

The 1977-78 New Jobs Tax Credit was a Big Success.
Can a Tax Credit for Employment Growth in 2009 and 2010
Restore Animal Spirits and help Jump Start the Economy?

John H. Bishop, NYSSILR, Cornell University
jhb5@cornell.edu, 607-227-0329

In the last three months employment declined by 1.2 million jobs and the number of part time workers who want but cannot find full-time work increased by 1.5 million. We are in a downward spiral that John Thain of Merrill Lynch predicts will be compared with 1929-33. Economists of all stripes (eg. Martin Feldstein, Larry Summers, Nouriel Roubini, Edmund Phelps, Paul Krugman, Brad Setzer) are recommending a massive temporary fiscal stimulus of 4 percent of GDP or more. Investments in infrastructure, renewable energy, and energy efficiency are preferred because they raise future productivity. Many worry, however, that infrastructure projects alone cannot quickly generate the \$600 billion stimulus that many believe is necessary?¹ Last summer's tax rebate provided little stimulus. Other guns must be brought to the battlefield. We need a cost effective way of rekindling the animal spirits of the nation's six million employers and fourteen million self-employed entrepreneurs.

Foreseeing this, Barack Obama promised during the campaign to establish a \$3000 per new hire tax credit for businesses that expand their U.S. employment in 2009 and 2010. The scheme appears to be similar to the New Jobs Tax Credit (NJTC) that accelerated the nation's recovery from the 1975 recession. In 1977 and 1978 firms that increased employment by at least 2 percent received a tax credit of 50% of the increase in each employer's FUTA wage base (sum of wages paid up to \$4200 per employee) under the Federal Unemployment Tax Act above 102 percent of the previous year's FUTA wage base.

Jobs tax credits like the 1977-78 NJTC are much more likely to stimulate entrepreneurship and job creation than accelerated depreciation of labor saving equipment and SUVs or cuts in the top marginal tax rate. New firms always compete at a disadvantage because they lack established reputations with bankers and customers, need to recruit and train a new workforce and typically have inexperienced managers. When a NJTC is in operation, however, new firms have one compensating advantage. They have a zero threshold, so every worker they employ during their first year in business generates a tax credit that significantly lowers operating costs. The Ways and Means committee thought new firms might get too big an advantage from this feature, so they limited the NJTC credit to be no more than 25 percent of current year FUTA wages. For firms in their first year of operation, this effectively cut the tax benefit of hiring additional workers in half to \$1050.

The employer's deduction for wages was reduced by the amount of the credit. Consequently, the marginal wage and salary cost of employing additional non-supervisory workers at an existing firm (earning the mean weekly wage) was reduced by 21 percent. The proportionate subsidy was about 45 percent for additional part time workers and for full time workers paid the minimum wage.

The NJTC was not signed into law until June 1977 and the Treasury and other public agencies did little to publicize and promote it. Consequently many small employers were not aware that expanding employment would reduce their tax liability.² A National Federation of Independent Business survey found that only 43 percent of their members knew of the credit in January 1978. By July 1978, 68 percent were aware of the credit and 4.1 percent said they had increased employment (by an average of 2.3 workers) in part because of it. If these NFIB respondents are representative, multiplying these figures by 3.5 million (the total number of employers in 1977), produces an estimate for July 1978 of about 300,000 extra jobs created as a result of the NJTC (McKevitt 1978). A Bureau of the Census survey of a stratified random sample of firms achieved a much higher response rate than the NFIB survey. The Census survey's estimate of employer awareness of the NJTC and of the response to it were also larger. Perloff and Wachter (1979) used the Census data to compare the rates of employment growth in 1976 and 1977 of firms that knew about the credit and those that did not. Controlling for sales growth and other firm characteristics, they found that the employment of the firms that had already heard of the credit had grown three percent faster in the preceding year than at the firms that were unaware of it. If you multiply the 3 percent figure by employment at small firms that knew about the credit, the total number of extra jobs in February 1978 was roughly 700,000. Since NJTC passed Congress only 9 months before, this would be an impressive number. Perloff and Wachter viewed their results "as an upper bound on the short run impact of the program" because some of the firms may have learned about the credit because they were growing rapidly.

Another source of uncertainty about the size of the aggregate stimulus comes from the knock-on effects of one firm's expansion on suppliers, distributors and competitors and the effect of reduced marginal costs on pricing and sales. Many of these displacement effects are netted out when industries (not firms) are the units of observation, so interrupted time series studies of industry employment are potentially informative. Bishop and Haveman's time series analysis of employment in construction and distribution industries from 1952 through the third quarter of 1978 concluded that employment growth had accelerated during the 15 month period following the passage of the New Jobs Tax Credit legislation (Bishop 1981, Bishop and Havemen 1979). Consistent with theory, NJTC's 'impacts were larger for part-time jobs than full-time jobs.³ Hours worked per week in retailing fell in 1978. Theory predicts that a temporary marginal employment subsidy should lower marginal costs and increase price competition. Bishop (1981) found that margins between retail and wholesale prices in restaurants and other labor intensive retail sectors were declining during 1977-78.

Private employment grew by an impressive 7.4 million jobs or 11.1 percent during the two year period (December 1976 to December 1978) the NJTC was in effect (see figure 1 and 2). Only entry into World War 2 and the subsequent demobilization generated higher two-year rates of private job growth. Figure 3 shows that industries not eligible for the NJTC—government and private colleges and

Figure 1.

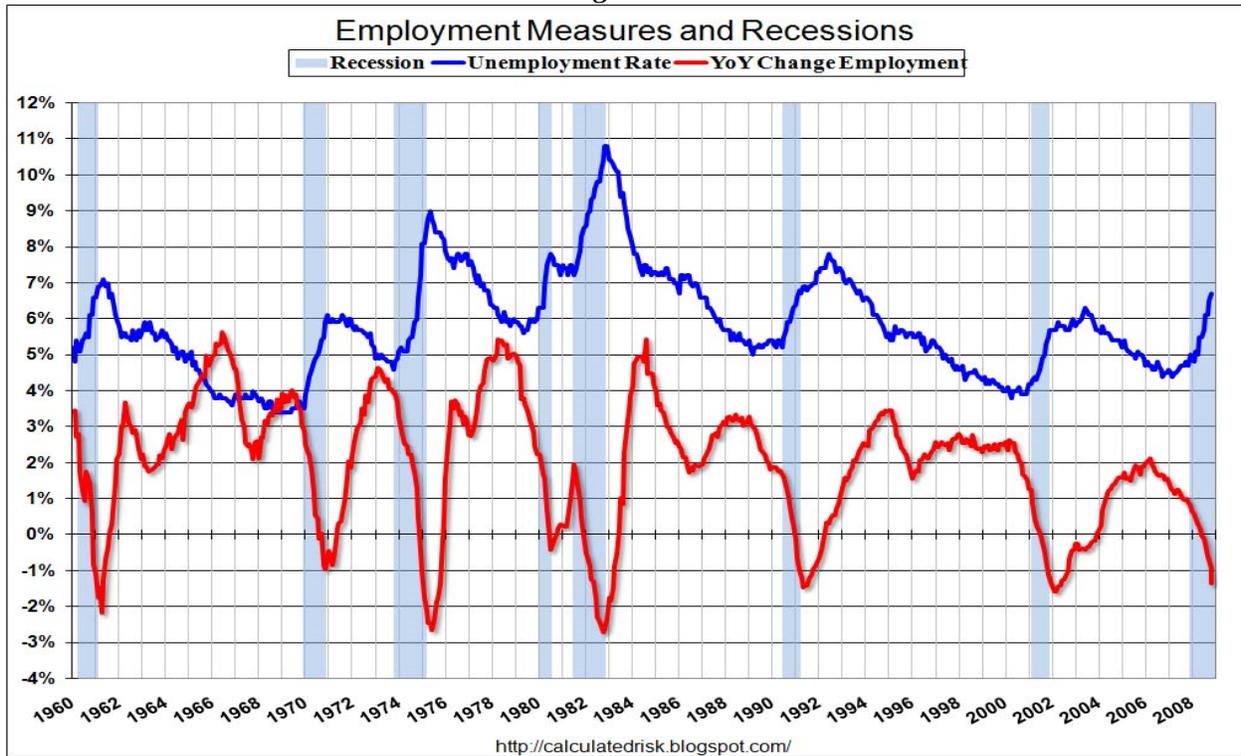


Figure 2.



Figure 3. Comparing Covered and Uncovered Industries

% Growth of Employment in previous 12 months--December to December

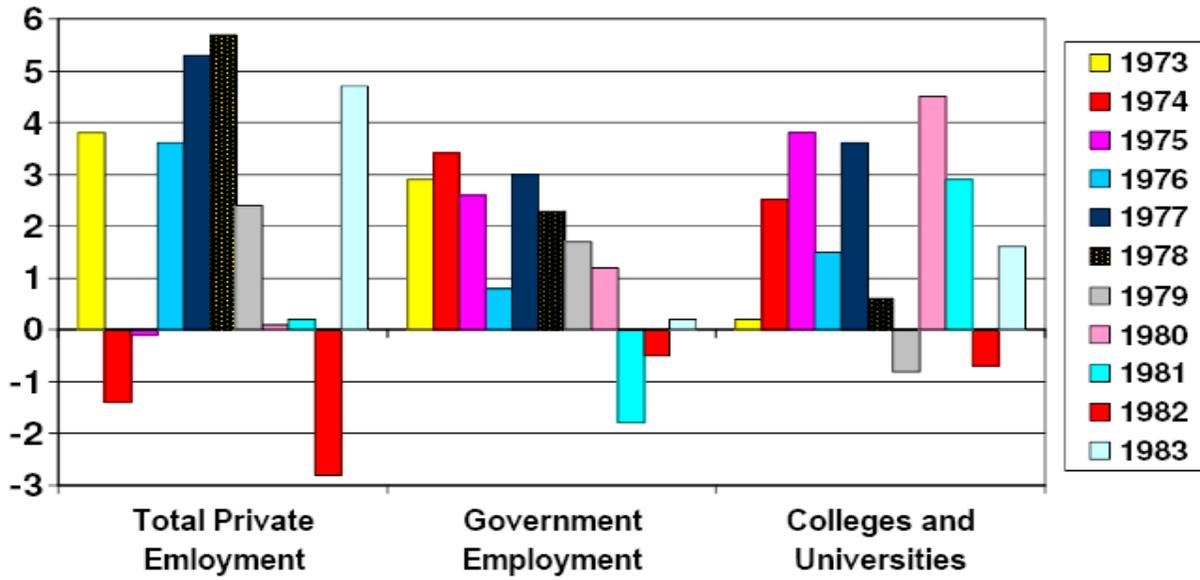
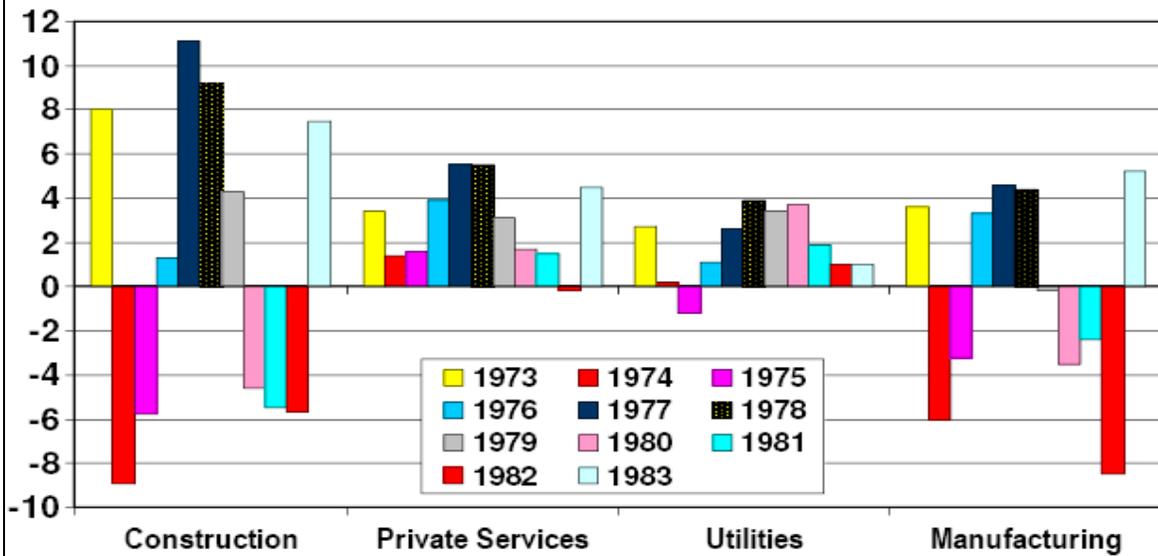


Figure 4. Comparing Industries Dominated by Small and Large Firms

% Growth of Employment in previous 12 months--December to December



universities-- grew at a significantly lower rate during 1977 and 1978 (the two darkest bars). Growth was particularly rapid in industries with many small firms: 18 percent in construction, 10.9 percent in retail trade, 10.8 percent in professional and business services and 11.2 percent in physicians offices. A limitation of \$100,000 on the amount of the credit any one firm could receive reduced its incentive effects for very large firms. Consistent with that hypothesis, growth rates in 1977 and 1978 (the two darkest bars in figure 4) were lower in industries dominated by large firms--6.6 percent for utilities and 8 percent for manufacturing. The unemployment rate which had stagnated between 7.6 and 7.9 percent in 1976 dropped two percentage points to 5.9 percent in the final quarter of 1978 (figure 1).

What happened after the NJTC expired in December 1978? The growth of private employment slowed to 1.8 percent during the next six months and then stopped altogether. By the third quarter of 1980, the unemployment rate had returned to its 1976 level of 7.7 percent. Was this due in part to an unwinding of the NJTC's employment stimulus? Possibly, but we will never know because the American economy experienced two huge shocks—a doubling of oil prices (after the February 1979 Iranian Revolution) and the Federal Reserve's adoption of a tight monetary policy on October 1979—that would defeat any effort to tease out the effect of a NJTC phase out. Manufacturing employment reached an all time peak of 19,553,000 (seasonally adjusted) in June 1979. It then declined by 252,000 in the next six months, by another 661,000 during the subsequent 12 months and then by additional 1,950,000 by December 1982. Unemployment reached 10.6 percent in the fourth quarter of 1982.

Overall, about 1.1 million of the nation's 3.5 million employers (probably more than half of profitable eligible firms) claimed a credit on their 1978 return. The face value of the 1978 credits claimed was \$4.513 billion for a net cost of roughly \$3.1 billion dollars (a 0.69 percent reduction in federal tax revenue in 1978) or about 0.13 percent of GDP in that year.

Extrapolating from Bishop (1981) and Perloff and Wachter (1979), the NJTC probably generated at least a million jobs by the end of 1978. The average earnings of non-supervisory workers was \$10,946, so adding a million jobs increased total labor compensation (including fringe benefits, pension contributions and the employer share of SSA taxes) by roughly 13.5 billion dollars. That would make the first-round bang-for-buck about 4.35 to 1. If the marginal propensity to consume U.S. goods and services out of total compensation is 0.50, the Keynesian multiplier for the 1977-78 NJTC would be about 8.7, more than five times Mark Zandy's (2008) estimate of 1.59 for the infrastructure multiplier.

Despite its implementation problems, the 1977-78 NJTC apparently had substantial effects on employment growth. Would a marginal employment subsidy implemented in 2009 and 2010 be as successful? Conditions are different. We are now heading into a recession trough, not climbing out of one. The problem is stag-deflation, not the stag-inflation of the 1970s and early 80s. Many credit markets are frozen. Skeptics would ask "How will entrepreneurs finance additional employees, if credit is unavailable." But external financing was also a big problem in 1977 and 1978. The cost of equity

capital—the earnings to share price ratio of the S&P500--was 10.8% in 1977 and 12.0% in 1978 compared to 7.8% at the end of November 2008 . Interest rates on Baa rated corporate bonds were also higher in 1977 than in November 2008. The most important difference between now and 1977-78 is that we can incorporate the lessons of the 1977-78 experience in the design of a 2009-10 NJTC.

Designing an Effective New Jobs Tax Credit for 2009-10

The credit needs to be a significant share of labor costs. The 1977/78 NJTC credit eventually attracted considerable employer participation in part because its \$2100 face value was a substantial share of wages (22 percent of the annual earnings of a typical non supervisory worker in 1977 and an even larger share of wages of part-time and minimum wage workers). Wages and prices have tripled since 1977, so the advertised face value of the NJTC for 2009-2010 needs to be larger than \$3000 to grab the attention of employers. NIPA wages and salaries per full-time equivalent employee will be about \$52,800 in 2009. If the 2009 NJTC were 12.4 percent of the increase in social security wages over XX % of its level in 2008, it would be \$6550 for full-time full-year workers paid the average wage.

A Jobs Tax Credit should not favor low-wage high-turnover firms. Firms that increase the number of well paid full-time jobs should receive larger NJTC credits than firms that expand part-time and low pay jobs. Since data is available on the Social Security tax base (sum of wages and salaries up to \$102,000 per employee), there is no need to use FUTA wages to measure employment for a 2009-2010 NJTC. If growth of FUTA wages were used for calculating the jobs tax credit, we would be encouraging firms to expand by hiring more part timers rather than by allowing current part timers to switch to full time work.

Making the credit depend on the number of new hires would also be unwise. It might induce some companies to layoff many of their workers in December 2008 or January 2009, so that the replacements they hire in March 2009 would make them eligible for a larger jobs credit. It would also give low-wage high-turnover firms a big advantage over firms that keep turnover low by paying well and treating employees with respect.

Restricting the Jobs Tax Credit to new hires with certain characteristics would also be unwise. Evaluations of the Targeted Jobs Tax Credit that replaced the NJTC in 1979 concluded that many firms refused to give hiring preference to targeted individuals. They made sure their hiring selections were not influenced by out-sourcing the task of determining which new hires were eligible and sending in the applications for a tax credit (Bishop and Montgomery 1986, 1993).

The Jobs Credit should attempt to forestall employment contractions as well as promote employment growth. We are heading into a severe recession, so a reasonable threshold for 2009 might be something like 95 percent of the 2008 social security wage base. This would result in most firms

getting a Jobs Tax Credit of some size and spread the stimulus over a larger number of employers. A broad based jobs credit is also likely to garner more political support.

There should be no absolute dollar cap on the amount of 2009-10 Jobs Tax Credit a firm can receive. The 1977-78 NJTC, unfortunately, placed a \$100,000 cap on the size of the credit any company could get. This meant that once a firm added 50 employees, there was no further tax benefit from growing employment by another 100 or another 500 workers. This feature reduced the impact of the NJTC on employment. Reducing the new firm advantage by limiting total NJTC tax credits to 6.4 percent of Social Security Wages avoids the problems of the absolute dollar cap.

The threshold for the 2010 job tax credit should be based on 2008 employment levels. The threshold level should be considerably higher (5, 8 or 10 percent higher than the 2009 threshold). Eligibility for the 2010 tax credit should not be affected by the firm's 2009 social security wage base. If it were, firms would have an incentive to reduce employment in 2009 in order to lower their subsidy threshold for 2010 (Bishop and Wilson 1982). This would undermine the purpose of the job stimulus. Decisions about 2011 should be postponed to December 2010.

How much will it cost? How many additional jobs will it stimulate?

I developed a simple spreadsheet model of the cost and job stimulus effects of a New Jobs Tax Credit that reduces the marginal cost of labor by 10 percent when a firm's 2009 wage bill exceeds 95 percent of its 2008 wage bill. Since wage rates are projected to increase by 3 percent next year, any firm that avoids a U.S. employment decline of 8 percent or more would be eligible for a jobs tax credit that is roughly proportional to the amount by which the firm's 2009 employment exceeds the 8 percent decline threshold.

Rates of employment growth or decline vary across firms. I assume that the standard deviation of wage bill growth is .14 from 2008 to 2009 and .16 from 2008 to 2010. With a 95% of 2008 wage bill threshold, 72.6 percent of firms are eligible to receive a jobs tax credit in 2009.⁴ If the threshold for 2010 is simply exceeding the firm's 2008 wage bill, 68 percent of firms are projected to be in the subsidy zone in 2010.

Hammermesh's (1976) literature review concluded that the short run wage elasticity of labor demand was **-.15**. That means that the 12.4% of social security wages (10% of compensation) jobs tax credit will induce the firms in the zone of subsidy to increase private employment by 1.5 percent or roughly 1.2 million jobs. The cost and impact simulations results for a 2009-10 NJTC are presented in Table 1(also available as an attachment). The Jobs Credit reduces tax revenue by \$45.2 billion (0.316 % of GDP) in 2009 and increases labor compensation at these firms by \$77.8 billion dollars for a first round bang per buck of 1.72. In 2010 revenue is reduced by \$54.35 billion and labor compensation is increased

by \$78.7 billion for a first round bang for buck of 1.45. The added workers spend about half of their compensation on domestically produced goods and services and this creates still more jobs and so on and on. The resulting Keynesian multiplier for the NJTC tax expenditure ends up being 3.44 in 2009 and 2.9 in 2010—considerably larger than Mark Zandy’s estimate of the infrastructure multiplier. Our simulations imply that the jobs credit boosts GDP by 1.086 percent in 2009 and 1.036 percent in 2010 when the spending multiplier is 2.0. These estimates of cost effectiveness will become smaller if the variation of growth rates across firms is greater than assumed and/or the wage elasticity of labor demand is lower than Hammermesh’s estimate.

In simulations a 2009 NJTC with a lower threshold (90% of the firms 2008 wage bill) slightly increases the share of firms in the zone of subsidy and the number of jobs created. The lower threshold, however, increases the revenue cost of the program by \$17.7 billion. This is more than double the extra compensation paid to the additional workers hired because more firms participated in the program. This implies that setting a lower threshold is not a cost-efficient way of generating more jobs. The cost effective way of raising the employment impact of the jobs credit is to increase the generosity of the subsidy from 12.4 percent to say 18.6 percent of social security wages. The 95% threshold simulation model predicts that the increase in generosity has an incremental first round bang for buck of 1.45 and reduces the overall bang for buck from 1.72 to 1.62.

Probably the most important recommendation for maximizing the cost effectiveness of a 2009-10 jobs tax credit is to get it passed in January 2009 and to mount an effective marketing campaign informing employers that no matter how many workers they add to their work force they will not have to pay more social security taxes in 2009 than 95 percent of the social security taxes they paid in 2008.⁵ A simple online simulator allowing proprietors to calculate how much tax credit they would get under different employment growth scenarios would be a helpful teaching tool. The IRS could also require that firms send an expression of interest in NJTC (either on line or as part of a quarterly employment tax return) before September 2009.

Table 1----Simulation of the Cost and Impact of a NJTC for 2009 and 2010

Year	Threshold and StdDev of growth & size of NJTC	GDP w/o stimulus 'billions'	Baseline Nominal Private Industry Compensation	Baseline Nominal Private industry W & S	Base for NJTC if threshold XX % of 2008 (billions)	Revenue cost of NJTC S=.124 recap=.3 (billions)	Incr Priv Indust Comp Elast = -.15 (billions)	First Round Bang per Buck	Extra FTE Jobs in '000s	1st Round Cost per job. Cost is half this if Keynesian multiplier	Revenue cost of NJTC divided by baseline GDP	Keynsian Multiplier % impact of NJTC on baseline GDP
2006	actual	13,178	6,105.1	5,004.2								
2007	actual	13,808	6,656.3	5,456.0								
2008	actual	14,326	6,710.0	5,500.0								
Baseline simulation												
2009	T=95% SD=.14	14,326	6,710.0	5,500.0	520.957	45.219	77.785	1.720	1207.8	\$37,438	0.316%	1.086%
2010	T=100 SD=.16	15,193	7,116.0	5,833.0	626.128	54.348	78.716	1.448	1185.5	\$45,844	0.358%	1.036%
Lower growth threshold by 5 percentage points												
2009	T=90% SD=.14	14,326	6,710.0	5,500.0	724.754	62.909	85.892	1.365	1333.7	\$47,168	0.439%	1.199%
2010	T=95% SD=.16	15,193	7,116.0	5,833.0	823.982	71.522	88.521	1.238	1333.1	\$53,649	0.471%	1.165%
Increase NJTC by 50%												
2009	T=95 SD=.14	14,326	6,710.0	5,500.0	552.836	71.979	116.68	1.621	1811.8	\$39,729	0.502%	1.629%
2010	T=100 SD=.16	15,193	7,116.0	5,833.0	658.39	85.722	118.08	1.377	1778.2	\$48,206	0.564%	1.554%

Bibliography

- Bishop, John and Robert Haveman. "Selective Employment Subsidies: Can Okun's Law be Repealed?" American Economic Review Papers and Proceedings, May 1979. 124-130
- Bishop, John and Robert Lerman. "Wage Subsidies for Income Maintenance and Job Creation" (with In Job Creation: What Works, edited by Robert Taggart. (Salt Lake City: Olympus Publishing Company, 1977).
- Bishop, John "Employment in Construction and Distribution Industries: The Impact of the New Jobs Tax Credit." In Studies in Labor Markets, edited by Sherwin Rosen, Conference Report of Universities, National Bureau Committee for Economic Research. (Chicago: University of Chicago Press, 1981).
- Bishop, John and Charles Wilson. "The Impacts of Marginal Employment Subsidies on Firm Behavior" Jobs for Disadvantaged Workers, edited by Robert Haveman and John Palmer. (Washington, DC: The Brookings Institution, 1982). U. of Wis. Social Systems Research Inst. Workshop Paper #8003.
- Bishop, John and Mark Montgomery. "Why Few Firms Respond to the Targeted Jobs Tax Credit: Evidence from Employer Surveys" Industrial Relations. Winter 1986
- Bishop, John and Mark Montgomery. "Does the Targeted Jobs Tax Credit Create Jobs at Subsidized Firms?" Industrial Relations, Vol. 32, No. 3, Fall 1993, 289-306.
- Hammermesh, D. S. "Econometric Studies of Labor Demand and their Application to Policy Analysis." Journal of Human Resources. Vol 11, no 4. (Fall 1976) 507-525
- Kesselman, Jonathan, Samuel Williamson and Ernst Berndt. "Tax Credits for Employment Rather Than Investment." American Economic Review, Vol 67 (June 1977) pp. 339-49.
- McKevitt, James. Jobs Tax Credit. Testimony at Joint Hearings before the Subcommittee on Administration of the Internal Revenue Code and Senate Select Small Business committee, 95th Congress 2nd session (Government Printing Office, 1978) 179-196.
- Perloff, Jeffrey and Michael Wachter, "The New Jobs Tax Credit: An Evaluation of the 1977-78 Wage Subsidy Program" American Economic Review Papers and Proceedings, Volume 69, March 1979, 173-79.
- Wiser, Ryan and Mark Bolinger. Annual Report on U.S. Wind Power Installation, Cost and Performance Trends: 2007. Lawrence Berkeley National Laboratory. April 2008, 1-31.
- Zandi, Mark. chief economist of Moody's Economy.com, testimony before the U.S. House Committee on Small Business on July 24, 2008

Endnotes

¹ Federal, state and local governments spent a total of 270 billion dollars on constructing and renovating schools, buildings, roads and other infrastructure in 2006 (BEA, I/O tables). A 50 percent increase in all construction funded through state and local government would create 150 billion dollar of first round stimulus. What would a green energy agenda add to this total? In 2007 wind farms added 5,329 megawatts of generation capacity to the nation's electrical grid. Developers have announced plans to increase wind generation capacity by 225,000 megawatts over the next decade. If all of these projects are completed in the next decade, wind will generate 14 percent of electricity consumed in the US in 2020 and a number of coal fired power plants will probably be decommissioned (Wiser and Bolinger 2008). It requires a quadrupling of rates of investment in wind power, but that adds only \$27 billion dollars a year to infrastructure investments. The electricity transmission grid will need upgrading but technological advances have reduced the cost of capacity additions. We can inexpensively double the capacity of existing transmission corridors by rewiring them with ACCC (Aluminum Conductor Composite Core) cables that use high strength carbon fiber cores to prevent sagging when transmission rates are high.

² During 1977 and the first three months of 1978, the majority of small employers were unaware of NJTC's existence. Some of these firms expanded employment nevertheless. When their accountant did taxes in spring 1978, the firm applied for and received the credit even though it had not influenced the decision to expand. Early employer ignorance of the NJTC reduced the impact of the credit on employment growth without a corresponding reduction in cost.

³ This was predicted by Bishop and Lerman's (1977) simulation model allowing for substitution between different types of workers to predict the effects of the 1977-78 NJTC. First round bangs per buck were quite high and low wage and part-time jobs grew more rapidly than full-time jobs paying average and above wage rates (Bishop and Lerman 1977).

⁴ From August to November private employment was declining at a 4.4% annual rate. The simulation assumes that absent a NJTC total hours worked in the private sector will fall 3% from calendar 2008 to 2009 and wage rates will rise 3% producing no change in total wage and salary payments. The simulation for 2010 assumes that without a NJTC employment will return to its 2008 level and aggregate wages and salaries will be 6% higher than in 2008.

⁵ The jobs tax credit should be featured in the President's inauguration address and marketed to local print and television media, industrial development agencies, local politicians, accountants, business and management consultants, tax-preparation services and of course employers. A web site should be created where proprietors and CEOs can complete a short on-line form expressing interest in receiving a NJTC for expanding employment. The web site should also provide a simulator allowing managers to predict

the NJTC they would receive under alternative employment growth scenarios. Tax accountants completing tax returns at the end of the year should not be the only ones who understand the incentives created by the NJTC.