

**COSTS AND BENEFITS
OF BUSINESS TAX INCENTIVES
IN KANSAS**

prepared by

Shirley Sicilian
Research Economist

Institute for Public Policy and Business Research
The University of Kansas
Lawrence, Kansas 66045

prepared for

The Kansas Legislative Task Force
for Tax and Capital Markets

February 1987

Anthony L. Redwood, Executive Director
Institute for Public Policy and Business Research

Report #117

February 1987

This report is a cost-benefit study of Kansas business tax incentives: the Job expansion and Investment Tax Credit and the Sales Tax Refund. The ultimate objectives of these tax incentives include generation of job opportunities for state residents and the strengthening of state fiscal capacity. The issue then, is whether the cost to the state of a particular incentive outweighs the resulting benefits which accrue to the state, the locality, or both.

Costs of the refund and the credit are defined as the dollar amounts of state tax revenue forgone through operation of the incentive for one year; fiscal year 1985. Benefits from the incentives are defined as the increases in tax revenues that can be attributed to operation of the incentive during fiscal year 1985. Benefits include increased business income tax revenue as firms are induced to locate or expand in the state. Business property acquired in response to the incentives would generate increases in property tax receipts. A successful tax incentive would also have a positive effect on tax revenue as the number of employed in the state increases and the new jobholders pay personal income, sales, and property taxes.

To estimate these tax revenue benefits, we first determined how many jobs were created and how much capital was purchased by firms to qualify for the total tax credit or refund given out by the state. Obviously, not all of this investment took place as a direct response to the tax incentive. A good deal of the capital and labor investment is likely to have occurred even in the absence of a tax incentive. One major study estimates that only 3.3 percent of new or expanding firms view tax incentives as significant in their site location decision¹. Of course, the

effectiveness of any particular tax incentive may be greater or less than other incentives depending on the generosity of that particular credit. For instance, the Sales Tax Refund may be a greater factor in certain firms' location decisions than the Job Expansion and Investment Tax Credit since in fiscal year 1985 the Sales Tax Refund amounted to a return of \$3,000.00 for each \$100,000.00 of capital purchased in the state, while the Job Expansion and Investment Tax Credit would return only \$614.46, (present value of \$100.00 a year for 10 years with a 10% discount rate).

Table ES1 shows the amount of capital and labor investment which can be attributed to the existence of the tax incentives when different levels of significance or response rates are assumed. Tables ES2 and ES3 summarize the costs and benefits of the tax incentives given different response rates. Both tax incentives become cost effective if the response rate is 8 percent. The Sales Tax Refund is cost effective for the state by itself at a 16 percent response rate and the Job Expansion and Investment Tax Credit at a 19% response rate. This does not mean that the two tax incentives are nearly equally cost effective. The response rate for the Sales Tax Refund is surely higher than that for the Job Expansion and Investment Tax Credit since the Sales Tax Refund amounts to more state money per investment dollar.

The strategy in using taxes as a tool of economic development should be to arrange the tax structure so as to (1) neutralize the tax issue for firms, and (2) send signals to industry that Kansas is willing to try to work with business. Following these principles, Kansas should make only a limited use of tax concessions and do so at the least cost possible.

Table ES 1.

Capital and Labor Investment in Kansas
Due to Kansas Tax Incentives

Investment Attributable to Credit	Response Rate Assumption ²			
	100%	3.3%	8%	19%
<hr/>				
Job Expansion and Investment Tax Credit				
Capital	\$452,753,353	\$14,940,861	\$36,220,268	\$86,023,137
Labor ¹	3,850	127	308	731
<hr/>				
Sales Tax Refund				
Capital	\$15,450,600	\$509,870	\$1,236,048	\$2,472,096
Labor ¹	534	18	43	85

¹Figures represent amount of new jobs created which qualify for credit plus an employment multiplier effect.

²Percent of firms claiming credit which found credit significant in their decision to locate in Kansas.

Taxation and financing schemes developed by government entities have only a minimal effect on the selection of new plant locations. Taxes themselves are merely a minor consideration, capable of altering the decision in favor of a particular site only if almost all other factors are equal. The level of taxation on the plant itself is often so insignificant a concern that what importance taxation may have in site selection is due largely to the level of taxes on personal income and home real estate. Thus personal taxation figures into the subjective evaluation of the quality of life in an area.

Roger Schmenner, 1982

I. INTRODUCTION

Tax incentives are a major tool of state economic development. However, states do not generally evaluate the cost effectiveness of their tax incentives. The key question in regard to the cost effectiveness of tax incentives is whether or not the cost to the state of a particular incentive outweighs the benefit accruing to the state, the locality, or both, as a direct result of the tax incentive. This report is a cost-benefit study of Kansas business tax incentives: the Job Expansion and Investment Tax Credit Act and the Sales Tax Refund. The ultimate objectives of these tax incentives include generation of job opportunities for state residents and the strengthening of state fiscal capacity. This study reports the ability of the job creation and investment tax credit and the sales tax refund to promote those objectives. Section II of this report reviews the literature on tax incentives and economic development. Section III provides an account of the costs and benefits to the state and local governments of the Job Expansion and Investment Tax Credit Act. Section IV sets out the costs and benefits to Kansas of the Sales Tax Refund.

II. REVIEW OF THE LITERATURE ON TAX INCENTIVES FOR BUSINESS¹

Variations in business tax liabilities among states and municipalities are unlikely to play a major role in business site selection, location, or relocation decisions. Existing studies, with a striking degree of consistency, have failed to demonstrate

a significant relationship between taxes and location decisions of business firms.²

Studies

Major reviews of literature on tax concessions document this conclusion.

No empirical analysis has been able to find a significant relationship between local taxes and economic development.³

Only 3.3 percent of the new firms (in a survey), none of the expansions, and 6.3 percent of the new branch plants indicated they would have located in another state in the absence of tax incentives.⁴

Tax levels are either not applicable or of low concern to the typical relocating plant. . . . [O]nly about a quarter to a third of the relocation plants actually move to new locations with lower property tax rates. The bulk, 40 to 50 percent, move within the same taxing jurisdiction or to locations in towns with similar tax rates. Another quarter move to jurisdictions with higher property tax rates.⁵

Despite the perception among policy makers that taxes matter and, therefore, a good incentive package should contain tax concessions, the overriding conclusion from previous research is that taxes do not play a significant role in a firm's choice of location among regions. Research also has shown that the other nontax controllables contained in state and local industrial incentive packages play little or no role in a firm's interregional choice of location. But as the geographical area diminishes, the importance of taxes and fiscal incentives increase. Transportation, energy, labor cost and market differentials tend to decrease as the area under consideration diminishes,⁶ making taxes a more significant locational determinant.

Taxation schemes...developed by government entities have only a minimal effect on the selection of new plant locations. Taxes themselves are merely a minor consideration, capable of altering the decision in favor of a particular site only if almost all other factors are equal. The level of taxation on the plant itself is often so insignificant a concern that what importance taxation

may have in site selection is due largely to the level of taxes on personal income and home real estate. Thus personal taxation figures into the subjective evaluation of the quality of life in an area.⁷

Surveys

Corporations do not identify tax concessions as significant factors in location, relocation, or expansion decisions. Roger Schmenner, in a far-reaching examination of determinants of behavior of large firms identified the most important influences in national plant location decisions (Table 1).⁸ The seven conditions viewed as "musts" center on proximity to markets and supplies, labor conditions and costs, and amenities. "Ease in obtaining environmental permits" is the only "must" directly amenable to government action in the short-term.

Table 1

Influences on Plant Location Decisions-National
Plant Openings in All Industries

Factors Viewed as "Musts"	Percent of Plants Citing Factor
Favorable Labor Climate	76
Proximity to Market	55
Attractive Place for Engineers/ Managers to Live	35
Proximity to Supplies, Resources (including energy)	31
Low Labor Rates	30
Proximity to Existing Facilities or Division/Company	25
Ease in Obtaining Environmental Permits	17

Source: Roger Schmenner, "Location Decisions of Large Firms: Implications for Public Policy," Center for Urban Economic Development, Commentary (January, 1981).

A major survey of influences on plant location decisions in Michigan produced similar results (Table 2). Among the most important factors are access to markets and suppliers, local cost considerations, and labor supply and quality. Local property taxes are important, ranking sixth. Tax concessions, on the other hand, ranked sixteenth among the 23 most important influences.

Finally, a 1981 survey of 500 of the 1,000 largest U.S. industrial corporations assessed the importance of factors in locating plants in the continental United States (Table 3). In this study, "state and local attitude toward taxes and business and industry" (i.e., tax structures and rates) ranked fourth in order of importance. "Financing inducements" ranked fifteenth with 77 percent of the responding firms indicating that these inducements were "fairly" (28 percent) "quite" (32 percent) or "extremely" (16 percent) important. It appears, therefore, that some forms of financial incentives (although, not necessarily, tax concessions) are important in the site location decisions of a majority of large corporations in the United States.

Summary of Literature Review

There appears to be little or no evidence that tax concessions play a major or even significant role in the site selection processes of firms. The business facility location decision-making process is complex and driven primarily by economic considerations beyond the capacity of state and/or local governments to affect, particularly in the short-term.

Tax structures and rates and forms of financial incentives, other than tax concessions, however, do appear to be important considerations in the site selection process of corporations. This suggests that states (and localities) (a) should be concerned about the effects of taxes on the competitiveness of

Table 2
Influences on Plant Location Decisions
Michigan
(Establishment Weighted)

Criterion	Total Sample
Access to Markets	1
Land, Building, Rent Cost	2
Labor Cost	3
Skilled Labor Pool	4
Local Property Taxes	5
Transportation	6
Specialized Suppliers	7
Quality of Living	8
Raw Materials	9
Energy	10
Qualified Professionals	11
State Taxes on Business	12
Financing and Capital	13
Labor/Management Relations	14
Unemployment Compensation Cost	15
Tax Incentives	16
Attitude of State Government	17
Crime Rates	18
Workers' Compensation Cost	19
Licensing and State Regulations	20
Water	21
State and Local Government Services	22
Access to Universities	23

Source: Patricia A. Braden and Susan R. Rideout, "Location Decision-Making in Export-Oriented Business and Industry," (Ann Arbor: Division of Research, Graduate School of Business Administration, University of Michigan, 1978), p. III-13.

Table 3

**Fortune Survey
Comparative Importance of Factors in Locating Next
Mainland U.S. Plant**

(1981 Rank Order)				
1981				
Rank	Factor	Weighted Score*		
(Figures in () are 1976 ranks)		1981	1976	Notable Changes
1.	Productivity of Workers (1)	82	82	
2.	Efficient transportation facilities for materials and products (1)	79	82	
2.	Community receptivity to business and industry (3)	79	80	
4.	State and/or local attitude toward taxes on business and industry (5)	77	79	
5.	Availability of energy supplies (3)	75	80	-5
6.	Ample area for future expansion (8)	71	70	
7.	Costs of property and construction (6)	70	71	
7.	Availability of skilled workers (11)	70	65	+5
7.	Quality of life for employees (n/a)	70	n/a	
10.	State and local posture on environmental controls and processing of Environmental Impact Reports (6)	69	71	
11.	Water Supply (9)	66	68	
11.	Calm and stable social climate (14)	66	62	+4
13.	Adequate civic waste treatment facilities (14)	63	62	
14.	Availability of technical or professional workers (22)	62	53	+9
15.	Financing inducements (23)	61	51	+10
15.	Fiscal health of state and/or city (12)	61	63	
15.	Proximity to customers (12)	61	63	
15.	Availability of unskilled or semi-skilled workers (10)	61	66	-5
19.	State and/or local personal income tax structure (17)	60	60	
20.	Proximity to raw materials, components, or supplies (16)	59	61	
20.	Proximity to services (17)	59	60	
20.	Efficient transportation facilities for people (20)	59	55	+4
23.	A growing regional market (20)	57	55	
24.	Availability for clerical workers (24)	49	47	

Table 3 (Continued)

(1981 Rank Order)				
1981 Rank	Factor	Weighted Score*		
(Figures in () are 1976 ranks)		1981	1976	Notable Changes
25.	Personal preferences of company executives (26)	42	36	+6
26.	Proximity to other company facilities (25)	37	37	

n/a: not asked

*Weighted Score: Respondents were asked to rate each of 26 possible factors as to their importance in locating the company's probable next new plant. The rating scales had five points, ranging from "extremely important" to "not at all important." For ease of interpretation, the answers were presented in the form of "weighted scores" so that if every respondent had said "extremely important," the weighted score would be 100, and if every respondent had said "not at all important," the weighted score would be 0.

Source: FORTUNE Market Research Survey, Why Corporate America Moves Where, (New York, New York: Time Inc., 1982), p. 9.

businesses in their jurisdictions, and (b) should consider more cost-effective industrial incentives if they seek to offer financial assistance to firms to influence their behavior to achieve some specified public purpose.

The importance of tax incentives lies primarily in its psychological effects on businesses. They are often viewed as measures of a jurisdiction's business climate and willingness to work with business to improve their operating environment. The results of this study suggest that state and local governments should offer a small set of tax concessions that are relatively inexpensive in terms of tax revenues forgone. The Institute for

Public Policy and Business Research has made proposals to the Kansas Legislature to this effect. The overall strategy in using taxes as a tool of economic development, should be to arrange the tax structure so as to (1) neutralize the tax issue for firms, and (2) send signals to industry that Kansas is willing to try to work with business. Following these principles, Kansas should make only a limited use of tax concessions and do so at the least cost possible.

III. THE KANSAS JOB EXPANSION AND INVESTMENT TAX CREDIT - COSTS AND BENEFITS TO THE STATE GOVERNMENT

Across the United States, 31 states have job creation tax incentives and 29 states allow investment tax incentives. Kansas allows a Job Expansion and Investment Tax Credit (JE&ITC) to new and expanding firms in an amount equal to \$100.00 (\$350.00 in an enterprise zone (EZ)) for each job created and \$100.00 (\$350.00 in an EZ) for each \$100,000.00 of capital investment. The following example demonstrates the Job Expansion and Investment Tax Credit for a firm outside an EZ. The example is based on 100 employees, \$1,000,000 capital investment, and \$200,000 Kansas taxable net income. The tax credit can be taken for up to 10 years. The credit is recomputed each year during the 10-year period to reflect any changes in the amount of jobs or capital investment. If the example were to remain constant for the 10-year period, the total savings to the firm (ignoring increases in federal tax liability) would have a present value of \$39,747.67 (at a 10% discount rate).

1. Kansas taxable net income		\$200,000.00
2. Kansas corporate income tax		12,937.50
(a) 4.5% x \$200,000	\$ 9,000.00	
(b) 2.25% x excess of \$25,000, i.e.,	3,937.50	
3. Credit		6,468.75
(a) \$100/employee	10,000.00	
(b) \$100/\$100,000 capital investment	1,000.00	
(c) TOTAL credit	11,000.00	
NOTE: Total credit cannot exceed 50% of corporate income tax. (50% x 12,937.50 = 6,468.75)		
4. Total income tax liability- line 2 minus line 3		6,468.75

Table 4 sets out a summary of the JE&ITC in Kansas and the surrounding states. A comparison indicates that the Kansas JE&ITC is not one of the most generous in the area, nor one of the least generous; rather we are somewhere in between.

The following is an accounting of the costs and the benefits to Kansas state government of operation of the JE&ITC Act for fiscal year 1985.

Costs

Costs of the JE&ITC are defined as the dollar amount of state tax revenue forgone through operation of the tax credit for one year (FY'85). Although there are some claims still unaudited, the amount of JE&IT credit allowed to date by the state in FY'85 to firms located outside an EZ is \$637,823.00, and the amount of credit allowed to firms inside an EZ is \$26,068.00, making the

Table 4
Job Expansion and Investment Tax Credits: Kansas and Surrounding States

	Kansas	Missouri	Oklahoma	Nebraska	Iowa	Colorado
A. Credit for New Firms						
1. Job and Investment Tax Credits	\$100/new job; \$100/\$100,000 investment.	\$75/new job; \$75/\$100,000 investment.	1% tax credit/one new job and \$50,000 investment.	\$500 credit/new job; \$500 credit/\$100,000 investment.	6% of taxable wages for new jobs created.	10% of Federal Credit; \$500/new employee.
2. Limitation	50% of liability for 10 years.	100% of liability for 10 years.	100% of tax liability for 5 years. Must be new manufacturing or processing business.	50% of liability for 5 years. Two jobs minimum; \$100,000 minimum investment.	One year; qualifications: 1) must enter into agreement with an area Community College; 2) must increase employment 10% above existing base level.	Must qualify for Federal Tax Credit.
B. Credits for Expansion						
1. Job and Investment Tax Credits	\$100/new job; \$100/\$100,000 investment.	\$100/new job; \$100/\$100,000 investment.	1% tax credit/one new job and \$50,000 investment.	\$500 credit/new job; \$500 credit/\$100,000 investment.	6% of taxable wages for new jobs created.	10% of Federal Credit.

<p>2. Limitation</p> <p>50% of liability for 10 years.</p> <p>100% of liability for 10 years.</p> <p>100% of tax liability for 5 years. Must be expanding manufacturing or processing business.</p> <p>50% of liability for 5 years. Two jobs, \$100,000 minimums, respectively.</p> <p>One year; qualifications: 1) must enter into agreement with an area Community College; 2) must increase employment 10% above existing base level.</p> <p>Must qualify for Federal Tax Credit.</p>
--

C. Credits Within Enterprise Zones

<p>1. Job and Investment Tax Credits</p> <p>\$350/new job (\$500/job if employee is eligible for Federal Tax Credit); \$350/\$100,000 investment.</p> <p>\$400/new job plus \$400 if distressed plus \$400/job for training zone resident; 10% credit for first \$10,000; 5% for credit for next \$90,000; 2% of remaining investment.</p>	<p>2% tax credit/one new job and \$50,000 investment.</p> <p>2% tax credit/NO ENTERPRISE ZONES</p> <p>NO ENTERPRISE ZONES</p> <p>30% of Federal Credit.</p>
---	---

2. Limitation

50% of liability for 10 years.

100% of liability for 10 years.

Unused credits refunded at 50% or \$50,000 in first year and 25% or \$25,000 in second year.

100% of tax liability for 5 years.

Must be new or expanding manufacturing or processing business.

--

--

Limits \$5,000 plus 25% of any additional. Carry back 3 and forward 5. Must qualify for Federal Tax Credit.

total amount of credit allowed for FY'85 in Kansas \$663,891.00. A firm may take the JE&ITC for up to 10 years. Assuming that the total capital investment and employment levels which generated this credit stay constant over the 10 years the credit is allowed, then the present value (calculated at a 10% discount rate) of costs incurred by the state for operation of the JE&ITC during FY'85 is \$4,079,345.00.

Benefits

The purpose of the JE&ITC is to increase economic activity in Kansas by inducing firms to locate and expand in the state. If the credit is successful, costs will be offset by increases in Kansas tax revenue due to taxes paid by the new and expanded firms. Income tax revenue from business would be pushed upwards as firms are induced to locate or expand in the state. Business property acquired in response to the tax credit would create a positive effect on property tax receipts. A successful tax credit would also lead to increases in tax revenue as the number of jobs in the state increases and the new jobholders pay personal income, sales, and property taxes. Benefits to Kansas from the JE&ITC are defined as these increases in tax revenues that can be attributed to the credit.

In order to estimate these tax revenue benefits, one must first determine the increase in economic activity due to the credit. That is, how many jobs were created and how much capital was purchased by firms in order to qualify for the total tax

credit given out by the state. We used data from the Kansas Department of Economic Development on new and expanding manufacturing firms to estimate a capital to labor ratio for new and expanding Kansas industry. It was assumed that firms qualified for the credit following this ratio of 1 job for every \$235,175.00 of capital investment. Accordingly, 1925 jobs were created and \$452,753,353.00 of capital investment took place in order to qualify for the tax credit allowed by Kansas in FY'85. Also, once new industries settle in Kansas, or existing industries expand, then new jobs will open up not only in that firm but also in other firms in other industries which supply the new firms. This effect is called an employment multiplier. For purposes of this study we will assume a common and modest multiplier of two. This means that 3,850 jobs were ultimately created by firms qualifying for the credit.

Obviously, not all of this investment took place as a direct response to the tax credit. A good deal of the capital and labor investment is likely to have occurred even in the absence of a Kansas JE&IT credit. Several studies have attempted to measure the significance of tax incentives to firms in making their decisions to invest in a particular state. The results of these studies are fairly constant: tax incentives are of little significance. One major study estimates that only 3.3 percent of new or expanding firms view tax incentives as significant in their site location decision⁴. Of course, the effectiveness of any particular tax incentive may be greater or less than other

incentives depending on the generosity of that particular credit. For instance, the Sales Tax Refund may be a greater factor in certain firms' location decisions than the JE&ITC since in FY'85 the Sales Tax Refund amounted to a return of \$3,000.00 for each \$100,000.00 of capital purchased in the state, while the JE&ITC would return only \$614.46, (present value of \$100.00 a year for 10 years with a 10% discount rate). Our analysis of the cost effectiveness of the JE&ITC (and the Sales Tax Refund) assumes initially that the percentage of firms responding directly to the credit or the refund in making their site location decision is the same as the percentage for tax incentives in general: 3.3 percent. We will also provide estimates, in table form, of the cost-effectiveness of these tax incentives given higher response rates. Assuming a response rate of 3.3%, we estimate that 127 new jobs were created and \$14,940,861.00 capital was invested in FY'85 as a direct response to the JE&ITC Act. Table 5.0 shows the amount of capital and labor investment which can be attributed to the tax credit at different response rates.

Table 5.0

Capital and Labor Investment in Kansas
Due to the Job Expansion and Investment Tax Credit

Investment Attributable to Credit	Response Rate Assumption ²			
	100%	3.3%	8%	19%
Capital	\$452,753,353	\$14,940,861	\$36,220,268	\$86,023,137
Labor ¹	3,850	127	308	731

¹Figures represent amount of new jobs created which qualify for credit plus an employment multiplier effect.

²Percent of firms claiming credit which found credit significant in their decision to locate in Kansas.

The new jobs and capital investment represent an increase in economic activity in the state which benefits all Kansans. The benefit to the state of the new jobs and capital is measured by the increase in state and local tax revenues it brings about: increases in individual and corporate income tax revenues, property tax revenues from individual and business property, and sales tax revenues. The costs of the JE&ITC for FY'85 occur over 10 years, however these benefits could continue to occur year after year, indefinitely, as long as the initial investment is still in place. For this study, we will measure the benefits that are likely to occur in FY'85 and, since we are assuming that the investment stays constant over the 10 years the credit is allowed, we will assume that the same level of benefits occurs for at least 10 years.

To estimate the increase in Kansas personal income tax revenue due to job creation resulting from the JE&ITC, we first estimated the average annual wage for workers in new and expanding firms. Using data from the Kansas Department of Economic Development, we found the average annual wage for workers in new and expanding manufacturing firms to be \$18,000. The most recently available data from the Kansas Department of Revenue shows that for calendar year 1984, there were 147,612 Kansas individual income tax returns with an adjusted gross income in the \$14,000 to \$20,000 range. The average income tax liability for this range was \$310.12. We use this average income tax payment to estimate that the new jobholders in the firms which came to or expanded in Kansas because of the tax credit will add \$39,385.00 to Kansas individual income tax revenues. Using a 10% discount rate, this amounts to a present value of \$242,005.00 over 10 years.

The JE&ITC also creates benefits by encouraging the accumulation of business capital in the state and thereby causing an increase in Kansas state and local property tax revenue. To estimate these benefits we multiplied the value of capital investment due to the credit, \$14,940,861.00, by the FY'85 state average assessment ratio for real and tangible personal property, 10.44%, which gives us the assessed value of the capital investment. The average tax rate on the assessed real and tangible personal property value in Kansas was 11.51% in 1985. We applied this rate to the assessed value of the capital investment

created by the tax credit to estimate an increase in property tax revenues due to the tax credit of \$179,536.00 in FY'85. If we assume that the firm's business capital depreciates evenly over 15 years, then the present value of the changing property tax liability over 10 years is \$829,050.00. In FY'85 2.19 percent of this type of revenue went to the state, and 97.81 percent went to local governments.

The JE&ITC also leads to increases in Kansas corporate income tax revenue. To estimate these benefits for FY'85 we first determined the number of firms that found the Kansas JE&ITC to be significant in their location or expansion decision since only the tax revenue from these firms can properly be attributable to operations of the JE&ITC. We did this multiplying the number of firms using the credit in 1985 by the percentage of firms that find tax incentives to be a significant factor in site location. We then multiplied this number by the average corporate income tax liability for Kansas firms, \$8,317, to arrive at a very rough estimate of the total increase in annual Kansas business income tax revenue due to the credit, \$41,585.00. The present value of the increase in Business income tax revenue over 10 years attributable to the JE&ITC Act is \$255,523.00.

The JE&ITC may also lead to increases in state and local sales tax revenues as the new wage earners make personal consumption expenditures. To estimate this increase in revenue we use data made available by the Institute for Public Policy and Business Research's Activity Analysis Model. The model gives us

total personal consumption expenditures and total value added from which we can calculate the average propensity of Kansans to consume from income: 63.22 percent. From the model we also know the total sales tax expenditures as a percentage of total personal consumption: 2.50 percent. From these two percentages we estimate the total increase in state and local sales tax revenue due to the JE&ITC to be \$36,130.00, with a ten year present value of \$222,004.00. In FY'85, total sales tax revenues were split 80% to the state and 20% to local governments.

Another possible benefit of the JE&IT credit is an increase in state and local tax revenues due to the new wage-earners acquiring and paying taxes on new property. The categories of Kansas property taxes which are predominantly paid by individuals are rural homesites and subdivisions real estate, urban residential real estate, city and township personal property, and motor vehicle registration and taxes. Kansas per capita payment of these taxes for fiscal year '85 is \$240.00. We multiplied this per capita payment by the number of new jobs created to estimate that this type of tax revenue would increase \$30,480.00 because of the JE&ITC. In FY'85, 12.4% of this revenue went to the state and 87.6% went to local government. We used these percentages to divide the JE&ITC induced increases in property tax and motor vehicle tax revenue among the political subdivisions.

The costs and benefits of the JE&ITC are summarized in Tables 5.1 through 5.3. The results of Table 5.1 indicate that

if the credit was influential for 3.3% of the firms which claimed it, then the JE&ITC would not be cost-effective at either the state level, the local level, or both together. Table 5.2 shows that if we assume 10% of the expansion or location decisions were influenced by the credit, then, using the same estimation techniques discussed above, the credit would be cost-effective with state and local revenues combined. It would require a 19% rate of influence for the JE&ITC to be cost-effective at the state level alone.

Table 5.1

Job Expansion and Investment Tax Credit
3.3 Percent Response Rate

	State	Local	State and Local
COSTS			
For Fiscal '85	\$ 663,891	--	\$ 663,891
Ten year present value ¹	4,079,345	--	4,079,345
BENEFITS			
Business income tax revenue	41,585	--	41,585
Property tax revenue (business property) ²	3,932	175,604	179,536
Personal income tax revenue	39,385	--	39,385
Sales tax revenue	28,908	7,222	36,130
Property tax revenue (individual's property)	3,780	26,700	30,480
Total Fiscal '85 benefits	117,590	209,526	327,116
Ten year present value ¹	716,539	1,019,331	1,735,870
Present value cost ¹ + present value benefit ¹	5.69	4.00 ³	2.35
Present value cost ¹ less present value benefit ¹	3,362,806	3,060,014 ³	2,343,475

¹Present value calculation assumes a 10% discount rate.

²Business property is assumed to depreciate evenly over 15 years.

³Present value of cost to state + (-) present value of benefits to locality.

Table 5.2
Job Expansion and Investment Tax Credit
8 Percent Response Rate

	State	Local	State and Local
COSTS			
For Fiscal '85	\$ 663,891	--	\$ 663,891
Ten year present value ¹	4,079,345	--	4,079,345
BENEFITS			
Business income tax revenue	108,121	--	108,121
Property tax revenue (business property) ²	9,532	425,707	435,239
Personal income tax revenue	95,517	--	95,517
Sales tax revenue	70,107	17,516	87,623
Property tax revenue (individual's property)	9,166	64,754	73,920
Total Fiscal '85 benefits	292,443	507,977	800,420
Ten year present value ¹	1,782,390	2,471,314	4,253,704
Present value cost ¹ ÷ present value benefit ¹	2.29	1.65 ³	.96
Present value cost ¹ less present value benefit ¹	2,296,964	1,608,040 ³	-174,350

¹Present value calculation assumes a 10% discount rate.

²Business property is assumed to depreciate evenly over 15 years.

³Present value of cost to state ÷ (-) present value of benefits to locality.

Table 5.3

Job Expansion and Investment Tax Credit
19 Percent Response Rate

	State	Local	State and Local
COSTS			
For Fiscal '85	\$ 663,891	--	\$ 663,891
Ten year present value ¹	4,079,345	--	4,079,345
BENEFITS			
Business income tax revenue	249,510	--	249,510
Property tax revenue (business property) ²	22,638	1,011,054	1,033,692
Personal income tax revenue	226,698	--	226,698
Sales tax revenue	166,390	41,572	207,962
Property tax revenue (individual's property)	21,755	153,685	175,440
Total Fiscal '85 benefits	686,991	1,206,311	1,893,302
Ten year present value ¹	4,186,719	5,868,567	10,055,286
Present value cost ¹ ÷ present value benefit ¹	.97	.2571 ³	.41
Present value cost ¹ less present value benefit ¹	-107,374	-11,789,222 ³	-5,975,933

¹Present value calculation assumes a 10% discount rate.

²Business property is assumed to depreciate evenly over 15 years.

³Present value of cost to state ÷ (-) present value of benefits to locality.

**IV THE KANSAS SALES TAX REFUND ON MANUFACTURING MACHINERY
AND EQUIPMENT - COSTS AND BENEFITS TO THE STATE
GOVERNMENT**

Forty-two out of the fifty states allow some kind of sales tax exemption or refund on machinery and equipment. A comparison shows that the Kansas sales tax incentive is more restrictive than that of most surrounding states since it is only a refund and not an exemption. (Effective July of 1987, the Kansas sales tax refund will change to an exemption for firms in EZs but will remain a refund for firms outside EZs.) In fiscal year 1985 Kansas allowed a refund of sales tax paid on machinery and equipment for new or expanding manufacturing firms. New firms within a Kansas EZ could receive a refund on the sale of tangible personal property or services used to construct or remodel a new facility (as long as the facility qualifies for the JE&ITC) and a refund of sales tax paid on the purchase of equipment and machinery. This section of the report sets out an account of the costs and benefits to Kansas from the fiscal year 1985 sales tax refund.

Costs

The cost to the state for operation of the Kansas Sales Tax Refund during FY'85 is defined as the total amount of sales tax refunded during FY'85 to firms inside an EZ and during FY'86 to firms outside an EZ. Fiscal year '86 figures are used for non-EZ costs because sales tax paid on non-EZ capital purchases in fiscal '85 are not refundable for one year. Thus, non-EZ costs incurred in fiscal '85 would not be paid out until fiscal '86 at

the earliest. The total refund granted in 1985 to firms inside an Enterprise Zone (EZ) was \$294,970.00. The total cost of the refund granted to firms located outside an Enterprise Zone was \$153,210.00 which is the FY'85 present value of \$168,548.00 paid out in FY'86 using a 10% discount rate. The summation of these two refunds gives us a total cost figure from operating the sales tax refund during FY'85 of \$448,180.00. In contrast to the JE&ITC, which allows firms qualifying in one year to take the credit for the next 10 years, the costs of operating the sales tax refund for one year, FY'85, are paid out only once, either in the same or in the next year.

Benefits

The purpose of this refund is to induce firms to purchase equipment and increase employment in Kansas. If the refund is successful there will be resulting increases in economic activity in the state which benefits all Kansans. The benefit to the state and local governments of the new jobs and capital is measured by the increase in tax revenues it brings about: increases in individual and corporate income tax revenues, property tax revenues from individual and business property, and sales tax revenues.

While the costs of the sales tax refund occur only once, the benefits accruing from those costs would continue as long as the equipment and employment investments are still in place. For purposes of this study, we will arbitrarily assume that the benefits will continue for at least 10 years. To estimate these

benefits, one must first determine how much labor and/or equipment was purchased by the firm in order to qualify for the sales tax refund given by the state in FY85. The total capital investment was calculated for firms inside a EZ and outside an EZ by taking the total refund granted and dividing it by the 1985 sales tax rate of 3%. The results of this calculation were a capital investment of \$9,832,333.33 inside an EZ and \$5,618,266.67 outside of an EZ. To determine the increase in labor concurrent with this capital investment, it was assumed that EZ firms qualifying for the refund followed the estimated capital to labor ratio for Kansas new and expanding industry of 1 job for every \$235,175.00 of capital investment. Accordingly, 42 jobs were created due to the \$9,832,333.33 capital investment inside Enterprise Zones. In order to qualify for the sales tax refund outside of an EZ, a minimum of 2 jobs must be created for every \$50,000 capital investment. Consequently, a minimum of 225 jobs were created along with the \$5,618,266.67 capital investment outside an EZ.

The new output produced by the new jobs and capital investment will require increased use of intermediary goods. Additional labor will be required to supply this secondary demand. To measure the total amount of labor required we again will use an employment multiplier of 2. This means that ultimately 18 jobs and \$509,870 worth of capital were created as a direct response to the sales tax refund assuming a response rate of 3.3%. The amount of capital and employment investment which can

be attributed to the tax refund at different response rates is set out in Table 6.0.

Table 6.0
Capital and Labor Investment in Kansas
Due to the Sales Tax Refund

Investment Attributable to Refund	Response Rate Assumption ²			
	100%	3.3%	8%	19%
Capital	\$15,450,600	\$509,870	\$1,236,048	\$2,472,096
Labor ¹	534	18	43	85

¹Figures represent amount of new jobs created which qualify for refund plus an employment multiplier effect.

²Percent of firms claiming credit which found refund significant in their decision to locate in Kansas.

As previously stated tax incentives are of little significance to firms in making their decisions to invest in a particular state. As with the JE&ITC, a 3.3% significance level was initially used to estimate that in FY85, 9 new jobs were created and \$509,870.00 was invested in capital as a direct response to the sales tax refund.

The increases in tax revenues from the refund-induced increases in jobs and capital were estimated using the same models, studies and methods employed above to find the benefits for the JE&ITC. However, the property tax revenues on business capital were calculated using a different assessment rate and mill levy than were applied to the JE&ITC created capital. This

is to reflect the fact that real estate investment can qualify for a JE&ITC but not for a sales tax refund. The results are summarized in Tables 6.1 through 6.3. Table 6.1 shows the costs and benefits assuming a 3.3 response rate. Table 6.2 shows the response rate, 8%, necessary for the refund to be cost effective for the state and local government together. Table 6.3 shows that if the response rate is 16%, the tax credit will be cost effective even if we only count the resulting revenues to the state and not to the local governments, or vice-versa.

Table 6.1
Sales Tax Refund
3.3 Percent Response Rate

	State	Local	State and Local
COSTS	\$ 448,180	--	\$ 448,180
BENEFITS			
Business income tax revenue	8,317	--	8,317
Property tax revenue (business property) ²	337	15,069	15,406
Personal income tax revenue	5,582	--	5,582
Sales tax revenue	4,097	1,024	5,121
Property tax revenue (individual's property)	536	3,784	4,320
Total Fiscal '85 benefits	18,869	19,877	38,746
Ten year present value ¹	115,430	99,126	214,556
Present value cost ¹ + present value benefit ¹	3.88	4.52 ³	2.09
Present value cost ¹ less present value benefit ¹	332,750	349,054 ³	233,624

¹Present value calculation assumes a 10% discount rate.

²Business property is assumed to depreciate evenly over 15 years.

³Present value of cost to state + (-) present value of benefits to locality.

Table 6.2
Sales Tax Refund
8 Percent Response Rate

	State	Local	State and Local
COSTS	\$ 448,180	--	\$ 448,180
BENEFITS			
Business income tax revenue	16,634	--	16,634
Property tax revenue (business property) ²	818	36,530	37,348
Personal income tax revenue	13,335	--	13,335
Sales tax revenue	9,788	2,445	12,233
Property tax revenue (individual's property)	1,280	9,040	10,320
Total Fiscal '85 benefits	41,855	48,015	89,870
Ten year present value ¹	255,933	239,257	495,190
Present value cost ¹ + present value benefit ¹	1.75	1.87 ³	.92
Present value cost ¹ less present value benefit ¹	192,247	208,923 ³	-41,010

¹Present value calculation assumes a 10% discount rate.

²Business property is assumed to depreciate evenly over 15 years.

³Present value of cost to state + (-) present value of benefits to locality.

Table 6.3
Sales Tax Refund
16 Percent Response Rate

	State	Local	State and Local
COSTS	\$ 448,180	--	\$ 448,180
BENEFITS			
Business income tax revenue	29,109	--	29,109
Property tax revenue (business property) ²	1,636	73,061	74,697
Personal income tax revenue	26,360	--	26,360
Sales tax revenue	19,348	4,834	24,182
Property tax revenue (individual's property)	2,530	17,870	20,400
Total Fiscal '85 benefits	78,983	95,765	174,748
Ten year present value ¹	482,820	476,885	959,705
Present value cost ¹ + present value benefit ¹	.93	.94 ³	.47
Present value cost ¹ less present value benefit ¹	-34,640	-28,705 ³	-511,525

¹Present value calculation assumes a 10% discount rate.

²Business property is assumed to depreciate evenly over 15 years.

³Present value of cost to state + (-) present value of benefits to locality.

Footnotes

1. Kansas Economic Development Study, Volume III, ASLAN, June 1986.
2. For reviews of these studies see: Larry C. Ledebur and David W. Rasmussen, "State Development Incentives" (Urban Institute Report, May 10, 1983) and George A. Reigeluth and Harold Wolman, "The Determinants and Implications of Communities Changing Competitive Advantages: A Review of Literature" (Urban Institute Report, January 9, 1979).
3. Michael Kieschnick, Taxes and Growth: Business Incentives and Economic Development, (Washington, DC: Council of State Planning Agencies, 1981).
4. Roger Vaughan, The Urban Impacts of Federal Policies: Vol. 2, Economic Development (Santa Monica: The Rand Corporation, June 1977).
5. Roger Schmenner, "The Location Decisions of Large, Multi-Plant Companies," Mimeo, 1980.
6. Conclusions of Barry M. Rubin and C. Kurt Zorn, "Sensible State and Local Economic Development," Public Administration Review, March/April 1985, 333-339. As sources supporting these conclusions, the authors cite: Michael Wasylenko, "The Location of Firms: The Role of Taxes and Fiscal Incentives," in Urban Government Finance. Roy Bahl, Ed. (Beverly Hills, California: Sage Publications, 1981), 155-190.
7. Roger W. Schmenner, Making Business Location Decisions, (Englewood Cliffs, New Jersey: Prentice-Hall Inc. 1982).