism through which corporate taxes affect employment is through overall consumption levels in the economy, what is sometimes referred to as aggregate demand. To the extent that lower corporate tax rates translate into greater payouts to shareholders and owners, a proportion of the payouts are spent by investors, raising

¹ In 2014, for example, the US corporate sector acquired approximately no net new assets from equities but \$26.5 billion from debt. See Table F131 Funding Corporations, in Financial Accounts of the United States, 3rd Quarter 2015. Federal Reserve Statistical Release. Washington, D.C.: Board of Governors of the Federal Reserve System.

the level of demand in the economy. Greater demand, in turn, creates opportunities for business. New businesses start up, existing ones expand, and that adds jobs to the economy.

The caveat to this story is that these payouts to individuals count as income, which is taxed through personal income taxes at the Federal, state, and local level. To illustrate, assume corporate income and personal income tax rates were identical at 35 percent, and a business produced \$1 million in 2015. The business would pay \$350,000 in corporate tax, distributing \$650,000 to the owner, who would then pay \$227,500 personal tax on that amount, leaving the owner with \$422,500 to spend. Eliminating the corporate income tax would mean that the owner of a business now received the full \$1 million and pays \$350,000 in personal income tax, leaving \$650,000 to spend. The additional \$227,500 the owner has to spend is less than the \$350,000 reduction in corporate taxes but still a sizeable increase.

What matters in practice about business taxes is the actual amount of tax that business have to pay, and that is calculated net of exemptions, deductions, and other exclusions from the taxes. This is sometimes known as the “effective” tax rate. Cutting the tax rate while also reducing exemptions and so forth may make for sensible and sound policy. It makes taxes simpler and more predictable for businesses. The effective rate might not be reduced by nearly as much, however, when exemptions and deductions are eliminated.

Evidence on Corporate Tax Rates and Job Growth

Most of the studies examining the relationship between corporate income taxes and the relationship with employment have been conducted at the state level. The reason for this is convenience: There are fifty states, they vary in their tax rates, and the fact that some of them change tax rates creates more opportunities to examine the effects of changes. We might well expect the effects associated with state corporate income tax rates to be greater than effects associated with national tax rates because of the ability to move businesses and jobs across states. A company that moves operations from one state to the other can cause a very swift change in job levels across those two states. At the level of the economy, however, changes in employment occur more slowly either through the changes in rates of growth (or shrinkage) within existing companies or through the creation (or failure) of new businesses.

One conclusion from prior studies is that the relationships have been highly sensitive to that situation in the overall economy when the studies were conducted, and the relationships – especially with changes in taxes – depended a great deal on which state was making the changes. In short, it was difficult to draw firm conclusions about corporate tax rates.² Evidence that companies actually shifted locations based on state corporate income taxes was also in short supply. (However, personal income tax rates did matter to location decisions.³)

² R.J. Pesky. 2006. “What Do We Know about Taxes and State Economic Development? A Replication and Extension of Five Key Studies.” *The Journal of Economics*, 32(1): 25–40.

³ Mark P. Gus and Phillip Frees. 2002. The impact of state personal and corporate tax rates on firm location *Applied Economics Letters*. 47-49.

A more recent study found that the level of tax rates across states was negatively associated with job growth: Corporate income taxes that were one percent higher led to job growth that was roughly 0.05 percent lower. Cuts in the corporate tax rate did not consistently affect job growth.⁴

What about changes in the Federal corporate income tax rate? Unfortunately, there are no studies about that. The studies above and our earlier discussion suggest that the effect of a change in the corporate tax rate plays out through a change in income to investors, a factor we consider below.

Corporate "Inversions"

The exception to that conclusion that corporate income taxes affect jobs through the effects on personal income might be the notion that cuts in corporate income taxes will draw back to the U.S. more companies that had been based here and prevent others from leaving. Corporations have the ability to change the legal definition of their headquarters, in some cases through mergers and acquisitions, to another country, typically one with lower tax rates, a process known as "inversion." What is important about this development is that the common explanation for these inversions is to avoid U.S. corporate income taxes.

The tax issue involved is the treatment of corporate income earned outside the U.S. Corporations are treated as "domestic" if they are incorporated under U.S. Federal or State laws. In that context, income they earn anywhere in the world is subject to U.S. taxes once that income is brought back to the U.S., with tax credits given for taxes paid abroad. The income does not have to be brought back to the U.S. It could be reinvested or remain on the books for use at a later time. Corporations incorporated elsewhere are treated as "foreign." Only income they earn in the U.S. is taxed by the U.S.

The important concern for U.S. based companies, therefore, once again comes back to the effects on individual owners, in this case shareholders. They cannot repatriate their foreign earnings and distribute them to shareholders, or invest them domestically, without paying corporate income taxes on them. That affects the desirability of owning their shares and impacts the ability of that capital to be invested in job-creation.

The American Jobs Creation Act of 2004 allowed U.S. corporations to relocate abroad without exit taxes. It also made it more difficult to execute inversions.⁵ The U.S. Congressional

⁴ Xiaoping Shuaib and Christine Chmura. 2013. The Effect of State Corporate Income Tax Rate Cuts on Job Creation. *Business Economics*, 48:183–193.

⁵ Congress of the United States Joint Committee on Taxation Memorandum May 23 2014. "Revenue Estimate Request." The memorandum also estimates the tax savings associated with certain tightening of the definition of foreign companies.

<http://democrats.waysandmeans.house.gov/sites/democrats.waysandmeans.house.gov/files/113-0927%20JCT%20Revenue%20Estimate.pdf>

Research Service noted the increase in inversions after the 2004 Act. Forty-seven U.S. corporations have made that move in the years between 2004 and 2014.⁶ The *Wall Street Journal* reports that the spike in inversions, which occurred after 2011, was the result of a new legal strategy created by the firm Skadden, Arps, Slate, Meagher & Flam rather than any change in tax differences across countries. It was reported that explosion of inversions in 2014, was related to the belief that new regulations will close the ability to pursue that strategy.⁷ New restrictions began September 2014.

There may be many reasons for corporate inversions besides differences in corporate income taxes, such as where U.S.-based companies see their business operations shift to overseas companies, as well as enticements from those foreign governments to relocate their headquarters. Corporate tax returns are private, and the taxes that companies pay to different governments can only be learned about from the information that any given company discusses in public. That makes it extremely difficult to know how much economic impact these corporate inversions have on the U.S. economy. (The figure of \$20 billion total tax savings from 2015-2024 that appears in some media reports appears to come from the Joint Committee on Taxation Memorandum (footnote 5), which is actually an estimate of the savings from a specific proposal to tighten the rules concerning inversions.)

A range of regulations affect the ability to execute corporate inversions and more generally even for domestic U.S. multinational companies to allocate income across their different operations. Although efforts to get around regulations are continuous, and regulations need to be adjusted continuously in response to new circumstances, there is little doubt that regulations can limit and even eliminate inversions if they are drawn tight enough. While underlying differences in tax rates and associated tax treatments across countries clearly drive the interest in inversions, it is important to recognize that this is a tax question rather than a standard economic question. Changes in policies not just in the U.S., but also in a host of competitor countries affect the use of the inversion strategy, as does the interpretation of those policies and in the internal practices that businesses develop to reduce those taxes.

Tax rates are only one factor shaping overall taxes, of course. What is treated as "income," what kinds of credit subsidies are available across countries, and so forth can be just as important. Cutting U.S. corporate tax rates to the level of each country where U.S. companies could relocate would clearly have a powerful effect on reducing inversions. But those other countries might well retaliate by lowering their rates further. They might also alter their tax codes in other ways to tailor benefits to particular companies, as some currently do, in offering credits and subsidies for relocation.

Similar competition occurs across states within the U.S. Here the research above showing that tax cuts at the state level were not associated with changes in corporate

⁶ New CRS Data: 47 Corporate Inversion in Last Decade. Ways and Means Committee Democrats. July 7 2014, <http://democrats.waysandmeans.house.gov/press-release/new-crs-data-47-corporate-inversions-last-decade-2>

⁷ Shanda Raise. 2014. How Tax Inversions Became the Hottest Trend in M&A. *Wall Street Journal*, August 5th.

headquarters is instructive. The conclusion is obviously not that tax rates and tax cuts are irrelevant to location decisions. It is that relocation decisions are not that sensitive to tax changes because a great many other factors shape them. We return to this question below.

The Effect of Corporate Rate Reductions on Job Growth

There is some evidence about the effect of changes in Federal income tax rates on job growth in the economy. Cuts in corporate taxes do affect personal income tax payments, and those in turn affect economic growth.

The important factor in estimating the relationships between changes in personal income tax rates and changes in the economy is that tax rates are not changed in isolation: Cuts usually happen when the economy is having difficulty, so disentangling those circumstantial effects from the tax is difficult. Another important concern is whether tax cuts are offset by spending cuts. If so, the cuts do not have a stimulating effect. Because not all the gains from tax cuts are spent while all of government spending by definition is, the net effect of tax cuts offset by spending cuts is to reduce demand in the economy.

A recent study attempted to examine the effects of income tax changes controlling for these other changes. The caveat for applying its conclusions, though, is again the point about circumstances and generalizability: the context in which a change in taxes is introduced may be as important as the change in the tax itself. In this case, the results suggest that a tax cut equivalent to one percent of U.S. gross national product (GNP) would lead over a 2.5-year period to an increase in GNP of about three percent above the prior level. After that, the increase in GNP growth would regress toward a more natural level.⁸ At an annual rate, that would be the equivalent of about one percent per year.

The explanation for the effect is a classic fiscal stimulus story. We can use that conclusion to estimate what the effect of a change in corporate income taxes would be on GNP and then, in turn, on job growth. For simplicity and for illustration purposes, we begin by assuming that the corporate income tax in the U.S. was eliminated and not offset by spending cuts. The relevant data comes from National Income Accounts.⁹

The corporate income tax in 2013 raised \$440.2 billion. If it was eliminated and was transferred to individuals, \$57.1 billion would go to additional personal income taxes under the conservative estimate first that companies would not reinvest any of it and second that the tax rate on that new income would be the same as the average personal income taxes paid on all

⁸ Christina D. Romer and David H. Romer. 2010. The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks. *American Economic Review* 100: 763–801

⁹ Stephanie H. McCullum, Alyssa E. Holden, and Shelly Smith. 2014. The 2014 Annual Revision of the National Income and Product Accounts. Washington, D.C.: Bureau of Economic Analysis Annual NIPA Revision. http://www.bea.gov/scb/pdf/2014/08%20August/0814_2014_annual_nipa_revision.pdf

income in the U.S., which was 13 percent. The remaining \$383.1 billion in net income is the equivalent of 2.3 percent of GNP in 2013.

To be clear, a cut of this magnitude would be extremely large, almost half as big as the 2009 economic stimulus package, which played out over 10 years. Applying the rule of thumb above, a tax cut of that size would lead to an increase of GNP of about 2.3 percent each year, close to doubling the typical growth rate, at least for that 2.5-year period. Again, such a conclusion assumes that there are no other changes in fiscal policy, no offsetting cuts in spending elsewhere and no increases in taxes elsewhere to offset these cuts.

What would an increase in GNP of that magnitude mean for job growth? Osun's Law approximates the historical relationship between GNP growth and unemployment rates. The law suggests that a one percent increase in GNP above a normal growth path leads to a roughly 0.5 percent reduction in the unemployment rate. Recent research has supported that rough rule of thumb, noting that in situations like the present where discouraged workers are numerous it may overstate the true relationship by a noticeable amount.¹⁰ In this context, it would suggest a reduction in the unemployment rate of a little over one percent at least for each of the first two years. One could quibble as to the exact effect of such a change, how many new workers would be brought into the labor force and so forth, but it would surely produce one of the tightest labor markets in history. It would also likely produce considerable upward pressure on wages that would contribute to inflation.

What about a more realistic reduction in corporate tax rates? The American Business Competitiveness Act introduced by Congressman Nuns is a good starting point. It proposes a reduction in the corporate tax rate to 25 percent, eliminating in the process the graduated aspects of the tax, most of the business tax credits currently in effect, and other tactics that reduced taxable income in the past.

The first question to ask is how much of a reduction in actual taxes would this proposal represent. The evidence on the effective tax rate on U.S. corporations at present is somewhat surprising. Although one typically hears that the corporate income tax rate is 35 percent, the U.S. actually has a graduated corporate income tax that rises from a low of 15 percent to a maximum of 35 percent. As noted above, deductions and special exemptions reduce actual taxes paid as a percentage of income. It is predictable, therefore, that the effective tax rate, what corporations actually pay as a percentage of some standard estimate of income, will be below 35 percent. Exactly how far below 35 percent that figure will be depends on judgment calls about what counts as the true measure of income.

A recent study by the Government Accountability Office describes in detail the effective tax rate based on different assumptions about how income should be defined in using data from 2010. The estimates of corporate income it uses vary, but its estimate of "taxable income"

¹⁰ Mary C. Daly, John Fernald, Oscar Jordi, and Fernanda Nacho. 2014. Interpreting Deviations from Osun's Law. Federal Reserve Bank of San Francisco Economic Letter, April 21st.

includes some current deductions and tax credits. The GAO estimates that the effective tax rate measured as a percentage of taxable income was roughly 21 percent for firms paying tax. The figures are much lower for alternative measures as income; they are also somewhat lower for all firms filing taxes. ("All firms" include those with losses, and while they pay no tax, their negative income lowers the denominator for calculating the effective tax rate across all companies.)¹¹

An earlier GAO report found that the ability to structure income and deductions in ways that reduce the effective tax vary across firms. For example, a majority of the largest U.S.-controlled companies, which other things equal are more profitable than their smaller counterparts, paid no corporate income tax for one or more years in the period 1998-2005.¹² (The effective tax rates for personal income have even more caveats than do their counterparts for corporate income,¹³ so it is not clear which of the two is actually higher.)

A tax rate of 25 percent without any deductions or credits would almost surely be higher than the GAO's estimate of the current effective tax rate. In other words, there would be no net tax savings to businesses and no possibility of significant employment effects associated with that change.

This conclusion also speaks to the corporate inversion issue noted above. A cut in tax rates to 25 percent and one that eliminates credits and special deductions might make inversions less attractive to some companies, depending on the credits and deductions they currently use, and more attractive to others. It surely would not reduce substantially the interest in inversions given that it is likely to be above effective tax rates that U.S. companies now pay on their foreign income.

Suppose instead we approach the question about the impact of a corporate tax cut on job growth differently, through the process of backward induction, to estimate how big a tax cut would need to be to have a substantial effect on employment levels. Consider, for example, a tax cut that would bring the labor market to a level roughly equivalent to that in the year 2000 – roughly four percent unemployment. Although there was no persuasive evidence that wage-driven inflation had reached the point of accelerating at that time, given a standard definition of full employment, the conclusion was that most able individuals who wanted a job of some kind could find one then. (How many of the individuals without jobs who are eligible for the Work Opportunities Tax Credit would actually be able to find jobs is a question we pursue below, but surely many would.)

¹¹ Government Accounting Office. Corporate Income Tax: Effective Tax Rates Can Differ Significantly from the Statutory Rate. 2013. Washington, D.C.

¹² See Government Accounting Office. 2008. Tax Administration: Comparison of the Reported Tax Liabilities of Foreign and US-Controlled Corporations, 1998-2005. Washington, D.C.

¹³ See, e.g., Congressional Budget Office. 2004. Effective Federal Tax Rates Under Current Law, 2001-2004. Washington, D.C. The Congress of the United States.

Changes in the tax code that cut corporate income tax revenue roughly in half would achieve that goal. That would mean either cutting the current tax schedule in half or eliminating the deductions and credit as in the Nuns proposal and bringing the tax rate down to roughly 12.5 percent. Following the argument above, such a reduction would reduce the unemployment rate by roughly half of one percent for each of the first two years following the cut. That would bring the unemployment rate down to about four percent.

Will Tighter Job Markets Lead to Jobs for WOTC-Eligible Individuals?

The final question is to what extent individuals who are eligible for WOTC would be able to find jobs when the labor market tightens even if the WOTC subsidy disappears. There is no doubt that tighter labor markets help them find jobs. The question is how much do they help.

The prelude to this discussion begins with a reminder as to whom the WOTC program covers. The definition is complex and has changed over time, but the common theme across the different subgroups is that they have attributes that are associated with difficulty in finding jobs. Causes of this difficulty include lack of experience, discrimination, special needs and disabilities, and logistical challenges, such as finding childcare or reliable transportation. The purpose of WOTC is to provide a tax credit to subsidize employers to overcome their resistance to hire eligible job seekers.

WOTC participants by definition are seeking jobs: There is no subsidy unless a job is secured. Some of them are "unemployed," which is defined as being without a job but actively seeking work. Some are "out of the workforce," defined as without a job and not actively seeking work. The proportion of the out of the workforce group that would like a job but have given up looking because they do not believe they can find one is typically referred to as "discouraged workers." Others who might describe themselves as "retired" or "in school" but who would take jobs in they could find one are described as "marginally attached" to the labor force.

The first point to note is that most of the jobs employers want to fill today require experience. Thinking of vacancies in companies as entry-level roles where employers provide new hires with the skills they need today is a mistake as those are exceptions. In part because of that, when employers seek job candidates, their first preference is to look to individuals who are currently employed elsewhere. Those individuals may not necessarily be actively looking for jobs, nor do they necessarily need to apply for jobs. In fact, the majority of people hired into jobs recently have not been looking for jobs.¹⁴ The fact that individuals with attributes associated with eligibility for WOTC are not employed puts them at the back of the queue to get any new jobs created.

¹⁴ Carlos Carrillo-Tupelo, Bart Hoban, Patryk Perkowski, and Ludo Visschers. 2015. Majority of Hires Never Report Looking for a Job. Federal Reserve Bank of San Francisco Economic Letters March 30th 2015.

As noted earlier in a previous report on WOTC, the labor market could tighten, net new jobs created and filled, without any new individuals getting jobs when hiring takes place from the pool of currently employed individuals. In that case, “frictional” unemployment rises, by which we mean the number of vacancies rises as a new hire who leaves their current job creates a vacancy at their old job and, as a result, more jobs remain open longer while we wait for individuals to move from one company to another.

Other attributes would place WOTC-eligible individuals at the bottom of the pool of candidates even among those who are not employed. The reason is illustrated by a seminal study that compared individuals who had been laid off as a result of a plant closure to those who had been laid off for other reasons. The latter had a more difficult time getting hired.¹⁵ Both groups were “laid-off” in the legal sense that they were not fired/dismissed for cause – i.e., not their fault – and both were eligible for UI. But employers more easily believe that individuals who were laid-off for other reasons were actually poor performers.

Other studies found, for example, that at least for young workers, those who had been unemployed for long periods of time seemed to have been effectively stigmatized by that experience in ways that hurt their ability to find a job later on.¹⁶ Most relevant here, another study found that the ability of the short-term unemployed to get a job depends much more on the business cycle than it does for the long-term unemployed. In other words, unlike other unemployed individuals, it doesn’t help those who have been out of work for a long time all that much when the economy picks up.¹⁷

A number of field experiments, known as “audit” studies, investigated the problems facing those who have been out of work for a while. These include showing, for example, that at eight months of unemployment, callbacks of applicants for a job interview were about 45 percent lower than for identical candidates who had been out of a job only one month.¹⁸ Another found that virtually no employers in the U.S. responded to applicants who had been unemployed for more than 10 months and that applicants without jobs and without relevant experience were actually preferred to those with experience when the latter had been without a job longer than 10 months.¹⁹ The notion that perhaps long-term unemployment was some proxy for relevant experience was rejected.

¹⁵ Gibbons, R., Katz, L.F., 1991. Layoffs and lemons. *Journal of Labor Economics* 9, 351–380.

¹⁶ Lynch, L.M., 1989. The youth labor market in the eighties: determinants of re-employment probabilities for young men and women. *Review of Economics and Statistics* 71, 37–45.

¹⁷ Alan B. Krueger, Judd Cramer, and David Cho. *Are the Long-Term Unemployed on the Margins of the Labor Market?* Brookings Papers on Economic Activity | Spring 2014 Conference.

¹⁸ In one study, the authors report that at eight months of unemployment, callbacks are about 45 percent lower than at one month of unemployment. See Kroft, Kory, Fabian Lange and Matthew J. Notowidigdo (2013). *Duration Dependence and Labor Market Conditions: Evidence from a Field Experiment*. *Quarterly Journal of Economics*, 128(3): 1123-1167.

¹⁹ Ghayad, Rand. 2013. “The Jobless Trap.” Working Paper (http://media.wix.com/ugd/576e9a_f6cf3b6661e44621ad26547112f66691.pdf).

One way to summarize the above arguments is simply to note that WOTC-eligible individuals, in the absence of a WOTC subsidy, are likely to get a disproportionately smaller share of new jobs created in the economy. If 10 percent of unemployed job seekers find a job in 2016, for example, the proportion of WOTC-eligible job seekers getting a job without a hiring subsidy would be far less than 10 percent. If the unemployment rate continues to fall and job candidates that do not have the stigmas associated with WOTC eligibility have increasingly been hired, then the proportion of job seekers with WOTC attributes getting employment will surely grow even without the subsidy. But the labor market will need to be extremely tight before that happens. Absent those conditions, WOTC is the best way to move individuals at the bottom of the hiring queue from public assistance to the workforce.

In my April 2013 study, "A Detailed Assessment of the Value of WOTC" I found that on average, the US Government saves close to \$18,000 net of the value of the credit in public assistance program costs (Medicaid, SNAP, HUD subsidies, and TANF) for every individual hired as a result of WOTC. Subsequent studies have shown that state budgets also have savings in reduced costs of their programs. Individuals eligible for WOTC are among the most expensive individuals to maintain on public assistance programs, and by helping move them into gainful employment, WOTC is a very cost-effective way to reduce government spending on those programs.

A cut in the Federal corporate tax rate without a WOTC program would do little to improve the job prospects for those eligible for WOTC. Because the effective tax rate on corporations is now so much lower than the actual rate, proposals to eliminate tax credits and offsets would need to cut the tax rate dramatically - more than most current proposals - to actually lower the effective rate that the average corporation pays. Even in that situation, WOTC-eligible individuals would likely be the last hired and continue to draw on public assistance programs and the public expenditures associated with them. It makes sense, therefore, to view WOTC as one way by which budget deficits can be controlled as tax rates come down and a very necessary component of a new tax code.

March 2016