The Indiana Enterprise Zone Program: Fiscal Impact of a Job Creation Tax Credit

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Abstract

This paper estimated the fiscal impact of a job creation tax credit, a proposed incentive for establishments participating in the Indiana enterprise zone program. State unemployment insurance files were utilized with GIS to obtain enterprise zone data. Labor demand and labor supply were estimated. Job creation due to the credit was calculated from empirical results.

Keywords: Wage elasticity of labor demand, job creation credit, regional tax incentives

JEL Codes: R100, R580

The Indiana Enterprise Zone Program

During the early 1980s the Indiana economy was in decline. Restructuring of the economy occurred after experiencing a 24 percent decline in jobs and unemployment rate of 14 percent (Wilder and Rubin 1988). These conditions and the failure of federal enterprise zone legislation sparked the evolution of Indiana's enterprise zone program in 1981 (Papke 1993). Today there are 29 urban enterprise zones in Indiana; these zones maintain a business recruitment focus, work to retain and expand existing enterprise zone businesses and strive to improve the economic well being of zone residents. Municipalities may apply to the State Enterprise Zone Board for enterprise zone designation if the proposed enterprise zone meets poverty or unemployment, population and size requirements. Figure 1 shows the counties which contain enterprise zones. Municipalities or military installations which contain an enterprise zone are labeled. Most enterprise zones are located in decaying urban areas in need of redevelopment. Enterprise zones are required to have a household poverty level of 25% or unemployment 1.5 times the state average; the state poverty level is 6.7%.

Most incentives provided to enterprise zones to encourage business investment and job creation are tax credits; in Indiana enterprise zones the inventory tax credit is most widely used. Indiana is one of nine states taxing inventory; all inventory held is taxed as personal property. Ninety percent, or $32.9 million, of tax savings to enterprise zone establishments in 1999 was from the inventory tax abatement. Enterprise zone establishments which hold inventory are exempted from paying property tax on inventory each year as a tax incentive for locating and operating within a designated enterprise zone. The inventory tax abatement encourages manufacturing investment; the credit is not as useful in the service or trade sector. During the 2003 legislative session tax re-structuring process, a plan to phase-out the inventory tax by 2007 was promulgated. Although there are a handful of other incentives available for enterprise zone businesses, none has proven as useful in retaining and attracting business as the inventory tax credit (Crowe Chizek 2001).

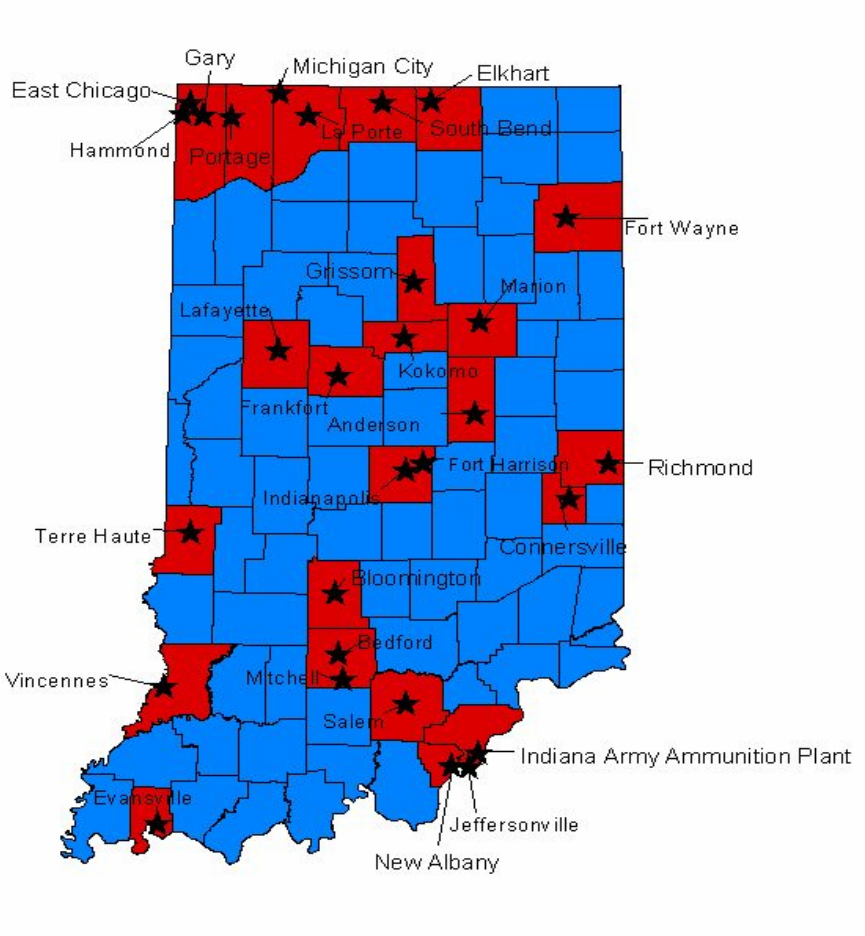

Figure 1. Indiana Counties and Municipalities Containing an Enterprise Zone

Indiana House Bill 1716-2003 attempted to replace the inventory tax credit with a $1500 job creation tax credit. However, the legislature was unable to calculate the fiscal impact of the bill because no wage, employment, or business data for enterprise zones were available. The lack of enterprise zone business data plagues enterprise zone program analysis and as a result, empirical work on cost and effectiveness of enterprise zone programs has been hindered. Due to a lack of information about enterprise zone businesses, House Bill 1716-2003 was not voted upon and a replacement tax incentive for enterprise zone businesses was not approved during the 2003 legislative session.

The purpose of this study was to estimate the fiscal impact of a $1500 one-time job creation tax credit which was proposed by the state legislature. A labor supply and demand model

was estimated and results were used to estimate a wage elasticity of labor demand. This was used to estimate the job creation response of a job creation tax credit within enterprise zones.

Theoretical Model

The theoretical labor model developed the method for estimating the wage elasticity of labor demand. Labor demand and supply will be simultaneously solved using two-stage least squares regression technique (Hamermesh 1976).

Labor demand is the quantity of labor establishments desire to employ at any given wage. Firm employment depends upon wage, output of the firm, and firm type (Hamermesh 1976; 1992). The labor demand equation is presented below where L is employment, W is wage, q is output, and f is firm sector.

$$L=F(W,q,f) \quad (1)$$

Wage, W, is a determinant of labor demand because at high wages, firms will demand less labor. Wage is an endogenous variable in this model, as wages have a two-way relationship with employment (Tokle and Huffman 1991). Wage affects labor supply because as wages rise, more workers are willing to enter the labor force. The coefficient on wage will be used to estimate the wage elasticity of labor demand.

Output, q, is a determinant of labor demand, as higher output creates a larger need for labor. Firm industry sector, f, can influence the amount of labor demanded because certain industries are more labor intensive than others. In a region, labor demand could be affected by the number of labor intensive firms located within commuting distance (Clark and Freeman 1991).

Labor supply is the quantity of labor which would be supplied for any given wage. The labor supply curve depends upon factors such as wage, unemployment, labor force size and education of the workforce (Tokle and Huffman 1991). Tokle and Huffman developed a labor supply equation to be used simultaneously with a labor demand model. Equation 2 shows factors

of labor supply in the form of a wage-participation equation where wage, W, is the dependent variable. Employment, L, unemployment, u, and education level, e, are independent variables.

$$W=F(L,u,e) \quad (2)$$

Employment is the number of people in the workforce currently employed. In this equation employment is an independent variable used in the estimation of wage. Unemployment is the number of people in the workforce, but currently unemployed. Unemployment is an important determinant of labor supply in several studies (Tokle and Huffman 1991; Blanchflower and Oswald 1994; Renkow, 2003). Education of the workforce also influences labor supply.

Employment and wages are the two endogenous variables in the system of simultaneous equations; both influence labor demand and labor supply. Predicted wage and employment, from the supply and demand equations, were used in estimation of the model. Instrumental variables influencing labor supply were unemployment and education. Results were used to estimate the wage elasticity of labor demand. If a job credit is offered to employers, then employment will increase (Faulk 2002). Wage elasticity of labor demand is the responsiveness of labor demand to a change in wage rates or the amount of labor demanded when labor costs are decreased by a job creation tax credit. The slope of the demand curve will give the relationship between change in wage and change in employment.

Figure 2 shows how the slope of the demand curve and a job creation credit/wage subsidy will affect demand for labor. Initial equilibrium wage is paid at level P_0 and the equilibrium quantity of labor is L_0. Firms demand more labor, $_QL_d$, at the lower wage, $P_{subsidy}$, but labor is supplied at equilibrium, L_0, as labor supplied is relative to wage received by workers. The labor demand curve shifts outwards. Where the new labor demand curve, D_1, and the labor supply curve, S_0, meet is where the new equilibrium between wage and labor occurs. P_1 is the wage received by workers after the subsidy. Employers are paying $P_{subsidy}$, and the job creation subsidy is shared. Establishments receive P_0 minus $P_{subsidy}$ of the government subsidy and employees

receive P_1 minus P_0 of the subsidy. The cost of the government subsidy is represented as the difference between P_1 and $P_{subsidy}$.

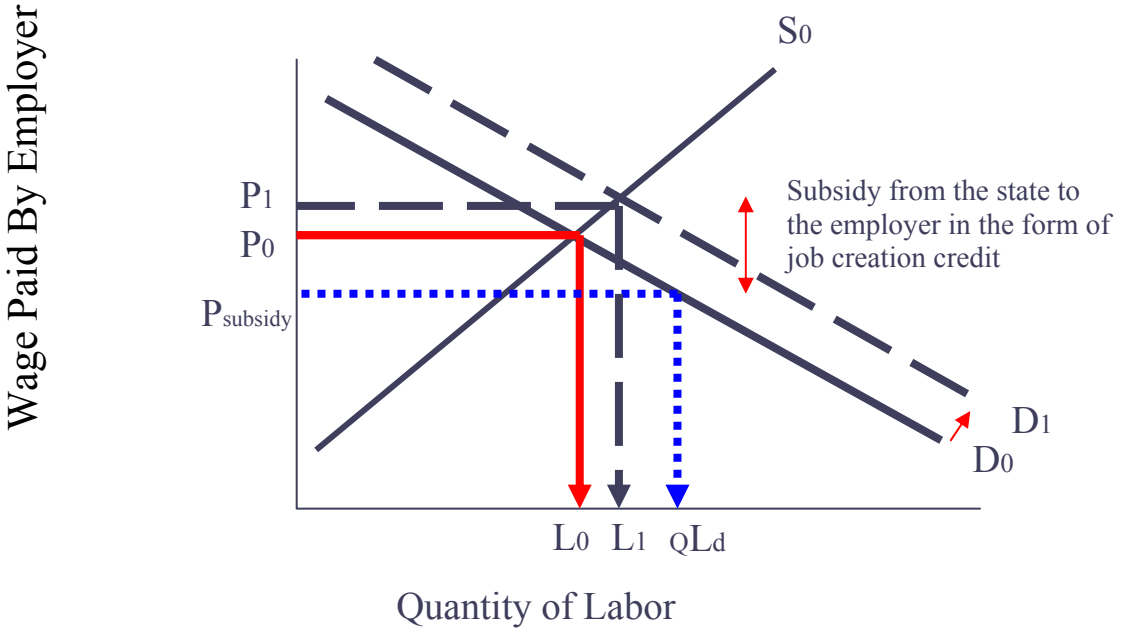

Figure 2. Labor Demand and Labor Supply with a Job Creation Credit

Data and Methodology

Enterprise Zone Data

The lack of accurate data regarding the number, type, employment, and wages of enterprise zone businesses had hindered empirical research on enterprise zones. Obtaining information on enterprise zone businesses was a problem because enterprise zone boundaries do not follow census block, census track, ZIP code, or municipal boundaries. Data for Indiana's 29 enterprise zones were obtained utilizing Geographic Information System, GIS, software and confidential establishment level unemployment insurance records.

GIS was utilized to map California enterprise zones and apportion zip code data within enterprise zone boundaries (Dowall 1996). However, a single enterprise zone may cross multiple

zip code boundaries, or may be a small portion of a zip code. Data aggregated at the zip code level yielded an estimation of businesses within the enterprise zone. Methodology used in this study built upon Dowall's by geographically placing individual businesses on a street map, rather than within a zip code region, and using a digital enterprise zone map to select businesses which were physically located within each enterprise zone.

State unemployment insurance records, composed of Federal ES202 data, were obtained from the Indiana Department of Commerce. Physical location address, establishment industry code, wage and employment data for each firm were in this database. These data were a good measure of variables needed.

Each of Indiana's 29 enterprise zones were digitally mapped using ArcView GIS© software. Indiana 2002 TIGER© address data were obtained from the U.S. Census Bureau, and legal descriptions of each enterprise zone, obtained from the Indiana Department of Commerce, were used to map enterprise zone boundaries. Once digitized maps of each zone were created, they were checked by local enterprise zone administrators for accuracy.

Third quarter 2002 Indiana unemployment insurance records contained 153,889 establishments. Physical location addresses for these establishments were geocoded, or geographically pinpointed on the street file. Geocoding reads physical location addresses from the unemployment insurance records, and attempts to match them to street addresses in the TIGER© address data, creating a point on the map at each match, or cluster of matches. Once the geocoding had been completed the enterprise zone maps were layered over the address data and businesses physically located within boundaries, or on the boundary, of each enterprise zone map were highlighted. Geocoding involved address cleaning, setting minimum geocoding match scores, and choosing a buffer zone around each enterprise zone. The end result is a list of businesses which were physically located within Indiana enterprise zones during third quarter, 2002, and employment, wage and sector information for each establishment. Figure 3 shows the

TIGER© address data, the Indianapolis enterprise zone map, and map results of geocoding in Indianapolis.

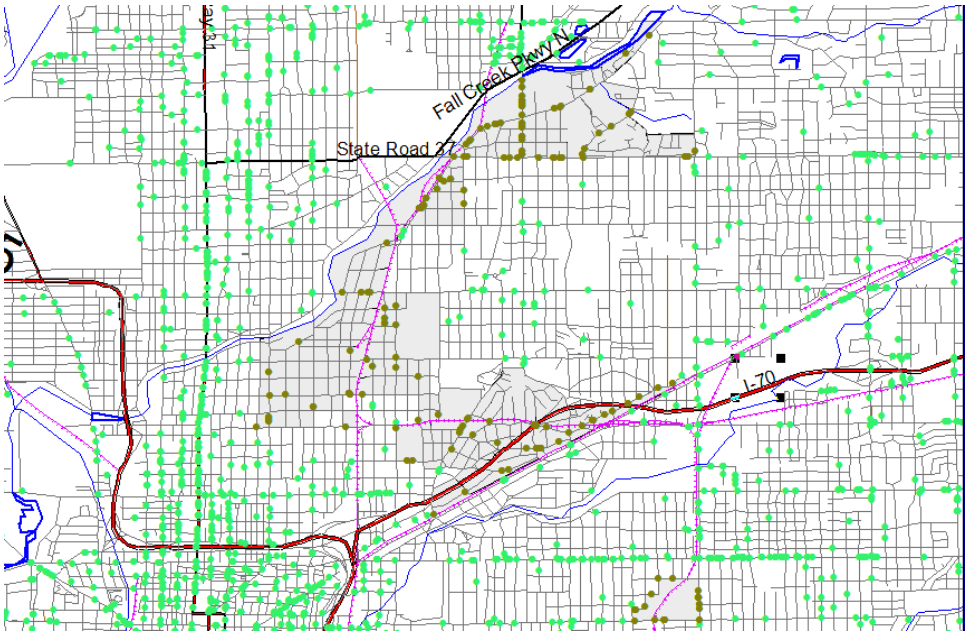

Figure 3. View of Street File, Enterprise Zone, and Geocoding

The geocoding process resulted in a list of 6,432 establishments located within all 29 Indiana enterprise zones, 4.2% of all Indiana establishments. Manufacturing and mining establishments accounted for 10.4 percent of establishments, 23.5 percent were wholesale and retail trade and 66.1 percent were service establishments. Annual employment was estimated to be 145,096, 4.6% of total Indiana employment. The average enterprise zone wage was estimated to be $34,736, while median Indiana income was is $41,567. Enterprise zone establishment totals are shown in Table 1.

TABLE 1. Estimated Indiana Enterprise Zone Establishment Totals

Enterprise Zone Businesses	Totals	Percentage
Manufacturing	670	10.4%
Service	4,251	66.1%
Trade	1,511	23.5%
Total businesses	6,432	
Annual Employment	145,096	
Annual Wages	$ 5,039,995,476	
Average Wage	$ 34,736	

Empirical Model Data

Units of observation were all 92 counties and 14 labor market areas (LMAs) in Indiana as counties and LMAs represent the economy an enterprise zone operates within. Labor market areas are multicounty areas with a minimum population of 100,000 and are aggregated by counties according to commuting patterns (McNamara, 1991). Figure 4 outlines the fourteen LMAs used in this analysis.

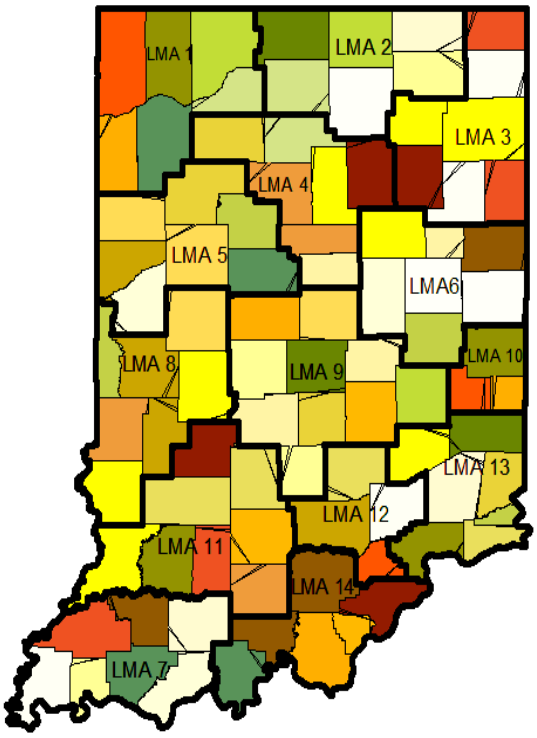

Figure 4. Indiana Labor Market Areas

Data at the county level were obtained from the Bureau of Economic Analysis, Bureau of Labor Statistics, County Business Patterns, and the 2000 U.S. Decennial Census. Table 2 shows data used, what it measured and the source; summary statistics are given in Table 3. 2001 data were used for all variables, except where noted, as it was the most recent data available. Bureau of Economic Analysis employment data showed a decline in employment in 2001 after ten years of steady growth. To capture what appeared to be normal employment growth, the change in employment variable, LMAchange, was calculated from 1996 to 2000, using data showing five years of continuous growth in aggregate employment.

TABLE 2. List of Independent Variables and Sources

	Measuring	Source
Demand: Employ00=f(LMAwage, LMAchange, Population, Manufacturer)		
LMAwage	Average annual wage in LMA	County Business Patterns, 2001
LMAchange	Employment growth rate from 1996-2000 in LMA	Bureau of Economic Analysis, 2001
Population	Population in county	U.S. Census, 2000
Manufacturer	Manufacturing firm rate in county	County Business Patterns, 2001
Supply: Wage=f(Employ00, LMAunemp, HSeducation, WorkShare)		
LMAunemp	Unemployment rate within LMA	Bureau of Labor Statistics, 2001
HSeducation	Rate of those age 25+ who are high school educated	U.S. Census, 2000
WorkShare	Percent of population in workforce in county	Bureau of Labor Statistics, 2001
Employ00	Number employed in county	Bureau of Labor Statistics, 2001

TABLE 3. Summary Statistics for All Variables

Variable	Unit	Mean	Std Dev	Minimum	Maximum
Employ00	persons	40089.4	83910.61	2789	719780
LMAwage	$	28646.65	2672.4	25116.04	34110.94
LMAchange	%	0.0610335	0.0462796	-0.0130185	0.1444264
Population	persons	66946.39	110741.48	5804	863429
LMAunemp	%	12912.07	10499.3	3220	38099
HSeducation	%	0.7337935	0.0578578	0.567	0.887
WorkShare	%	0.5024894	0.0461129	0.3996812	0.6857026
Manufacturer	%	0.0691862	0.0274648	0.0266667	0.1780958

Empirical Model

The conceptual model set up the theory behind use of simultaneous equations for the purpose of estimating labor demand. Two-stage least squares (2SLS) is the best estimation procedure for obtaining the values of structural parameters in over-identified equations (Pindyck and Rubinfeld 1981).

In determining wage elasticity of demand for labor, instruments which influence demand and supply of labor were considered. Variables used in the empirical model specification were based upon the conceptual model and literature reviewed. Demand for labor was specified in equation 3 and is a function of labor market wage, employment growth rate, population, and the rate of firms which were manufacturers. Labor supply is specified in equation 4 and is related to unemployment rate, rate of workers who graduated from high school, and the labor force participation rate.

Employ00=F(LMAwage, LMAchange, Population, Manufacturer) (3)

LMAwage=F(Employ00, LMAunemp, HSeducation, WorkShare) (4)

Variables

Employ00 is the dependent variable in the demand equation and identifies total employment in each Indiana county for 2001; it is an endogenous variable in the system of equations, along with LMAwage.

LMAwage is the average annual payroll in 2001 for workers in each Indiana LMA. Labor market area wage was chosen rather than county wage because the LMA represents the area in which residents commute to work, thus wage throughout the LMA will be similar. The resulting coefficient on LMAwage was used to determine the wage elasticity of demand for labor. This elasticity provided an estimate of fiscal impact for the job creation credit.

LMAchange is change in total employment over the 1996 through 2000 period as a growth rate within each labor market area. LMAchange was included in the labor demand equation because LMAs with high job growth will have higher employment; additionally this variable was used by Tokle and Huffman (1991).

Population is county population in 2001. This variable was chosen to be a proxy for market size for a firm as aggregated county average market and price data were not available.

Manufacturer is the percent of firms within a county which were manufacturers in 2001. This is a measure of the structure of the economy; counties with high rates of manufacturing firms are expected to have more employment. Other industry sectors were not significant and were not included in the final empirical model.

Other variables affect labor supply rather than demand. LMAunemp is the unemployment rate in a labor market area. HSeducation is the rate of those over age 25 with at least a high school education. Education is an important component in estimating labor supply as educated workers are more desirable (Blanchflower and Oswald 1994). WorkShare is the share of the county population in the workforce. A higher share of the population in the workforce will lead to higher labor supply.

The demand for labor was estimated using measures for wage, output, firm sector and labor supply. Wage data were obtained, population was used as a proxy for output and firm sector was measured by the percentage of manufacturers. Labor supply was estimated using unemployment rate, share of population in the workforce and education of the workforce.

Equations 3 and 4 were simultaneously estimated using two-stage least squares regression technique.

Results

Regression results are show in Table 4 along with the significance of each variable, R-square, adjusted R-square, the F statistic.

TABLE 4. Two-State Least Squares Regression Results

Independent Variable	Coefficient	Standard Error	T Statistic
Employ00=F(LMAwage, LMAchange, Population, Manufacturer) R-Square .95838 Adjusted R-Square .95646 F Statistic 500.80			
Constant	41810.05	26879.66	(1.56)
LMAwage	-2.34831	0.982732	(-2.39)
LMAchange	55020.33	41536.59	(1.32)
Population	0.761405	0.018128	(42.00)
Manufacturer	162160.8	68705.75	(2.36)
LMAWage=F(Employ00, LMAunemploy, HSeducation, WorkShare) R-Square .61540 Adjusted R-Square .59772 F Statistic 34.80			
Constant	19298.14	2721.009	(7.09)
LMAunemp	0.183489	0.018867	(9.73)
HSeducation	4676.216	3465.843	(1.35)
WorkShare	7154.912	4114.216	(1.74)
Employ00	-0.00118	0.002325	(-0.51)

Expected and resulting signs of coefficients are shown in Table 5 along with respective levels of significance for the coefficients. The coefficient on LMAwage was negative and significant at the 0.05 level, indicating the wage elasticity of labor demand was negative as expected. Blanchflower and Oswald (1994) wrote that in a labor demand model the wage elasticity of aggregate labor demand for a locality is negative. Population and Manufacturer both had positive signs and were significant at the 0.01 and 0.05 level, respectively. The coefficient on LMAchange was not significant, indicating that this variable was not a determinant of labor

demand as suggested by Tokle and Huffman (1991) in this model. Employment growth is likely a consequence of labor demand, rather than a determinant.

The labor supply equation had expected signs on all significant coefficients. A coefficient sign of interest was the positive coefficient on LMAunemp. Renkow (2003) wrote that the coefficient between wage and unemployment should be positive; results of the empirical model support this conclusion, at a 0.01 level of significance. WorkShare was significant at the 0.1 level with the expected sign. Employ00 and HSeducation were not significant.

TABLE 5. Expected Signs and Significance

Independent Variable	Expected Sign	Resulting Sign	Significance
Demand Employ00=f(LMAwage, LMAchange, Population, Manufacturer)			
Constant	+/-	+	
LMAwage	-	-	**
LMAchange	+	+	
Population	+	+	*
Manufacturer	+	+	**
Supply Wage=f(Employ00, LMAunemp, HSeducation, WorkShare)			
Constant	+/-	+	*
LMAunemp	+	+	*
HSeducation	+	+	
WorkShare	+	+	***
Employ00	-	-	

* Significant at =.01 level
** Significant at =.05 level
*** Significant at =.1 level

The coefficient on wage in the labor demand equation was -2.34. The elasticity of the labor demand curve was estimated by taking the natural log of each coefficient and re-estimating the equation. The wage elasticity of labor demand was estimated to be -0.55, and assumed to be constant. Hamermesh (1976) found wage elasticity of labor demand to be between -0.04 and -0.16 in a literature review. Hamermesh noted that the elasticities found in his literature review

were smaller than expected. Bureau of Labor Statistics data were employed with OLS to estimate the wage elasticity of labor demand to be -0.24 (Clark and Freeman 1980).

Fiscal Impact Estimation

The fiscal impact of a one-time job creation tax credit was estimated by first estimating the number of jobs created solely due to the job creation tax credit, without normal job growth. This is job growth due to employers' decreased cost of labor, the $1500 tax credit, which enabled them to employ more labor. The wage elasticity of labor demand was applied to the average wage and total employment in each enterprise zone to estimate the number of jobs which would be created due to the decreased cost of labor. The fiscal impact of incentives for jobs created due to the job creation tax credit is the number of jobs created due to the credit multiplied by the $1500 tax credit. Table 6 shows the fiscal impact of the job creation tax credit due to jobs created as a result of the credit, not normal job growth. In enterprise zones statewide an estimated 122.5 jobs would be created as a result of a one-time $1500 job creation tax credit.

TABLE 6. Jobs Created and Fiscal Impact due to $1500 Job Creation Tax Credit

Enterprise Zone	2002 EZ Employment	Ave. EZ wage ($)	% change in wage with credit	Jobs created due to tax credit	Cost of Jobs Created ($)
Anderson	4294	41774	-0.036	2.78	4172
Bedford	4391	28961	-0.052	4.10	6154
Bloomington	6518	28771	-0.052	6.13	9195
Clark County	518	27926	-0.054	0.50	753
Connersville	1748	25630	-0.059	1.85	2768
East Chicago	15340	46385	-0.032	8.95	13422
Elkhart	6814	34420	-0.044	5.36	8035
Evansville	7522	30543	-0.049	6.66	9995
Fort Harrison	919	33933	-0.044	0.73	1099
Fort Wayne	9787	29832	-0.050	8.88	13315
Frankfort	2361	21591	-0.069	2.96	4438
Gary	9789	55721	-0.027	4.75	7130
Grissom	505	27225	-0.055	0.50	753
Hammond	7121	31256	-0.048	6.16	9247
Indianapolis	4929	34119	-0.044	3.91	5863

Jeffersonville	5984	28070	-0.053	5.77	8652
Kokomo	4355	23673	-0.063	4.98	7467
Lafayette	6352	23673	-0.063	7.26	10890
LaPorte	6608	30667	-0.049	5.83	8745
Marion	6285	44765	-0.034	3.80	5698
Michigan City	4922	32026	-0.047	4.16	6238
Mitchell	1018	25153	-0.060	1.10	1643
New Albany	3726	26668	-0.056	3.78	5671
Portage	2566	29245	-0.051	2.37	3561
Richmond	3498	28448	-0.053	3.33	4991
Salem	3067	21911	-0.068	3.79	5681
South Bend	6898	41687	-0.036	4.48	6716
Terre Haute	4191	28313	-0.053	4.01	6008
Vincennes	3070	23005	-0.065	3.61	5416
TOTAL	145096	$31,220	-0.051	122.48	$183,717

The job creation tax credit can be claimed by all enterprise zone establishments which create a job, regardless of whether the job was created as a result of the tax credit. The fiscal impact of the $1500 job creation tax credit must also include the cost of the credit for jobs which would have been created regardless of the credit; jobs which can be attributed to trend growth in the economy. The second step in estimating fiscal impact of the job creation tax credit was to estimate normal job growth in the economy. Job creation data were not available at the county level, so county job growth data, during a period of economic growth, were used as a proxy. Three estimates for trend job growth were obtained: annual average job growth, the highest level of a 95 percent confidence interval for county job growth, and the lowest level of a 95 percent confidence interval for county job growth, all over the 1996 through 2000 period. Annual average job growth was estimated to be the average of annual county job growth rates over the 1996 through 2000 period for enterprise zone counties. The 95 percent confidence interval was estimated using the same annual county job growth rates, their standard deviation, and average. Maximum job growth was estimated to be the high end of the 95 percent confidence interval.

Minimum county job growth was estimated to be the low end of the 95 percent confidence interval.

County job growth rates were calculated from Bureau of Economic Analysis employment data over the 1996 through 2000 period, as this was the most recent period of consistent job growth. If 2001 had been included, the average annual job growth rate would have been negative for more counties and thus not a good measure of what can happen during a growth cycle. Table 7 shows normal job growth and associated credit cost due to normal job growth. When job growth was estimated to be negative, it was omitted from the table; this occurs as job growth data were used as a proxy for job creation data and job creation could not be negative. Table 7 does not include jobs created as a result of the job creation tax credit; this was reported in Table 6. Average annual job growth in Indiana enterprise zones was estimated to be 1,466 jobs.

TABLE 7. Expected Job Growth and Credit Cost associated with Local Job Creation

Enterprise Zone	2002 Enter. Zone Employ.	Average Annual Job Growth	Maximum annual job growth, 95% C.I.	Minimum annual job growth, 95% C.I.	Average one-time Credit Cost ($)	Maximum (95% C.I.) one-time credit cost ($)	Minimum (95% C.I.) one-time credit cost ($)
Anderson	4294	-50.07	15.90	-	-	23,849	-
Bedford	4391	5.36	75.63	-	8,045	113,438	-
Bloomington	6518	86.12	124.07	48.16	129,175	186,111	72,240
INAAP	518	16.36	24.94	7.79	24,545	37,404	11,686
Connersville	1748	-11	2.72	-	-	4,078	-
East Chicago	15340	137.04	370.56	-	205,561	555,846	-
Elkhart	6814	177.87	317.34	38.40	266,801	476,005	57,597
Evansville	7522	71.87	123.83	19.91	107,806	185,746	29,865
Fort Harrison	919	18.17	22.60	13.74	27,259	33,905	20,612
Fort Wayne	9787	141.69	223.76	59.61	212,532	335,646	89,419
Frankfort	2361	-28.36	7.02	-	-	10,523	-

Gary	9789	87.45	236.47	-	131,176	354,705	-
Grissom	505	11.59	16.16	7.03	17,388	24,236	10,541
Hammond	7121	63.62	172.02	-	95,424	258,030	-
Indianapolis	4929	97.47	121.23	73.70	146,200	181,850	110,551
Jeffersonville	5984	189.03	288.06	90.00	283,546	432,096	134,995
Kokomo	4355	12.58	59.01	-	18,877	88,519	-
Lafayette	6352	137.59	173.37	101.81	206,388	260,057	152,720
LaPorte	6608	96.31	112.16	80.45	144,458	168,244	120,672
Marion	6285	-36.53	-	-	-	-	-
Michigan City	4922	71.73	83.54	59.92	107,600	125,317	89,883
Mitchell	1018	1.24	17.53	-	1,865	26,299	-
New Albany	3726	89.02	142.74	35.29	133,523	214,113	52,933
Portage	2566	20.65	31.18	10.12	30,972	46,769	15,174
Richmond	3498	-8.39	23.59	-	-	35,390	-
Salem	3067	44.29	134.25	-	66,434	201,373	-
South Bend	6898	68.19	155.75	-	102,279	233,632	-
Terre Haute	4191	-16.25	77.29	-	-	115,939	-
Vincennes	3070	-29.11	31.16	-	-	46,742	-
TOTAL	145,096	1,466	3,184	646	$2,467,854	$4,775,863	$ 968,885

The third step in estimating fiscal impact was to estimate the total cost of the job creation credit by adding the fiscal impact associated with trend job growth (Table 7) to the fiscal impact associated with job growth as a result of the job creation tax credit (Table 6). The total estimated fiscal impact was $5.0 million, $1.1 million, and $2.7 million for the estimated maximum, minimum, and average annual job growth rates respectively (Table 8).

TABLE 8. Estimated Maximum, Minimum, and Average Fiscal Cost

Enterprise Zone	Maximum (95% C.I) Credit Cost ($)	Minimum (95% C.I.) Credit Cost ($)	Average Credit Cost ($)
Anderson	28,021	4,172	4,172
Bedford	119,592	6,154	14,199
Bloomington	195,306	81,435	138,370
Clark County	38,157	12,439	25,298
Connersville	6,846	2,768	2,768
East Chicago	569,268	13,422	218,983
Elkhart	484,039	67,593	274,836
Evansville	195,742	30,964	117,801
Fort Harrison	35,005	33,927	28,358
Fort Wayne	348,961	93,857	225,847
Frankfort	14,962	4,438	4,438
Gary	361,835	7,130	138,306
Grissom	24,988	19,787	18,141
Hammond	267,277	9,247	104,671
Indianapolis	187,713	119,203	152,063
Jeffersonville	440,748	142,462	292,198
Kokomo	95,985	7,467	26,344
Lafayette	270,948	161,465	217,278
LaPorte	176,989	126,370	153,203
Marion	5,698	5,698	5,698
Michigan City	131,555	91,525	113,838
Mitchell	27,942	1,643	3,508
New Albany	219,783	56,494	139,194
Portage	50,331	20,164	34,533
Richmond	40,380	4,991	4,991
Salem	207,054	5,681	72,115
South Bend	240,348	6,716	108,995
Terre Haute	121,947	6,008	6,008
Vincennes	52,159	5,416	5,416
TOTAL	$4,959,579	$1,146,734	$2,651,571

Conclusion

A $1500 one-time job creation tax credit for establishments located within Indiana enterprise zones was estimated to create 122.5 jobs. This is small compared to total enterprise zone employment; enterprise zone employment would increase by 0.0008 percent with the

creation of 122.5 jobs. Of annual enterprise zone job growth, 7.7% would be attributed to the job creation tax credit. Employment will be impacted by the tax credit, but this impact would be small. The fiscal impact of the job creation tax credit will be 3 to 15 percent of the inventory tax abatement.

In other states, job creation incentives range from a one-time credit of $500 in Illinois, to $8000 in Wisconsin. If the proposed $1500 job creation tax credit was raised, it would increase employment in enterprise zones, but the same credit would be given to employers who created a job irregardless of the incentive, increasing the fiscal impact. A solution may be to implement a credit similar to Wisconsin's. Wisconsin's community development zone program offers a one-time job creation credit of up to $8000 for enterprise zone establishments which fill newly created jobs with dislocated and disadvantaged workers. A one-time job creation credit of $6000 is offered to community development zone establishments which create a job not filled by a member of a target group of disadvantaged workers. Wisconsin's program creates an incentive to hire disadvantaged workers and also limits the number of credits which can be claimed, thus decreasing the fiscal impact.

A job creation tax credit with restrictions similar to Wisconsin's could be implemented in Indiana. The proposed $1500 job creation tax credit could be restricted to certain establishments or certain employees. Targeting establishments by industry sector would limit the number of credits claimed, reducing fiscal impact, and targeting the benefits to a specific sector. Offering a targeted credit to manufacturing firms could entice a manufacturing plant to locate within an Indiana enterprise zone. A job creation tax credit targeted to specific employees, such as zone residents, welfare recipients or displaced workers would benefit specific groups. Targeting of the job creation tax credit would reduce the fiscal impact, as fewer credits would be claimed.

Additional incentives could be coupled with the job creation tax credit to increase the total incentive package. These may not increase employment directly but could increase investment, save establishments money, and thus indirectly increase firm employment. Some

states exempt sales tax for machinery, equipment and building supplies. Some states have a 5 to 10 percent investment credit. The fiscal impact of these additional incentives would need to be estimated for Indiana enterprise zones. These incentives may be a better alternative to the job creation tax credit for promoting redevelopment, investment, and job creation in Indiana enterprise zones.

The fiscal impact estimate was based on the static one-year impact of a $1500 job creation tax credit; this met the immediate research needs of the Indiana state legislature. Further analysis is needed to determine long term implication of both fiscal impact and employment growth. The actual incentive would need to be capitalized into the wage rate; it would actually be less effective as an incentive, as discussed in figure 2. Future research area should examine the effect of the tax credit in a dynamic manner and in conjunction with other incentives. Future research should be conducted using a comparable control group for enterprise zones as the data used was taken while enterprise zone establishments were receiving inventory tax abatement. New incentives and no inventory tax anywhere in the state will draw establishments of different industry sectors to Indiana's urban enterprise zones.

Summary

The inventory tax abatement, the centerpiece financial incentive for enterprise zone establishments, is being phased-out. A $1500 job creation tax credit was proposed to replace the inventory tax abatement. Before the state legislature could consider such legislation, the fiscal impact of the proposed policy had to be estimated. The wage elasticity of labor demand was applied to enterprise zone wage and employment data to determine the number of jobs which would be created due to the proposed policy. The number of jobs which would be created in a normal growth cycle was also estimated. The fiscal impact of the policy was the cost of providing the tax incentive to establishments which created a job due to the credit and establishments which created a job due to trend economic growth. Results suggested that a $1500 job creation tax credit would have a small impact on enterprise zone employment and a fiscal impact to the state of an

estimated $1.1 million to $5.0 million. The application of these results is limited as they are estimated for a static one-year job creation tax credit and there was no control group.

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