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An Examination of Incentives to Attract and Retain Businesses in Kentucky

William Hoyt

University of Kentucky, william.hoyt@uky.edu

Christopher Jepsen

University of Kentucky, chris.jepsen@uky.edu

Kenneth R. Troske

University of Kentucky, ktroske@uky.edu

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An Examination of Incentives to Attract and Retain Businesses in Kentucky

*Submitted to the
Kentucky Cabinet for Economic Development*

By

**Center for Business and Economic Research
Gatton College of Business and Economics
University of Kentucky
*Dr. Kenneth R. Troske, Director***

Authors:

William Hoyt, Christopher Jepsen, and Kenneth R. Troske

With Assistance from:

Charles Hokayem and Jillian Kearns

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Executive Summary

The offering of tax and other location-based incentives to firms considering locating operations in a state, as well as firms with existing operations, has become a common practice of both state and local governments in the past thirty years. However, these programs are not without their critics. Some of the concerns about these programs arise from the lack of strong evidence, either supportive or critical of these programs. The Kentucky Cabinet for Economic Development contracted with the Center for Business and Economic Research (CBER) to produce a series of reports examining the effectiveness of tax incentives in Kentucky. The main findings from this report are:

- Kentucky's business incentives are very similar to the incentives offered by its competing states. Each state offers tax incentives, job training, and financing options. The differences between states lie in the types of credits, training, and financing offered.
- Since 1992 there has been a substantial increase in the amount of the tax incentives claimed as well as a substantial reduction in the use of financing programs. Use of the *Bluegrass State Skills Corporation (BSSC)* training program has been small but steady due to state budget and statutory limitations.
- The yearly cost of all incentive programs is quite small relative to the size of the Kentucky economy or the magnitude of Kentucky's taxes, amounting to less than 1% of total state revenues in a year.
- The main results from our empirical analysis are:
 - The tax incentive program, when measured by incentives claimed, is positively associated with the growth of employment and earnings in a county. A ten percent increase in tax incentives, which is equivalent to \$91,036, is predicted to increase employment by 3.40 jobs and earnings by \$218,280 in a county with average employment.
 - The BSSC training program is also associated with an increase in employment and earnings in a county. A ten percent, or \$7,004, increase in this program is predicted to increase employment by 2.79 jobs and increase earnings by \$160,146 in the typical county.
 - Financing programs were found to have no significant relationship with either employment or earnings.
 - We find that both the tax incentive and BSSC training incentives are associated with long-term (five years) impacts on employment and earnings that are as much as four times larger than the short-term impacts.
 - The use of business incentives in the state of Kentucky is associated with an additional 4,981 jobs, 0.22% of Kentucky's employment, annually during the period 1996 to 2004. We estimate that on net the number of jobs in Kentucky would be 2 percent lower in 2004 in the absence of the \$925 million that has been spent on business incentives over this time period.

- The main conclusions in the report are:
 - Given that we find no evidence of a relationship between economic activity and financing, the recent decline in this program seems appropriate.
 - Based on our evidence showing that training incentives are positively related to economic activity in an area, and given that relatively little is spent on this program, the Legislature may want to consider increasing the amount spent on training incentives.
 - While the tax incentive program is associated with an increase in economic activity in an area, before recommending the program be expanded we need to examine in more detail the impacts of the separate tax incentive programs.
 - Addressing the question of whether business incentives affect a firm's location decision requires data on both the incentives offered to the firm by Kentucky as well as incentives offered by other states trying to attract the firm. Since it is unlikely that data on other states' incentives will ever be available, we are unable to examine this question.

I. Introduction

The offering of tax and other location-based incentives to firms considering locating operations in a state, as well as firms with existing operations, has become a common practice of both state and local governments with no abatement of this practice apparent in the near future. These incentive programs are used by states throughout the U.S. in hopes of attracting very visible projects such as automobile assembly plants and high-technology firms, but also much smaller enterprises. Although frequently used by states to entice firms to the state, these programs are not without their critics.

Undoubtedly some of the concerns about these programs arise from the lack of strong evidence, either supportive or critical of these programs. A significant literature has developed that examines the effectiveness of programs that focus on economic development in specific areas, such as enterprise or empowerment zones or tax incremental financing (TIF), but there is a very limited literature on incentive programs used throughout a state. The literature that has developed on business incentive programs has generally been theoretical and focused on when these incentives might be successful.

The Kentucky Cabinet for Economic Development contracted with the Center for Business and Economic Research (CBER) to produce a series of reports examining the effectiveness of business incentives in Kentucky. This initial report consists of six additional parts. In the following section of the report we briefly review the few previous studies that have examined the effectiveness of state's efforts to attract businesses, paying particular attention to some of the weaknesses of these previous efforts and our efforts to correct these problems. In section III we outline the incentive programs that currently exist in Kentucky. In section IV we review the incentive programs used in states Kentucky tends to compete with when trying to attract new businesses. In section V we discuss the data we use to examine the impact of business incentives and describe our empirical methodology.

In section VI we present the results from our analysis. In the current analysis we start by looking at the overall effect of business incentives in the state. We also examine the persistence of the effects by looking at both short-run and long-run affects and we examine whether incentives offered to firms locating in one county spillover to adjacent counties. Finally, we examine whether the effectiveness of the incentives varies by region. In section VII we summarize our results, draw some conclusions, and discuss issues we feel should be examined in subsequent reports.

One limitation of the report is that it does not evaluate whether the incentive programs influence companies' decisions to locate or expand in Kentucky. Providing a complete answer to this question requires data from Kentucky on incentives offered to firms considering locating in Kentucky as well as data on incentives offered by other states that are also trying to convince the firm to locate in their state. Since it is unlikely that data on incentives offered by other states will be available, we are unable to address this question.

II. A Review of the Literature on Business Incentives

Numerous studies have been written on business incentives and their impacts on economic growth. This section provides a critical analysis of this literature. It contains separate sections on the impact of taxes in general and on the impact of economic development incentives in particular.

II.A Taxes and Economic Growth

Many researchers have studied the effects of taxes on economic growth. In general, these studies look at the relationship between tax rates (such as the corporate tax rate) and economic growth. Economic growth typically means employment growth, but some studies use alternate measures such as rate of return on investment. Reviews of the literature often conclude that taxes have a negative relationship with economic growth (Bartik, 1991; Wasylenko, 1997)—higher taxes are associated with lower economic growth. However, it is unclear whether higher taxes cause lower economic growth, or whether there are other factors that are associated with both higher taxes and lower economic growth.

II.B Economic Development Incentives and Economic Growth

Few researchers have looked explicitly at the effects of economic development incentives on economic growth. It is difficult to measure the impact of these programs because data on taxes paid by firms, which is what is needed to evaluate these programs, is confidential.¹ Because of this states typically have not conducted regular evaluations of their development incentive programs (Buss, 2001), although regular assessments are starting to become more common. For example, North Carolina and Georgia now require periodic evaluations of their incentive programs. However, Ihlanfeldt and Sjoquist (2001) claimed that only one of Georgia's incentive programs, the job tax credit program, had sufficient data to be evaluated. Similarly, evaluations of North Carolina's programs have been limited by data availability. Faulk (2002) found that Georgia's jobs tax credit created a modest number of new jobs, at a price below most other tax incentive programs: under \$2,500 per job created (in 1993 to 1995 dollars). The results from North Carolina suggest positive effects of their incentive programs (Luger, 2001; Luger, 2003). Their technique uses simulations which tend to be less reliable than estimates based on actual data.

When Georgia was considering adopting targeted tax incentive programs, they contracted with outside investigators to study the effects of three of Kentucky's incentive programs: *Kentucky Industrial Development Act (KIDA)*, *Kentucky Rural Economic Development Act (KREDA)*, and *Kentucky Jobs Development Act (KJDA)*. Edmiston, Sjoquist, and Thomas (2003) found that Kentucky's growth in manufacturing employment was higher than growth in the rest of the Southeast in the period immediately following the implementation of these programs. Because manufacturing growth in Kentucky was also higher than the rest of the Southeast in the period immediately before the implementation of the three programs, the authors concluded that the programs did not have much of a causal effect on manufacturing employment. However, this

¹ As an agent to the Cabinet for Economic Development, the University of Kentucky was given access to confidential county-level information with strict limitations to its use.

analysis did not consider any factors other than employment growth, so the authors were unable to determine whether the programs had a positive impact on the economy.

In addition to these state-funded evaluations, some researchers have written academic articles on development incentives. These articles vary greatly in their statistical sophistication, their measures of economic development, and the time periods studied.

Fisher and Peters (1997) provided the most detailed summary of the economic development literature. They generally found a positive relationship between development incentives and economic growth, but they also pointed out that the pre-1997 literature did not adequately control for differences across counties and states in general business climates. For example, a county or state may use business incentives to level the playing field with other more attractive counties or states. More recent work is aware of these county and state differences, but authors still often failed to control adequately for these differences.

The most informative and technically rigorous work on economic development incentives is the work by Greenstone and Moretti (2003). In this work, the authors compared economic growth in counties that won “million-dollar plants” with counties that lost the competition for these plants. Greenstone and Moretti (2003) provided detailed evidence that the winning and losing counties were quite similar before the plant was built. However, the winning counties have had dramatically higher economic growth after the plants were built. This paper provides compelling evidence that the construction of these plants lead to higher economic growth. However, the authors did not have data on the size of the incentives, so they could not say whether or not the benefits of the plants outweighed their costs.

Why are some economic development incentives more successful? Are there some regions that are more successful than others? Bartik (1991) suggested that economic incentives could have a net positive influence if they were used by high-unemployment communities. His argument is that these areas have a hard time attracting employment, and therefore residents would have a hard time finding employment in the absence of development incentive programs. Continuing the argument, areas with low-unemployment do not need to provide incentives because firms will naturally locate there and residents will have little difficulty finding employment.

However, there is no empirical evidence to support Bartik’s (1991) hypotheses. Fisher and Peters (1998) found that the low-unemployment areas were equally likely, if not more likely, to offer development incentives compared to high-unemployment areas. The authors also constructed a hypothetical firm model where they calculated the costs of a typical manufacturing firm. When they incorporated development incentives into the cost structure, they found that the most attractive locations were ones with low unemployment. Anderson and Wassmer (2001) found similar results for the Detroit area using a slightly different statistical technique.

Probably the most common localized economic development program is enterprise zone programs. Hoyt and Garen (2006) concluded that enterprise zones do not have a clear positive (or negative) impact on economic growth. Similar conclusions have been found for other localized programs such as tax abatement and tax incremental financing.

A final piece of the literature review is to consider the effect of federal programs. The federal government offered several tax credit programs in the 1970s and 1980s. Bishop and Montgomery (1993) and Perloff and Wachter (1979) found modest, positive effects of these programs on employment growth. However, Bishop and Montgomery (1993) estimated that much of the credits went to employers that would have hired workers even in the absence of the tax credit program.

There is a large literature on taxation and business incentives and their effects on economic growth. However, many of the articles in this literature failed to address the fact that these business incentives were not randomly given to companies. Presumably, the companies that received the incentives were the ones who could benefit most from them. Therefore, a simple comparison between firms that receive incentives and those that do not will likely overstate the benefits of the incentives. Many of the more recent articles acknowledged this concern, but they still failed to control for these non-random differences and therefore produce incorrect estimates of the benefits. Furthermore, these papers generally assumed that business incentives have an effect on employment as soon as they are enacted, rather than allowing them time to affect employment over several years. Although Greenstone and Moretti (2003) were careful to avoid the problems with most studies, they only considered the existence of a subsidy rather than the type or amount.

Our analysis of Kentucky's incentive programs is an improvement on previous work for several reasons. First, we use more than ten years of data compared to much shorter time periods in previous research. By using such a rich data set, we can control for unobservable differences between counties in the amount of incentives received. Previous work has used at most five observations per county or state. Second, we use data on actual incentives taken by firms. As we show in subsequent sections, the amount of incentives actually taken is much lower than amount of potential incentives offered to the firm (Faulk, 2002, finds a similar situation for Georgia). Previous work has used much less precise measures of business incentives such as expenditures of state economic development agencies. The true measure of incentives is the dollar amount of incentives taken by companies.

III. Kentucky's Business Incentive Programs

Kentucky offers a wide variety of business incentive programs, including tax incentives, loans, grants, training incentives, and other programs. This section provides an overview of programs administered by The Cabinet for Economic Development, but more detailed information can be found on the Kentucky Cabinet for Economic Development website (www.thinkkentucky.com) as well as by contacting the Cabinet directly.

One common aspect of all business incentive programs offered by the Cabinet is that the size of the actual incentive received is based on the performance of the firm. Companies must meet certain requirements, such as creating a certain number of jobs, undertaking a certain amount of investment, and other criteria, to be eligible to receive any of the incentives awarded. Obviously, firms must also make a profit and incur a tax liability before they can receive a tax credit.

III.A Tax Incentive Programs in the Commonwealth

There are a variety of tax incentive programs offered by the Commonwealth. Each program awards a specific type of credit, often based on some combination of industry, location, type of worker, and environmental concern. Most programs provide a credit for the Kentucky income tax liability and/or a job assessment fee based on the creation of new, full-time jobs for Kentucky residents. The following is a discussion of tax incentive programs administered by the Cabinet for Economic Development, along with a brief explanation of the type of credit based on current Kentucky statutes.

The *Kentucky Industrial Development Act (KIDA)* targets investments in new or expanding manufacturing projects in “non-economically distressed” Kentucky counties. The project must involve a minimum investment of \$100,000 and create and maintain at least 15 new full-time jobs for Kentucky residents. The project is also subject to minimum wage and benefit requirements.² KIDA recipients are eligible to receive up to a 100 percent credit against the Kentucky income tax liability generated by the project or to utilize a three percent job development assessment fee (JDAF).³ However, there is a maximum authorized incentive based upon the firm’s investment in the project. The tax credit or JDAF remains in place until the maximum incentive amount is realized or for a period of ten years, whichever occurs first. Unused credits may be carried forward for the term of the KIDA agreement, but unused credits expire at the end the incentive agreement.

The *Kentucky Rural Economic Development Act (KREDA)* targets investments in new or expanding manufacturing projects in “economically distressed” Kentucky counties. The project

² According to Kentucky statutes any company participating in the tax incentive program is required to compensate at least 90 percent of its employees whose jobs were created as a result of the project with a minimum hourly wage established for the county in which the project is located. In addition, the participating company must provide its new employees with benefits as defined in the statutes equal to 15 percent of the county minimum hourly wage. If employee benefits are less than 15 percent, a company may utilize a combination of wages and employee benefits equivalent to 115 percent of the county minimum hourly wage.

³ A job development assessment fee allows a company to withhold a specified percentage from the gross wages of employees hired as a result of the project. Employees recoup the JDAF through a state income tax credit equal to the amount withheld.

must involve a minimum investment of \$100,000 and create and maintain at least 15 new full-time jobs for Kentucky residents. The project is also subject to minimum wage and benefit requirements (as listed in footnote 2). KREDA recipients are eligible to receive up to a 100 percent credit against the Kentucky income tax liability generated by the project and to utilize a four percent JDAF. However, there is a maximum authorized incentive based upon the firm's investment in the project. The tax credit and JDAF remain in place until the maximum incentive amount is realized or for a period of fifteen years, whichever occurs first. Unused credits may be carried forward for the term of the KREDA agreement, but unused credits expire at the end of the incentive agreement.

The *Kentucky Jobs Development Act (KJDA)* targets projects for service- or technology-related companies, such as data processing, research and development, or any other non-manufacturing, non-retail company. The project must involve the creation and maintenance of at least 15 new full-time jobs for Kentucky residents. The project is also subject to minimum wage and benefit requirements (as listed in footnote 2). Additionally, the company must provide more than 75 percent of its services to persons located outside Kentucky. KJDA recipients are eligible to receive up to a 100 percent credit against the Kentucky income tax liability generated by the project and to utilize up to a five percent JDAF. However, there is a maximum authorized incentive based upon the firm's investment in the project. The tax credit and JDAF remain in place until the maximum incentive amount is realized, or for a period of ten years, whichever occurs first. Unused credits may be carried forward for the term of the KJDA agreement, but unused credits expire at the end of the incentive agreement.

The *Kentucky Industrial Revitalization Act (KIRA)* targets rehabilitation of manufacturing and coal mining/processing operations that are in imminent danger of permanently closing or that have closed temporarily. The project must involve a new capital investment that will result in financial stability for the facility and the retention and/or creation of at least 25 full-time jobs. KIRA recipients are eligible to receive up to a 100 percent credit against the Kentucky income tax liability generated by the project, a credit against the Kentucky corporation license fee (this fee has been repealed), and to utilize up to a five percent JDAF. However, there is a maximum authorized incentive based upon the firm's investment in the project. The tax credit and JDAF remain in place until the maximum incentive amount is realized, or for a period of ten years, whichever occurs first. Unused credits may be carried forward for the term of the KIRA agreement, but unused credits expire at end of the incentive agreement.

The *Kentucky Economic Opportunity Zone Act (KEOZ)* focuses on manufacturing or service/technology companies located in areas with high unemployment and poverty. These areas are required to obtain zone certification and only one zone may be certified for each county. The project must involve a minimum investment of \$100,000 and create and maintain at least 10 new full-time jobs for Kentucky residents that have resided in the zone for at least 12 consecutive months. The project is also subject to minimum wage and benefit requirements (as listed in footnote 2). KEOZ recipients are eligible to receive up to a 100 percent credit against the Kentucky income tax liability generated by the project and to utilize up to a five percent JDAF. However, there is a maximum authorized incentive based upon the firm's investment in the project. The tax credit and JDAF remain in place until the maximum incentive amount is realized, or for a period of ten years, whichever occurs first. Unused credits may be carried

forward for the term of the KEOZ agreement, but unused credits expire at the end of the incentive agreement.

The *Kentucky Enterprise Initiative Act (KEIA)* targets projects for service or technology, manufacturing, or tourism attraction activities in Kentucky. The project must involve a minimum investment of \$100,000 if located in a preference zone and \$500,000 if located outside a preference zone. KEIA recipients are eligible to receive a refund of sales and use tax paid for construction materials and building fixtures and for equipment used in research and development. The purchases must be made during the eighteen-month term of the project, with the possibility of a twelve-month extension. The total tax refund incentive available to be committed for each fiscal year is limited by the statute to \$20,000,000 for building and construction materials and \$5,000,000 for equipment used in research and development. With support from the Cabinet for Economic Development, legislation was enacted replacing the old *Kentucky Enterprise Zone Act (KEZA)* program with the KEIA program because the KEZA program was ineffective. Because the KEIA program was created within the past two years it was not included in our analysis.

The *Kentucky Environmental Stewardship Act (KESA)* targets manufacturers of an environmental stewardship product, which is a product with a substantial positive impact on the environment. A firm's project must involve a minimum of \$5,000,000 in expenditures on eligible items. Up to 50 percent of any investment in eligible equipment can be counted toward the minimum expenditure; 100 percent of any training expenses count toward the minimum expenditure. Projects in this program are also subject to minimum wage and benefit requirements (as listed in footnote 2). KESA recipients are eligible to receive up to a 100 percent credit against the Kentucky income tax liability generated by the project. The tax credit remains in place until the maximum incentive amount is realized, or for a period of ten years, whichever occurs first. Unused credits may be carried forward for the term of the KESA agreement, but unused credits expire at the ten-year maturity of the incentive agreement. No projects had received final approval at the time of our analysis; therefore, the KESA program was not included in our analysis.

The *Kentucky Reinvestment Act (KRA)* targets automobile assembly manufacturers with an existing workforce of at least 1,000 employees to encourage reinvestment in Kentucky facilities. The project must involve a minimum reinvestment of \$100,000,000 and is not available to any company that has participated in the KIRA program within the previous five years. No new job requirements are mandated, but the Cabinet can require the firm to retain a minimum number of jobs. KRA recipients are eligible to receive up to a 100 percent credit against the Kentucky income tax liability generated by the project and a credit against the Kentucky corporation license fee (this fee has been repealed). Unused credits may be carried forward for the term of the KRA agreement, but unused credits expire at the ten-year maturity of the incentive agreement. Only one project received final approval at the time of our analysis; therefore, the KRA program was not included in our analysis.

The Commonwealth offers other tax incentives and numerous tax exemptions to businesses besides the programs listed above. These programs are not discussed here because they are not administered by the Cabinet for Economic Development.

III.B The Bluegrass State Skills Corporation (BSSC)

BSSC works with companies and Kentucky's educational institutions to establish training programs. BSSC focuses on improving and promoting employment opportunities through training grants and investment credits for skills training programs. Businesses and industries are required to contribute 50 percent of the costs of the training programs. BSSC offers two training programs, a grant-in-aid program and a skills training investment credit, which are both provided on a reimbursement basis. The grant-in-aid program provides grants for a variety of purposes, such as skills upgrade training and training the trainers. Training should be provided within one year of approval of the grant. The *Skills Training Investment Credit Act*, enacted in 1998, allows companies to claim up to 50 percent of the training costs as an income tax credit. However, the credit is limited to five hundred dollars per employee (who must be a Kentucky resident) and to \$100,000 per company every two years. The *Skills Training Investment Credit* program is also limited by statute to an annual maximum on awards of \$2,500,000.

III.C Financing Programs in the Commonwealth

The *Kentucky Economic Development Finance Authority (KEDFA)* is the primary state source for business development loans. KEDFA offers sizable loans at below-market interest rates, typically from one to five percent depending on the length of the loan (up to ten years). KEDFA loans provide fixed asset financing and are restricted to certain industries including agribusiness, tourism, manufacturing, and services. Loans are provided to companies that create new jobs and/or have a significant impact on economic growth. KEDFA does not provide loans that are larger than what a business could obtain with a private institution. KEDFA also approves loans under a program specifically defined for small businesses. Because the small business loan program was created within the past two years, this program was excluded from our analysis. The rest of the KEDFA loan program was included in the analysis.

The *Economic Development Bond (EDB)* program targets companies that are locating or expanding manufacturing or distribution operations in Kentucky. Bond funds are made available through the issuance of bonds by the State Property and Building Commission. EDB funds are managed and directed by the Cabinet for Economic Development because all EDB projects must receive recommendation from the Secretary. EDB funds are provided through loans or grants on a reimbursement basis, and companies receiving EDB funds are required to meet job, wage, investment and collateral requirements. EDB agreements contain a "pay back" provision to the local governmental entity if a company fails to meet the job, wage, and/or investment requirements. EDB projects require concurrence from the Secretary of the Finance and Administration Cabinet along with approvals from the State Property and Building Commission and the Capital Project and Bond Oversight Committee.

The Cabinet offers other loan and grant programs besides the programs listed above, but these programs are fairly recent or targeted toward very specific activities, so they were not included in our analysis.

IV. Other States' Incentive Programs

This section describes the business incentive plans of states considered to be Kentucky's primary competitors for attracting new employment. These states include all of Kentucky's neighboring states (Illinois, Indiana, Missouri, Ohio, Tennessee, Virginia, and West Virginia), as well as three additional states that were identified as being competitors (Georgia, North Carolina, and South Carolina). For simplicity, these states will be called neighboring states. *Appendix A.II* contains a more detailed list of each state's incentive programs.

Just as our discussion of Kentucky's incentives focus on primary incentives offered by the Cabinet for Economic Development, our discussion of other states focuses on major state-level incentives offered by the associated state agency. In addition, the discussion does not cover local incentives, even though each of Kentucky's neighboring states offers local incentives. Local incentives vary greatly and are not well documented, although they are discussed briefly in the appendix.

IV.A Tax Incentive Programs in Other States

Kentucky's neighboring states offer a wide variety of tax incentives (also known as tax credits). Every state offers some type of incentive, but the incentives offered differ along many dimensions.

Most states offer an incentive for job creation. States vary in the size and duration of the incentive offered. Some states choose to target specific industries. For example, Georgia's Job Tax Credit varies from \$750 to \$4,000 per job. The incentive lasts for up to five years, and the incentive applies to certain industries such as manufacturing, telecommunications, and tourism. Indiana's Economic Development for a Growing Economy (EDGE) program is not industry specific and lasts for up to ten years.

Another common tax incentive is sales tax exemption. Usually states target specific industries, such as manufacturing, for this incentive. For instance, Tennessee does not charge sales tax for several business expenses, including purchasing industrial machinery and raw materials for processing. Missouri, Ohio, South Carolina, and Virginia offer similar exemptions for purchasing manufacturing equipment.

Many states offer investment tax incentives for firms to expand. Such incentives vary in the size and duration of the credit. Other restrictions include the length of time the company needs to be in existence before receiving the incentive. For example, North Carolina's investment tax incentive ranges from four to seven percent, depending on the business location and the size of the investment (up to two million dollars). Georgia, North Carolina, and South Carolina also provide incentives for establishing or expanding company headquarters. Illinois and Missouri offer additional incentives for large-scale investments.

Indiana, North Carolina, Ohio, and West Virginia provide tax incentives for research and development (R&D). Other states provide other types of R&D assistance such as technical

expertise and advisory boards. Instead of providing R&D incentives, Indiana and Virginia have specific incentives for technology zones or parks.

Several states provide property tax abatements for businesses. Similar to other incentives, property tax abatements are often industry-specific. South Carolina's abatement programs are targeted at manufacturing and distribution firms. Tennessee offers accelerated depreciation as part of its property tax incentives.

States have multiple strategies for assisting ailing businesses or areas. Many states define enterprise zones in terms of economic prosperity. Other states, such as Georgia and North Carolina, vary the size of their incentives based on economic prosperity in an area. Indiana provides "dinosaur" programs for rehabilitating facilities. Missouri has a specific program for "blighted" communities. Ohio, like Kentucky, provides incentives for companies to retain jobs they are at risk of losing.

IV.B Training Programs in Other States

Another component of business incentive programs are training provisions. States offer a mix of grants, tax incentives, direct training, and reimbursement. Each state offers at least one program, and many states offer multiple programs.

Georgia, North Carolina, Ohio, and Virginia offer tax incentives for worker training and re-training. Typically, the incentive has a maximum of \$500 to \$1,000 per worker. The incentives only cover a portion of training costs, usually thirty to fifty percent.

Illinois, Indiana, North Carolina, Tennessee, and West Virginia provide training grants to companies. As with incentives, the grants typically cover up to fifty percent of the training costs. The training programs should occur within a year or two of the grant being awarded. Grant amounts are capped either in terms of overall dollar amounts or in terms of dollars per worker.

The majority of states either directly reimburse companies for training expenses or provide direct training through state agencies or educational institutions. Georgia and South Carolina provide training directly to companies. Indiana, Missouri, Ohio, Tennessee, and Virginia reimburse employers for training-related expenses.

IV.C Financing Programs in Other States

The third component of business incentive programs is financing. Every state except Indiana provides some combination of grants, loans, and loan assistance to businesses. Indiana provides financial assistance to local governments instead.

Loans are the most common form of financial assistance provided by states, and they serve multiple purposes. Many of the loans target particular types of industries or companies. For instance, Illinois has loan programs for new businesses and/or businesses owned by minorities, women, and the disabled. Loans are provided at below-interest rates. Tennessee even offers a

few interest-free loans in distressed communities. Loan amounts and interest rates vary by program and state.

Several states offer loan assistance, even if they do not offer loans. This assistance can be provided in various forms, although the goal is generally to offer assistance in securing loans for businesses that have difficulty in securing loans on their own. Illinois, Virginia, and West Virginia offer loan insurance to businesses. Ohio offers loan guarantees. Georgia acts as a liaison between private lenders and businesses in order to help secure loans for at-risk communities.

The use of grants varies widely across states but is not used as commonly as loans. Georgia provides grants for businesses that create jobs for low-income individuals. Illinois has grants for agri-businesses as well as for large businesses. North Carolina has a discretionary grant program, where the governor allocates grants on an as-needed basis to attract firms. Tennessee has a grant program for clean energy technology. Virginia offers grants for continued investment by firms that have been in the Commonwealth for at least five years.

IV.D Summary

States offer a variety of business incentives to entice companies to relocate or expand within their state. Kentucky's incentives appear to be very similar to that of its neighbors. Each state offers tax credits, job training, and financing options. The differences between states lie in the types of credits, training, and financing offered.

V. Data and Methodology

This section discusses the data collected on Kentucky's business incentives. It also describes the statistical techniques used in the analysis of the relationships between these incentives and measures of economic growth.

V.A Data

The data used in our analysis cover the period from 1992 to 2004. We start in 1992 because this is the first year that many of these business incentive programs were available. Our data come from several sources. All of our data on business incentives come from the Kentucky Cabinet for Economic Development. In this report we examine three types of incentives: tax incentives, training, and financing.

We focus on the impact of tax incentives from the largest four tax incentive programs: the Kentucky Industrial Development Act (KIDA); the Kentucky Rural Economic Development Act (KREDA); the Kentucky Jobs Development Act (KJDA); and the Kentucky Industrial Revitalization Act (KIRA). In this current report, when examining the impact of tax incentives we combine these four programs together and treat them as a single program. We do not examine the impact of each program separately. We also have financing data from two programs, the Kentucky Economic Development Finance Authority (KEDFA) direct loan program and the Economic Development Bonds (EDB) program, and again we analyze the impact of these two programs together. Finally, we have data on training grants and tax incentives from the BSSC program, which we also combine into a single training program.⁴

For each of these incentive programs, we know the total amount of each incentive awarded between 1992 and 2004. For the tax incentive programs we also know the total amount of tax incentives received by firms in a county in a year.⁵ Unless noted otherwise, throughout this analysis we focus on the actual amount of tax incentives received in a year, as opposed to the actual incentives approved, since it is the former measure which captures the true cost of the program.

When examining the impact of the incentive programs we focus on three measures of economic activity in an area: employment, total annual earnings, and property values. Our data on employment and earnings come from the Regional Economic Information System (REIS) produced by the Bureau of Economic Analysis.

Our measure of property value is total equalized real property value in the county. These data are based on assessed property value data from the local (county) property value assessor. The assessed property values are converted into market values by using an assessment ratio based on properties sold in the county. The data were obtained from Kentucky's Department of Revenue.

⁴ Most training incentives are in the form of grants. Job training credits were first offered in 1998, but credits comprise a small share of the money allocated to training incentives.

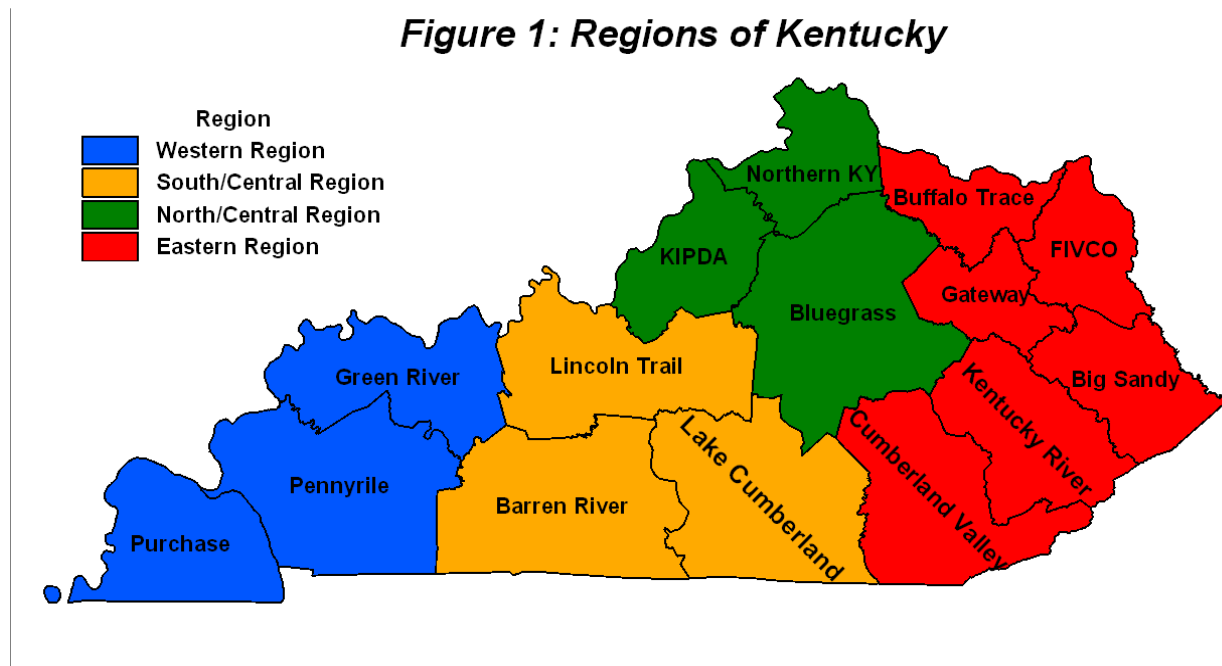
⁵ We know the credits received under the KIDA, KREDA, KJDA and KIRA programs. We do not know the credits received under the BSSC program but we feel that, for the BSSC program, the amount approved closely matches the amount taken

All of our analysis uses annual data but the geographical context varies with the focus of our analysis. In our initial analysis we provide an overview of the incentive programs at the state level as well as for four regions of the state we have created based on the Area Development Districts (ADDs). The four regions are: the Western region (consisting of the Purchase, Pennyrile, and Green River ADDs), the South/Central region (consisting of the Barren River, Lincoln Trail, and Lake Cumberland ADDs), the North/Central region (consisting of the KIPDA, Northern KY, and Bluegrass ADDs), and the Eastern region (consisting of the Buffalo Trace, Gateway, FIVCO, Big Sandy, Kentucky River, and Cumberland Valley regions). *Figure 1* is a map indicating these regions.

Our more rigorous statistical analysis examines the impact of incentive programs at the county level, our smallest geographical unit of analysis. Finally, to examine the “spillover” effects of programs, that is, the impact an incentive awarded in one county may have on its neighbors, we use the ADDs as the unit of analysis.

Throughout the report all dollar figures have been converted to 2005 dollars using the Consumer Price Index for urban consumers (CPI-U). Summary statistics for our data set are found in *Table A.1*.

Figure 1: Regions of Kentucky



V.B Methodology

We begin our examination of these incentive programs by providing some information on trends over time and differences across regions of the Commonwealth in the use of these programs. This overview provides an understanding of where and when these incentives have been used in

the Commonwealth. It also provides an indication of the magnitude of these incentives relative to the overall Kentucky economy and the regional economies.

To examine the impact of these programs on economic growth, we employ more sophisticated statistical techniques. In estimating the relationship between economic activity in an area and these development incentives we allow the incentives to have an effect for up to five years after they are taken. By looking at the effects of incentives over a number of years we are able to study both the short-term and long-term relationships between incentives and economic growth. There are a number of reasons why the impact of an incentive may be felt for a number of years after the business receives the incentive. First, presumably a firm claims (receives) its incentive award as soon as it qualifies. However, this initial minimum level of employment (generally fifteen employees) may not reflect the firms' long-term plans. Second, when a firm receives a business incentive, it hires more workers, these workers spend more money, and this process leads to subsequent increases in the labor and real-estate markets.⁶

Of course, economic growth in a state, region, or county is not solely determined by the incentives received by business operations in that area, nor is economic growth the same over time. Therefore, any attempt to examine the influence of incentives on economic growth must attempt to control for other possible influences on growth in a region. With our data we observe economic growth in 120 counties in each of the thirteen years between 1992 and 2004. Because we have repeated observations on the same counties over time, we are able to control (account) for the underlying long-term economic growth in each county that is unrelated to the tax incentives. Analogously, observing economic growth in 120 different counties with different levels of tax incentives each year enables us to account for how economic growth varies over time within the Commonwealth due to business cycles and other time-variant influences.⁷

⁶ In assuming that economic growth depends on the policies of preceding year(s) (lags), we are also following the long-standing approach in the literature on economic development to reduce concerns about the endogeneity of the incentives. By this we mean the possibility that high levels of economic growth might be leading to many tax incentives taken, rather than incentives leading to economic growth. By having tax incentives in 1995 explain employment in 1997, for example, we reduce this concern, as it would be difficult to argue employment in 1997 leads to more incentives taken in 1995.

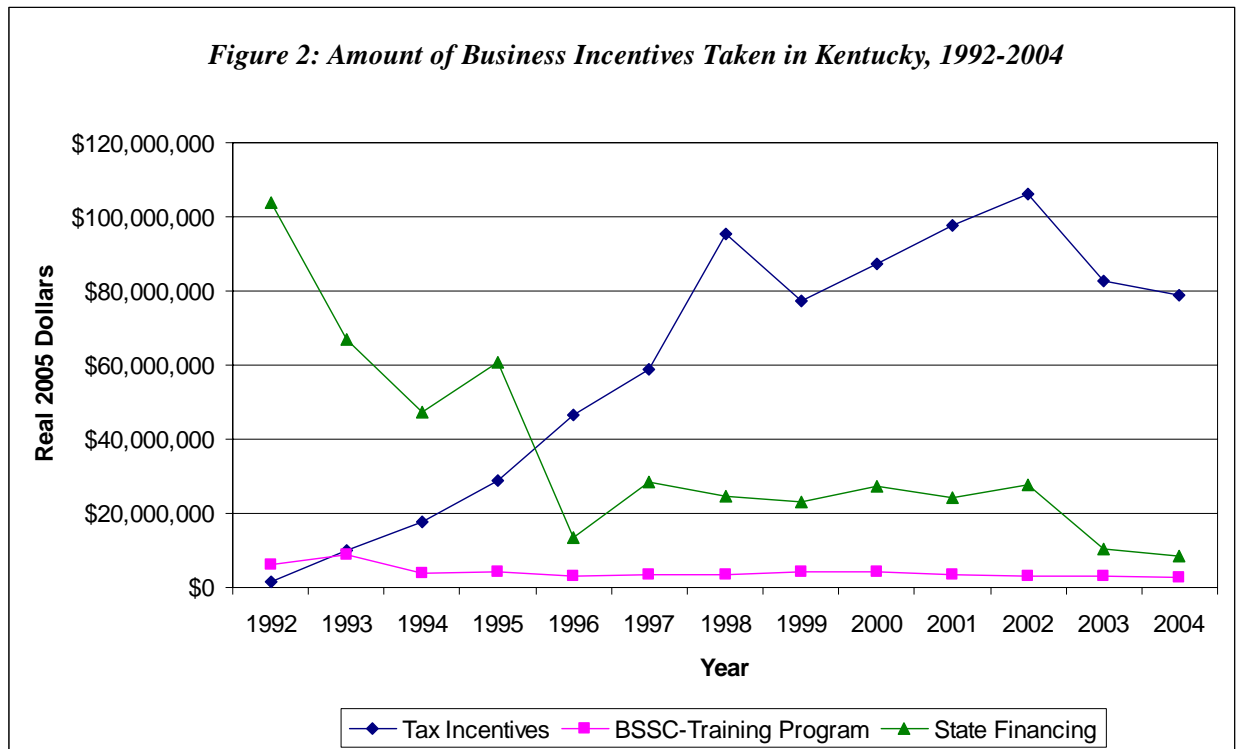
⁷ Technically, we estimate a county and year fixed effect model.

VI. Examining the Relationship between Business Incentives and Economic Activity

VI.A Trends and Differences in the Use of Business Incentives among Regions

We begin our analysis of the use of business incentive programs in Kentucky by documenting trends in the use of incentives as well as differences in the use among the four regions of Kentucky. Recall the four regions are the Eastern, North/Central, South/Central, and Western regions.

Figure 2 shows the statewide trend in the use of the three types of incentive programs (tax incentives, BSSC training, and financing). As is apparent from the figure, in the early 1990's financing was the most popular program (in terms of dollars) but its use has diminished dramatically over this period. In contrast, the value of the tax incentive program grew steadily until 2002, but then fell in 2003 and 2004.⁸ The BSSC training program was a relatively small program in 1992 and remained so throughout this period, actually decreasing somewhat from 1992 to 2004. This relative stability in the BSSC program is not surprising since there is a statutory limit on the BSSC tax credit program and state general fund limitations on the grants program. Figure 3 depicts the trends in the number of awards for the BSSC training program and tax incentives. The number of awards for the tax incentive program has been relatively steady during this period, whereas the number of firms receiving training incentives actually declined.



⁸ Unless otherwise noted, in all of the figures we measure the amount of incentives actually received in a year and *not* the amount of credits approved.

Figures 4a-4c present the amount of business incentives, by type of incentive program, for the four regions. In Figure 4a the trend in the value of the tax incentive program is plotted for each region. Given the difference in employment and other measures of economic activity, comparing the value of the incentives across regions is not very meaningful. However, the figure suggests that the trends in the use of tax incentives are very similar among the regions.

Figure 4b depicts the trend in the value of the BSSC training program for the four regions during this period. Again the trends are relatively similar among the regions with all of them exhibiting a significant spike in value in 1993 and then relatively steady use after 1993 with the exception of a pronounced spike in use in 1999 in the Western region.

Finally, Figure 4c summarizes regional trends for the state financing program. Here there are far fewer smooth trends, with program amounts in the North/Central region subject to very large annual swings. While of smaller amplitude, the other regions have similar swings.

Figures 5a-5d depict the trends and relative use of the three types of programs at the regional level. Generally, the trends are similar among the regions and reflect the trends for the Commonwealth as a whole. As there are fewer projects at the regional level, and they tend to be quite large in value, we do not see the same smooth trend lines as we do for the Commonwealth as a whole.

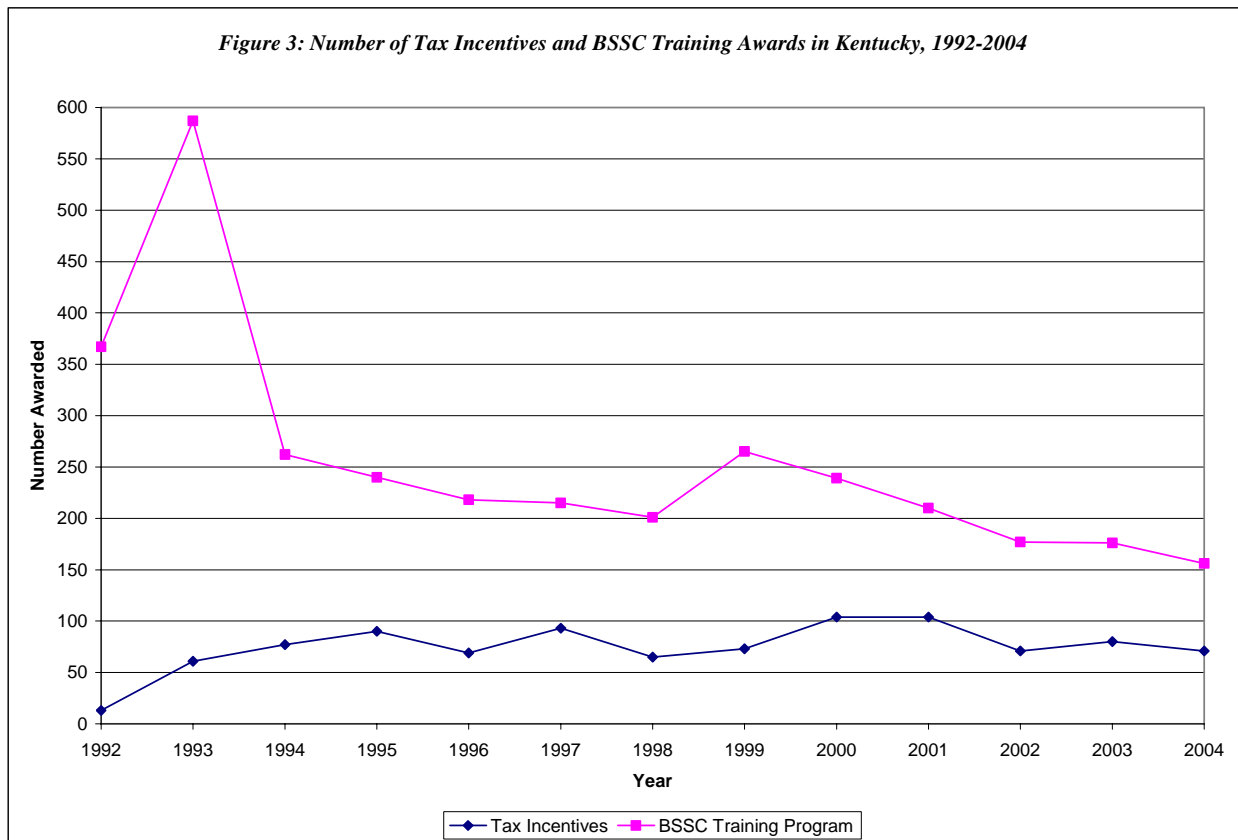


Figure 4a: Amount of Tax Incentives Taken, 1992-2004

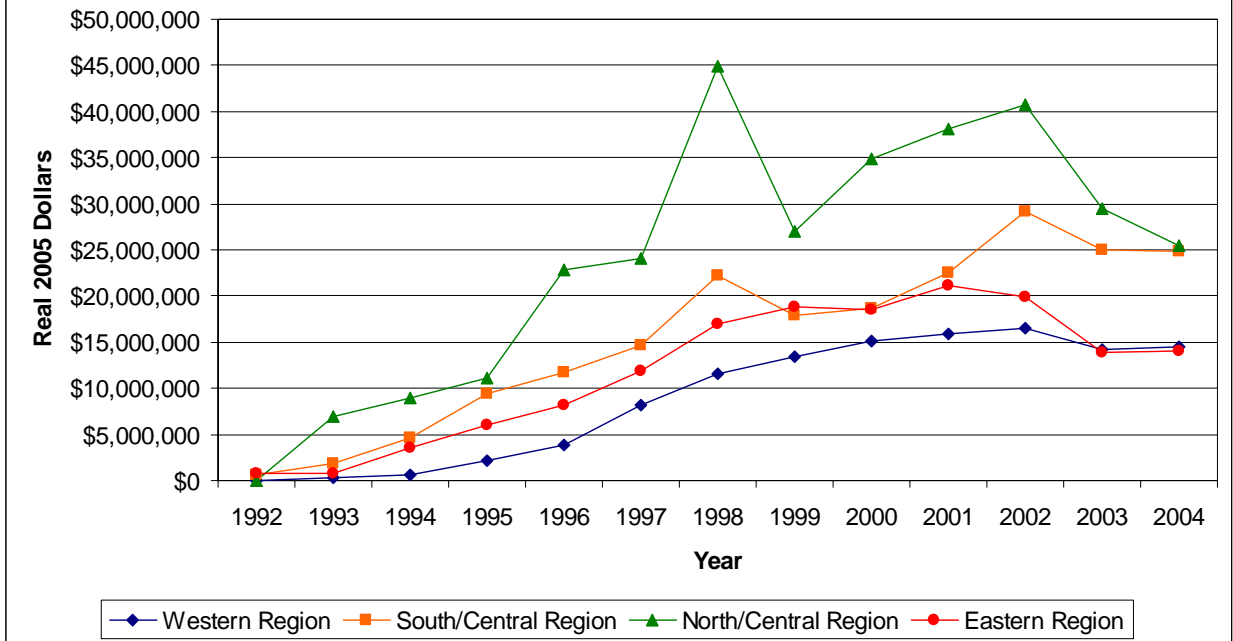


Figure 4b: Amount of BSSC Training Taken, 1992-2004

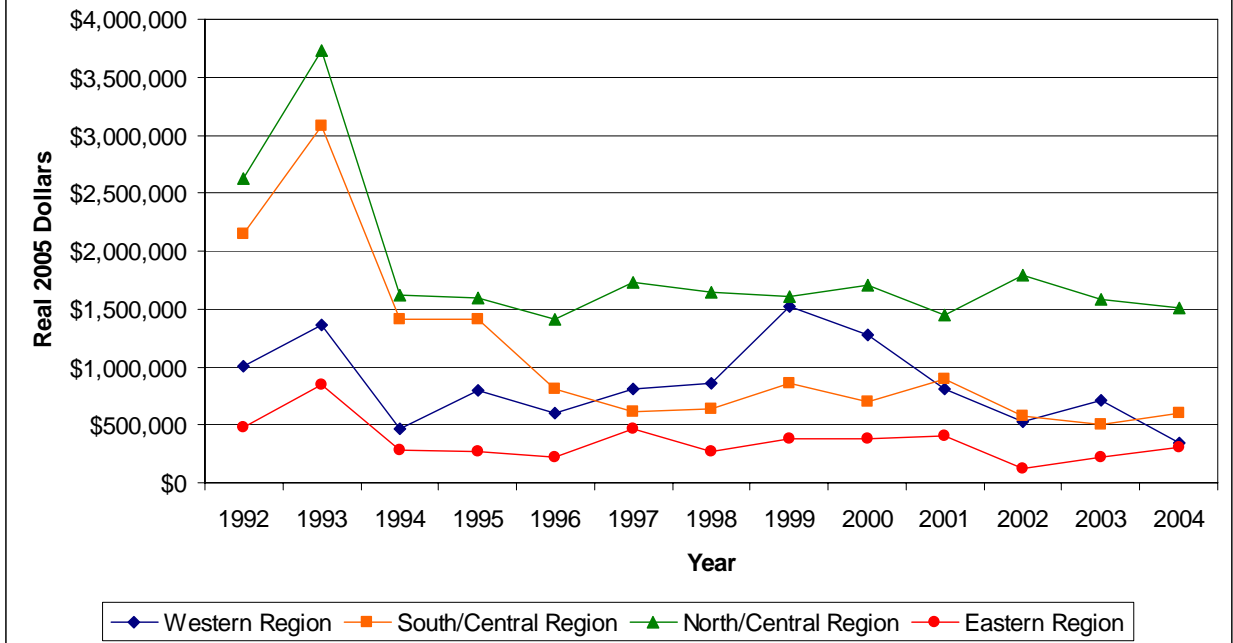
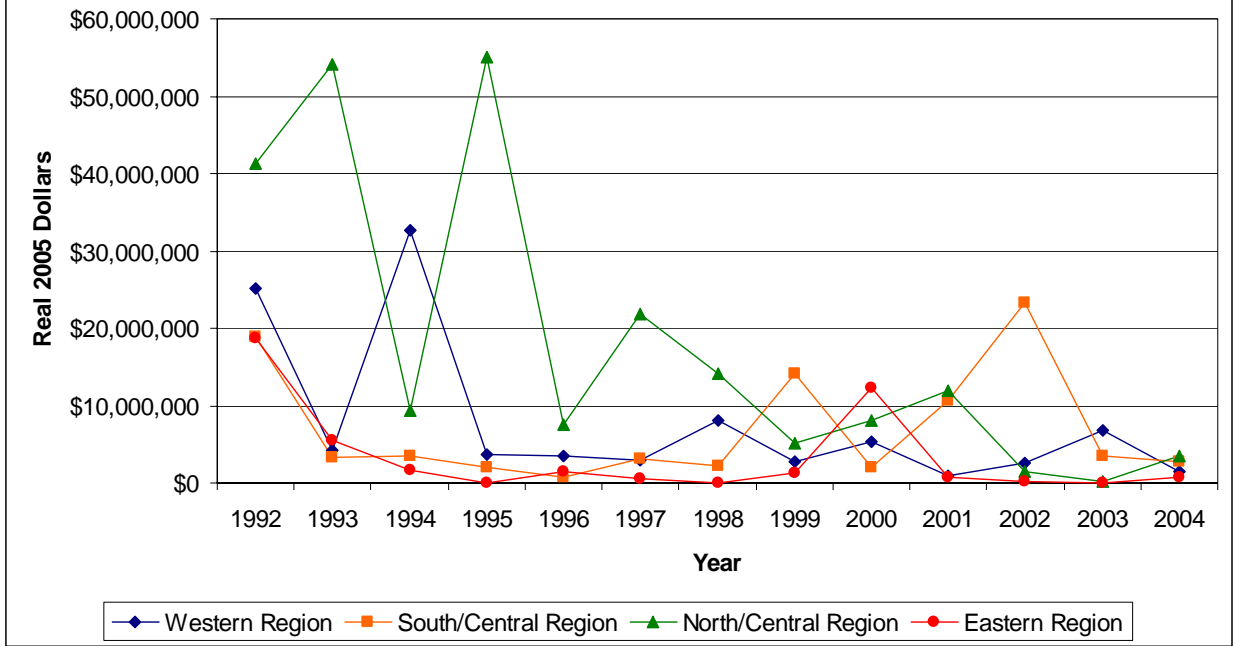
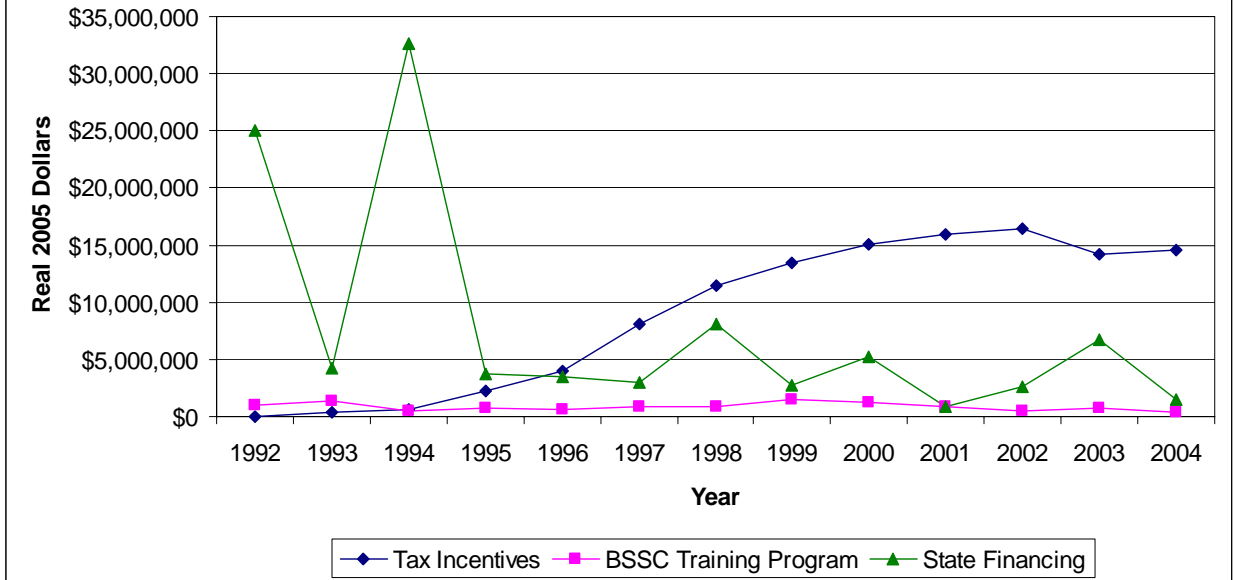


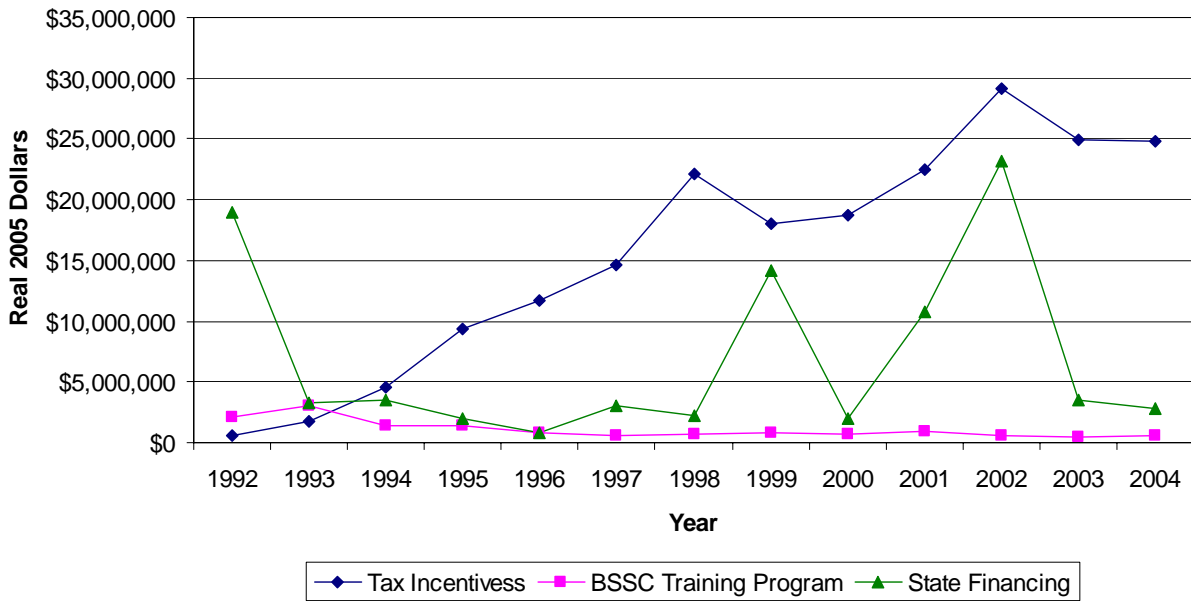
Figure 4c: Amount of State Financing Taken, 1992-2004



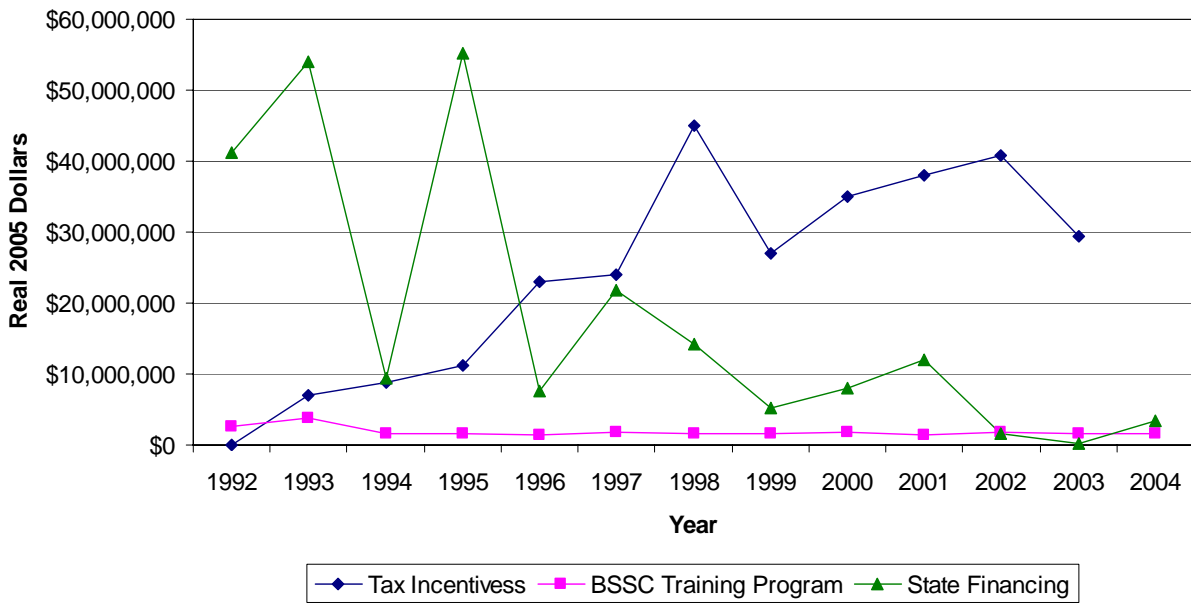
**Figure 5a: Amount of Business Incentives Taken
Western Region, 1992-2004**



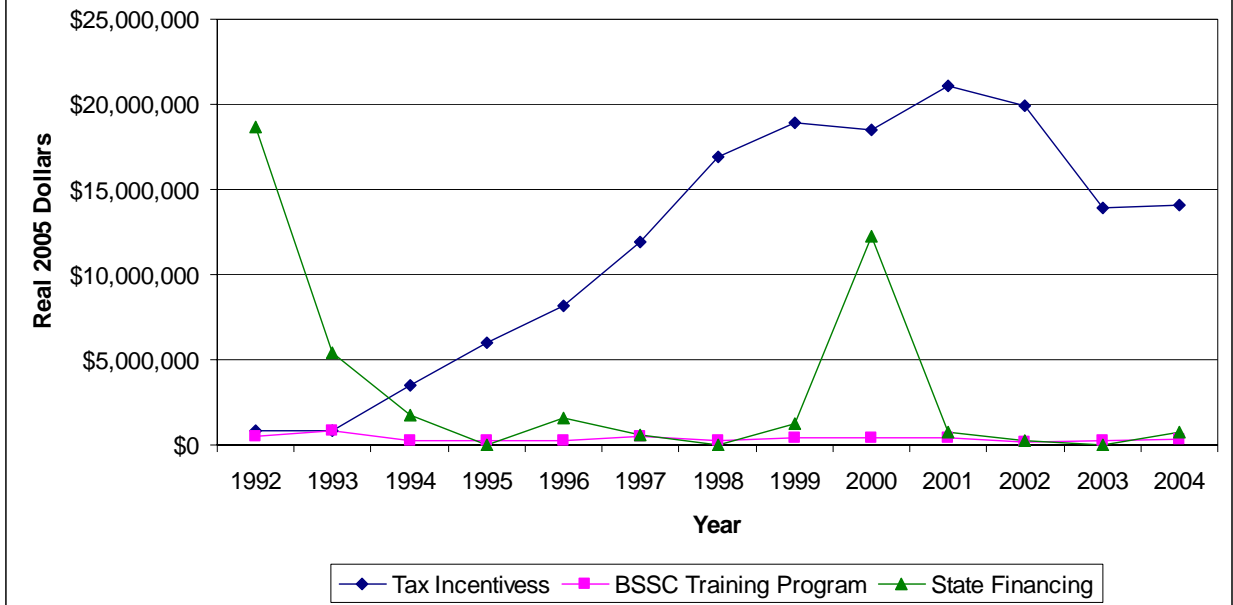
**Figure 5b: Amount of Business Incentives Taken
South/Central Region, 1992-2004**



**Figure 5c: Amount of Business Incentives Taken
Northern/Central Region, 1992-2004**

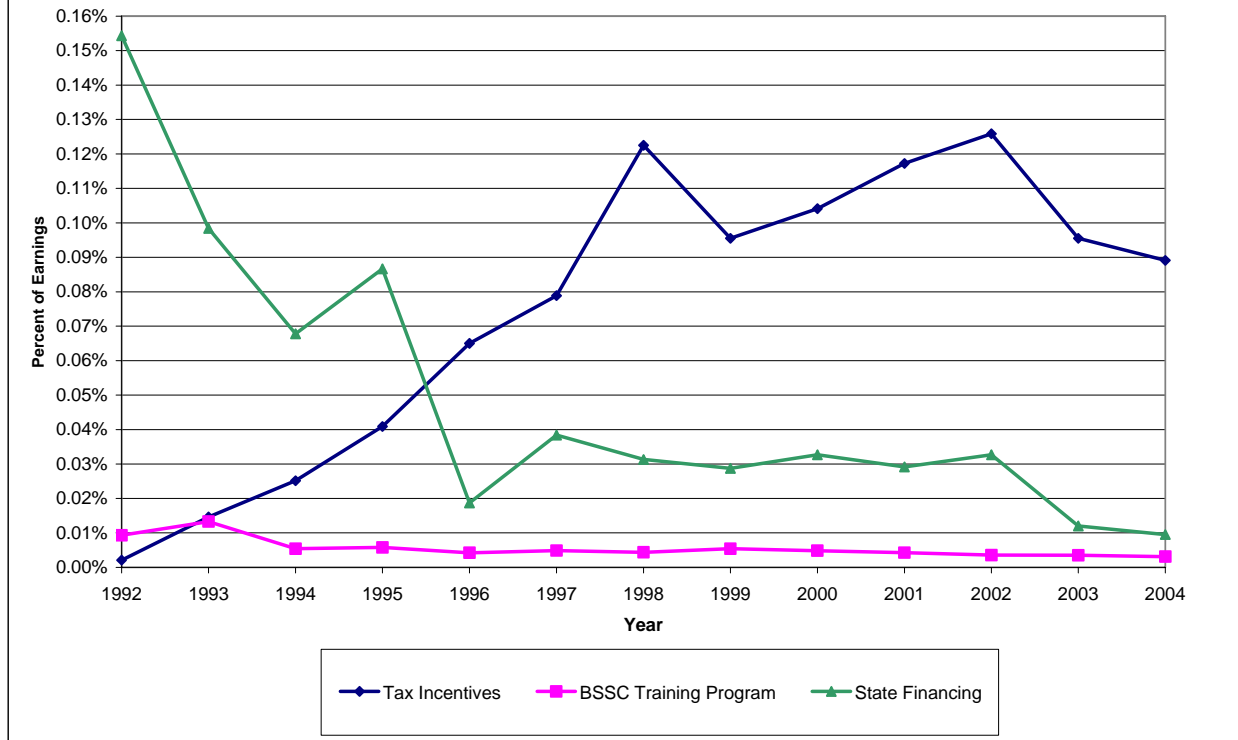


**Figure 5d: Amount of Business Incentives Taken
Eastern Region, 1992-2004**



More relevant comparisons of the use of these business incentive programs, both over time and particularly across regions, require adjustment for the size of the underlying economy. We make this adjustment by dividing the amount of the business incentives in a county by the earnings of employees in that county, and then converting this number to a percentage by multiplying by 100. This gives business incentives as a percentage of earnings. In *Figure 6* we report the amount of the programs as a percentage of earnings for the entire state by year. As the figure shows, the highest awards were for state financing in 1992 when they totaled slightly over one-tenth of a percent (0.153%). After 1992, state financing fell dramatically and was approximately three-hundredth of a percent (0.032%) in 2002 and fell to 0.01% in 2004. With the exception of 1993, the value of the training programs have never exceeded one-hundredth of a percent of earnings in the state and generally have been between two to four thousandths of a percent of earnings. Tax incentives as a percentage of earnings grew steadily from 1992 to 2002 and then fell slightly. Since 1997, they have been in the range of one-tenth of a percent.

Figure 6: Amount of Business Incentives Taken as Percent of Earnings in Kentucky, 1992-2004



For each of the three types of incentive programs, *Figures 7a – 7c* show the value of the business incentive program as percentage of earnings for the four regions. *Figure 7a* shows the value of the tax incentive program as a percentage of earnings for the four regions from 1992 to 2004. Here, both the trends for the individual regions as well as comparisons of this rate among the regions are of interest. The use of the tax incentive program grew in all four regions until 2002, but grew most dramatically in the South/Central and Eastern regions. More pronounced than differences in the growth of the programs is the value of the incentives as a percentage of earnings. In the South/Central region incentives were well over two-tenths of a percent of earnings in the late 90's and rose above two-tenths of a percent after 2000. As a percentage of earnings, tax incentive use is not quite as high in the Eastern region as the South/Central region, but the rate after 1998 has been as high as two-tenth of a percent. Rates in the Western region have been steadier at around one-tenth of a percent since 1997. Substantially lower is the value of tax incentives as a percentage of earnings in the North/Central region where the rate has hovered around one-twentieth of a percent (0.05%) during this period.

The value of training programs as a percentage of earnings, depicted in *Figure 7b*, has been much more uniform across the four regions of the Commonwealth and much lower than for the tax incentive program. The exception to this is the relatively high use of training programs in the early 1990's in the South/Central region and a somewhat less pronounced increase in use in the Western region in 1999 and 2000.

Any comparison among the regions in the use of state financing programs (*Figure 7c*) is difficult due to the erratic use of the program and large magnitude of the individual awards. In at least one year, each of the four regions has the highest value of financing as a percentage of earnings. And while there was a significant decrease in the rate from 1992 to 1993 in all four regions, each of the four regions saw a later, though short-lived, increase in financing value.

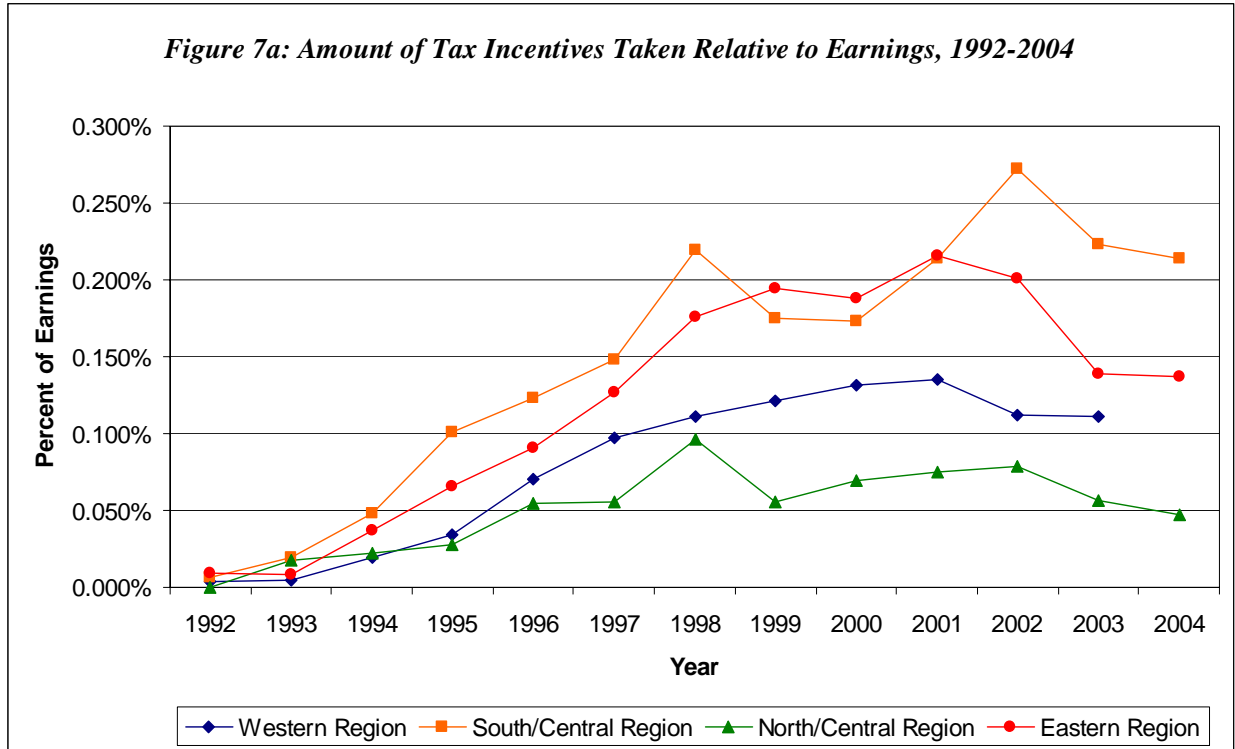


Figure 7b: Amount of BSSC Training Taken Relative to Earnings, 1992-2004

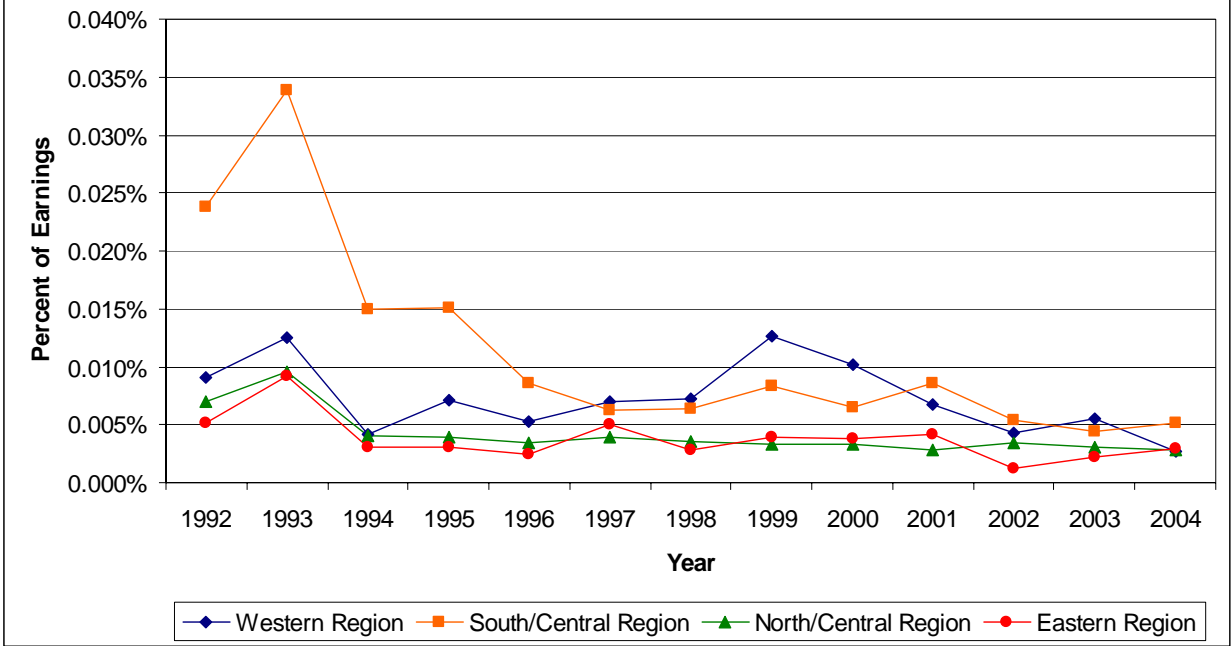
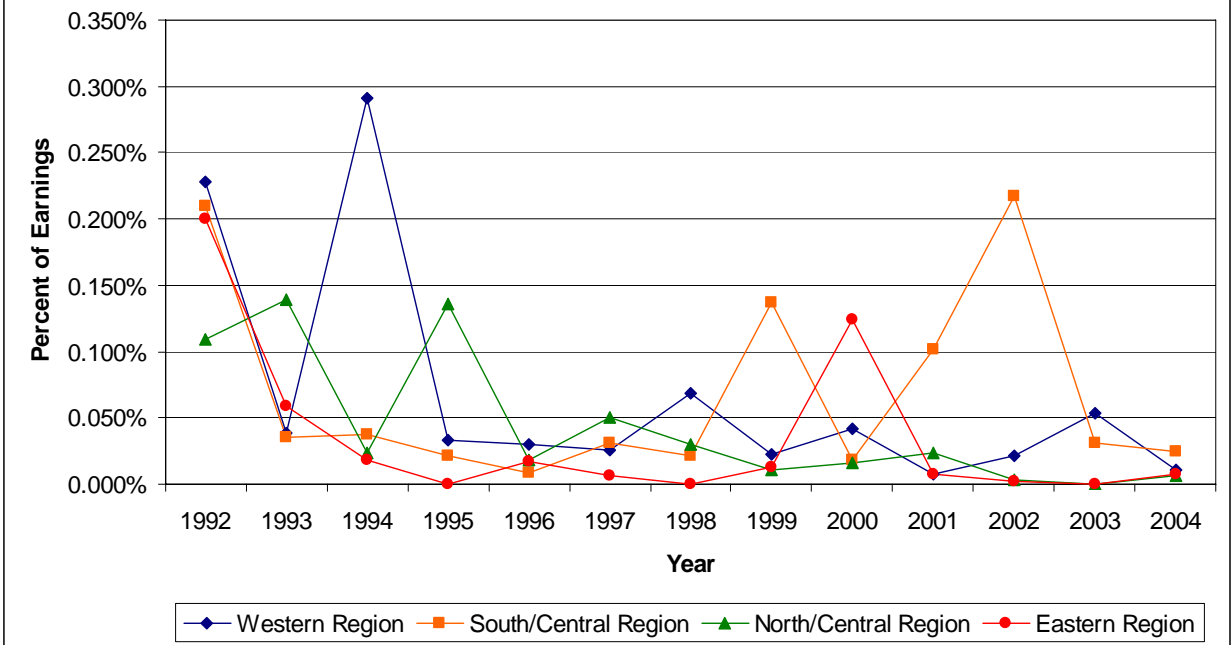


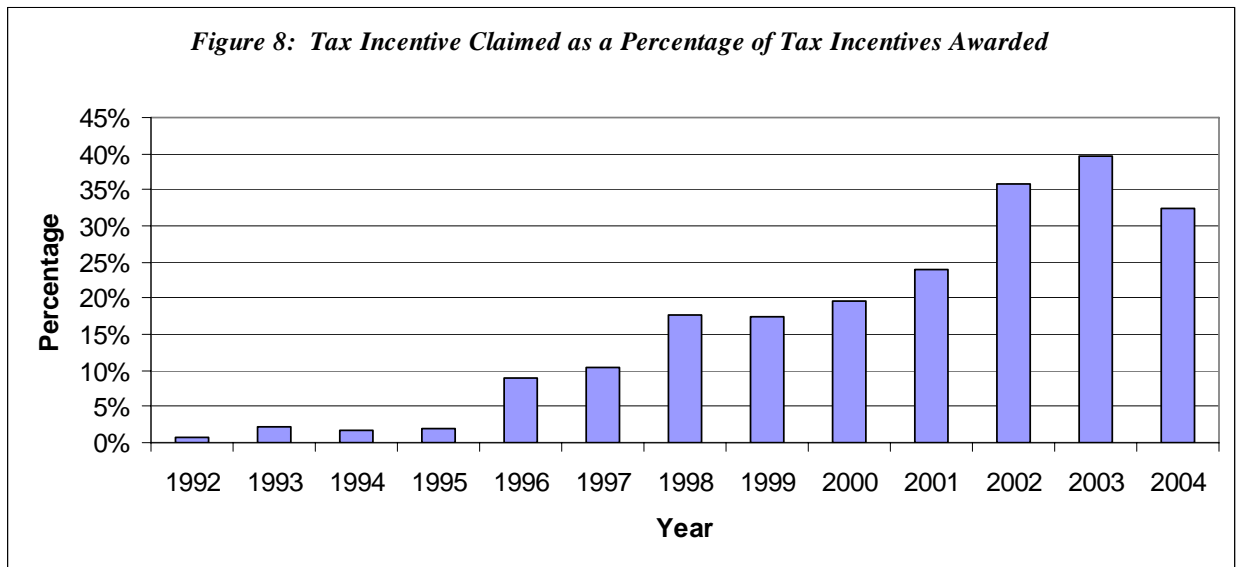
Figure 7c: Amount of State Financing Taken Relative to Earnings, 1992-2004



Finally, in *Figure 8* we illustrate an important distinction between tax incentives and the two other business incentive programs. Tax incentives are *awarded* to businesses that apply for them

and meet certain criteria. However, tax incentives can only be *claimed* by these businesses when they meet other additional criteria, such as creating a certain number of jobs and actually incurring a tax liability in a year.⁹ Over this entire period, tax incentives claimed were approximately twelve percent of incentives awarded. As we can see from the figure, the ratio of incentives claimed to those awarded is particularly low prior to 1996. Claims, as a percentage of credits awarded, increased after 1996, undoubtedly due in large part to claims on incentives awarded in the early 1990's. Since actual tax incentives claimed represents the true cost of the program, in our subsequent analysis we focus on the relationship between tax incentives claimed and economic growth rather than on the relationship between tax incentives awarded and economic growth.

Other statistics summarizing the data, including the annual county averages for our measures of economics activity (employment, earnings, and property value) as well as the annual county averages for our three types of business incentive programs are found in *Appendix Table A.1*.



VI.B The Short-Term Relationship between Business Incentives and Economic Growth

As discussed earlier, we employ regression analysis to examine the relationship between the level of economic activity and our three types of business incentives. To begin, we posit a model in which the level of economic activity in a county in a year depends on the level of tax incentives claimed and financing and training programs awarded two years previously. Later, we examine more extensively how the relationship between the level of economic activity and business incentives in a county depends on when the incentives are received. We transform both measures of economic activity and incentives so that we can directly estimate the impact of the percentage change in the amount of an incentive on the percentage change in economic activity.¹⁰ We also control for the impact of other characteristics of a county that affect the level

⁹ This is also true for the other incentive programs—incentives are only received by firms who meet certain criteria.

¹⁰ More specifically we undertake a logarithmic transformation of both our dependent variable (employment, earnings, and property value) as well as our incentives. Because many of the observations (county in a year) have a

of economic activity and for business cycle influences on the entire county through what is referred to as “fixed effect” estimation.

Because we compare economic activity in a county with the values of tax incentives from two years earlier, our analysis is restricted to the period from 1994 to 2004. The detailed results from our analysis can be found in *Appendix A.I*.

VI.B.1 The Short-Term Relationship between Business Incentives and Employment

Based on the results from our regression analysis, we construct an estimate of the impact of a ten percent increase in one of the three incentive programs on employment in the typical county in the state. During the period from 1992 to 2004 the average value of tax incentives claimed in counties in which firms received credits was \$910,357, so a ten percent increase in tax credits in a county was \$91,036.¹¹ Similarly, the average value of awards from the BSSC training program in a county in which firms received training incentives was \$70,042, so a ten percent increase would be \$7,004. Finally, in those counties where they were utilized, financing averaged \$1,709,116 making ten percent of this value equal to \$170,912.

Row 1 in *Table 1* contains our estimates of a ten percent increase in tax incentives, training incentives, or financing incentives on employment in the average county. Over this period the average county in the state had 18,332 jobs. We can see in this table that a ten percent increase in the amount of tax incentives in a county is associated with an increase in employment of 3.40 jobs. We can also see that the impact of a ten percent increase in the level of training programs is an increase in employment of 2.79 jobs. Both of these estimates are statistically significant at standard levels of significance.

Finally, the numbers in *Table 1* show that a ten percent increase in financing is associated with a loss of 2.28 jobs in the county. However, this estimate is not statistically different from zero, so we can say with relative confidence that there is little evidence to suggest a significant relationship exists between the level of financing awarded in a county and employment growth in the county.

VI.B.2 The Short-Term Relationship between Business Incentives and Earnings

Row 2 of *Table 1* contains our estimates of a ten percent increase in tax incentives, training incentives, or financing incentives on earnings in the average county. Over the period of our analysis the average county in the state had \$645 million in earnings. *Table 1* shows that a ten percent increase in tax incentives is associated with a \$218,280 increase in earnings. A ten percent increase in BSSC training awards is associated with an increase in earnings of \$160,146. Again, both of these estimates are statistically significant. Finally, a ten percent increase in

value of \$0 for at least one of the incentives programs, and because the natural logarithm of zero is undefined, the logarithmic transformation is not straightforward. To address this issue we replace the natural logarithm of any value of any of the tax incentives equal to zero with zero. Then we also create a categorical value for each of the three tax incentives which has a value of 1 when the amount of the tax incentive is zero for that observation, and is 0 otherwise.

¹¹ Recall all dollar figures have been converted to 2005 dollars using CPI-U.

financing incentives is associated with a loss of \$296,000 in earnings in a county with this estimate also being statistically significant.

Based on our estimates of the impact of an increase in tax incentives or BSSC awards, we can calculate the effect on earnings per job. This is what is reported in row 3 of *Table 1*. We see that a ten percent increase in tax incentives is associated with earnings per job of \$64,200, while a ten percent increase in training awards is associated with earnings per job of \$57,400. These numbers should not be literally taken as a measure of the wages paid to new jobs created since some of the increase in earnings may have gone to workers in existing jobs. Still, these numbers do give us an indication of the effective increase within the county.

Table 1: The Short-Term Impacts of a 10% Increase in Business Incentives on Economic Activity

	Tax Incentives	BSSC Training	Financing
Change in Employment	3.40*	2.79**	-2.28
Change in Earnings ¹	218,280*	160,146**	-296,856***
Earnings per Job	64,200	57,400	130,200
Change in Property Values	100,734	83,983	56,067

Note: *** denotes significance of the effect (coefficient) at a 1% level; ** is significance at a 5% level; * is significance at a 10% level

¹Earnings, Earnings per job and property values are all reported in 2005 dollars.

VI.B.3 The Short-Term Relationship between Business Incentives and Property Values

Although answering the question of how business incentives might affect property values may be of interest in and of itself, we are also interested in how property values are affected by government policies for other reasons. Property values reflect the price of a dwelling as well as the price of residing in a community with given characteristics such as educational quality, taxes, parks, and other amenities. Communities with very desirable attributes should have higher “prices,” or property values, as households and businesses are attracted to these communities and bid up property values in the community. Conversely, communities with undesirable characteristics, such as poor educational quality in the schools or environmental problems, would be expected to have lower property values since households or businesses would only be interested in locating there if prices were low.

Here we are interested in the relationship between business incentives and property values because it offers an indication of whether the incentives have substantially affected the quality of life within the county. For example, has the economic activity stimulated by the incentives reduced environmental quality or, as a result for the need for more public infrastructure, reduced local government spending on other public services? If so, we would expect there to be fall in property values within the county. Alternatively, additional economic opportunities and,

possibly, additional local government revenues attributable to tax incentives would increase the attractiveness of the county and lead to increases in property values.

Before reporting the results of our analysis, we should offer some caveats. Ideally we would like to have the value of “land.” Instead we have the value of real property which includes both land and the value of any structures built on the land. Further, the property value is not derived directly from actual market transactions. Instead, appraised property value is adjusted based on the relationship between appraised and market value for recent property sales, to obtain an estimate of the market value of all properties in the county.

Row 4 in *Table 1* reports our estimates of a ten percent increase in our three incentive programs on property values in the average county. Over this time period the average value of property in a county is \$1.1 billion. *Table 1* shows that none of our estimated impacts are statistically insignificant and all are quite small. There is no evidence that any of the incentive programs has a positive or negative impact on property values in a county. However, given the problems with our measure of property values, this is not surprising.

VI.C Short-Term versus Long-Term Impacts of Business Incentive Programs

In the preceding section, we discussed the results obtained from estimating the relationship between our four measures of economic activity in a county and the level of incentives received by county businesses two years earlier. Our findings, particularly for the BSSC training program, indicate a positive relationship between the amount of spending on incentive programs and economic growth. However, they may not fully capture the relationship between the level of business incentives in a county and the level of economic activity in the county. Specifically, our approach ignores the possibility that it may take more than two years for the full impact of the incentives to occur. Alternatively, it may be that the impacts of these programs are short-lived, and after they have been received economic growth diminishes or even abates.

To examine the long-term impact of incentives on economic activity, we estimate a model including the level of business incentives from each of the preceding five years. For example, when estimating the level of economic activity in a county in 2000 we include measures of business incentives received in the county in 1999, 1998, 1997, 1996, and 1995. While revising our model in this way allows us to get a better indication of the long-term impacts of these programs, it comes at a cost – the loss of three additional years of data to use in estimating our model. As a result we are now limited to examining the period from 1998 to 2004. Since there was no evidence of any statistically or economically significant short-term relationship between the amount of state financing in a county on any of our measures of economic activity, we focus on the results for tax incentives and the BSSC training program.

VI.C.1 The Long-Term Relationship between Tax Incentives and Economic Activity

A summary of our findings on the long-term relationship between business incentives and economic activity is found in *Table A.2* in the appendix. In this table and in *Figure 9* we see that a ten percent increase in tax credits in a single year within a county is associated with an increase of 7.60 jobs over the next five years, or an average of 1.52 jobs per year. This is in contrast to

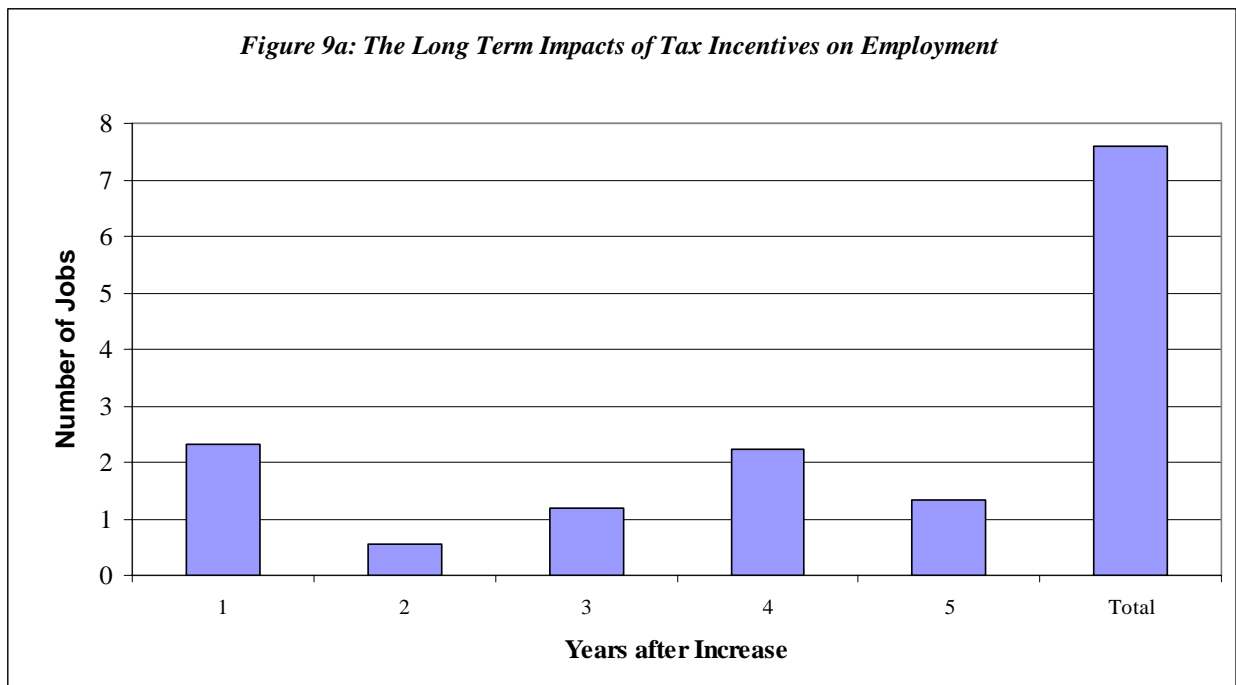
the estimated short-run impact of 3.40 jobs. *Figure 9a* presents the estimated impact on employment for each of the five years individually. The impact of a ten percent increase in tax incentives five years earlier is estimated to be 2.32 jobs in the first year following the increase, 0.54 jobs two years later, 1.18 jobs three years later, 2.22 jobs four years later, and 1.34 jobs five years later. A few words of caution about interpreting these results: only a few of the coefficients for the years are individually statistically significant, however as a group that they are significant.

The long-term impacts of tax incentives on earnings and property values are also reported in *Table A.2*. The five year impact on earnings in a county is \$547 million in contrast to the short-term impact of \$218 million. As *Figure 9b* shows, the impact on earnings is relatively steady over the five year period with the largest impact actually five years later. As the impact on property values was not statistically significant, we have little confidence in any policy implications based on these estimates and therefore will not discuss them further.

VI.C.2 The Long-Term Relationship between BSSC Training and Economic Activity

The long-term relationships between training incentives and employment and earnings are all fairly precise estimates and are all statistically significant. These results are reported in *Table A.3*.

Using the results of the estimated relationship between the level of employment and five years of business incentives, we find that a ten percent increase in BSSC training in one year is associated with an additional 11.88 jobs over the next five years within a county, or 2.38 jobs per year. This is in contrast to our estimated short-run impact of 2.79 jobs.



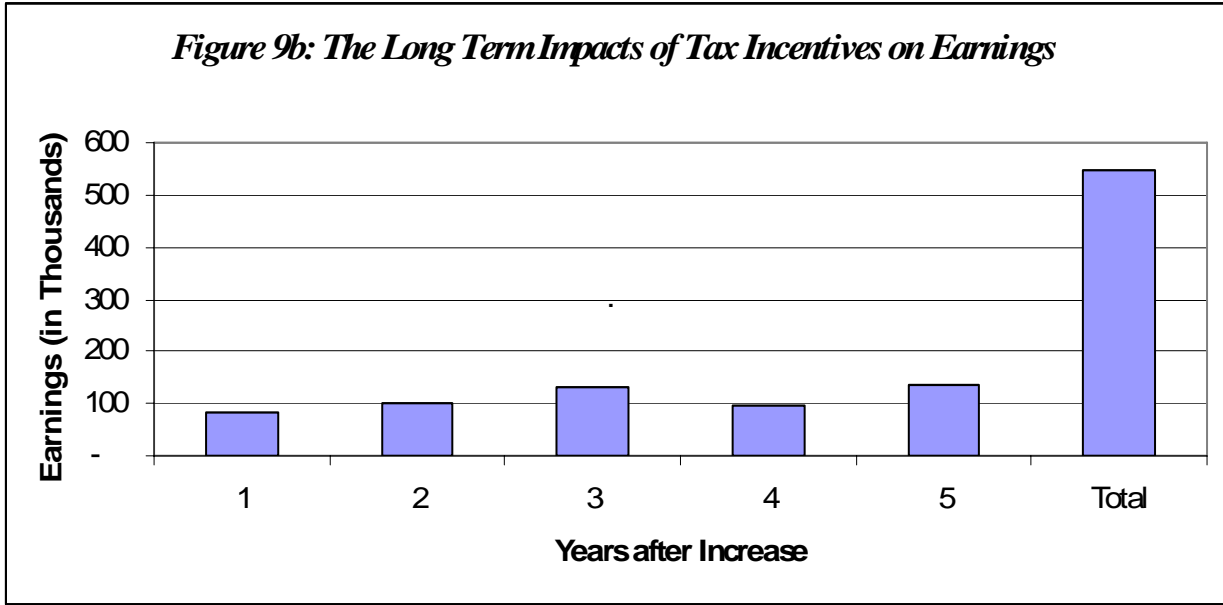


Figure 10a presents the growth attributable to the increase in incentives in each of the following five years. As the figure illustrates (and as seen in *Table A.3*) the impact of the training incentives grows over time. Our estimated impact one year after the increase is 1.24 jobs while our estimated impact five years after the increase is 3.86 jobs.

A similar pattern emerges for the impact of increases in training programs on long-term earnings in a county. The relationship is shown in *Figure 10b* as well as in *Table A.3*. The long-term impact on earnings is an increase of \$635,867 compared to our short-term estimate of \$160,274. The distribution of the long-term impact over the five years is similar to what we find for employment with the size of the impact growing over time.

Since the long-term relationship between the BSSC program and property values proved to be statistically insignificant, and since the estimated impacts are unstable, we do not discuss these estimates.

It should not be too surprising that there appears to be evidence of a long-term association between the level of training incentives and economic activity in a county. Presumably training incentives are being used to train workers and increase their productivity. In this sense they are similar to spending money to educate workers. If the training is effective, then the enhanced productivity of workers will continue beyond the period when their training is received and the funds from the incentive have been spent. This enhanced productivity should increase the demand for these workers, increasing both the level of employment and earnings in the county.

Figure 10a: The Long Term Impacts of BSSC Training Programs on Employment

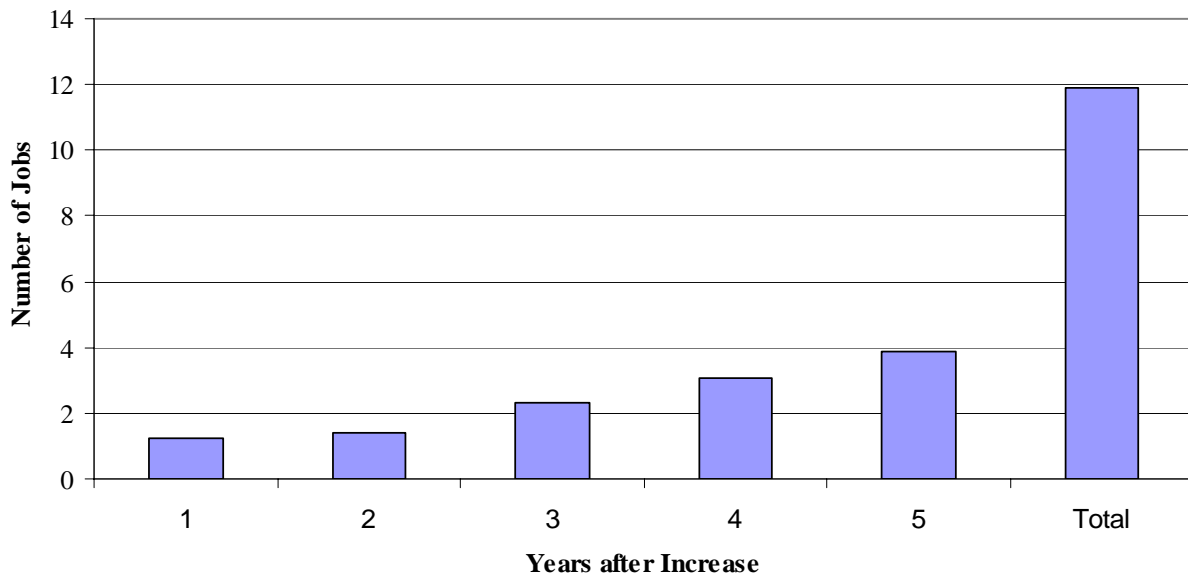
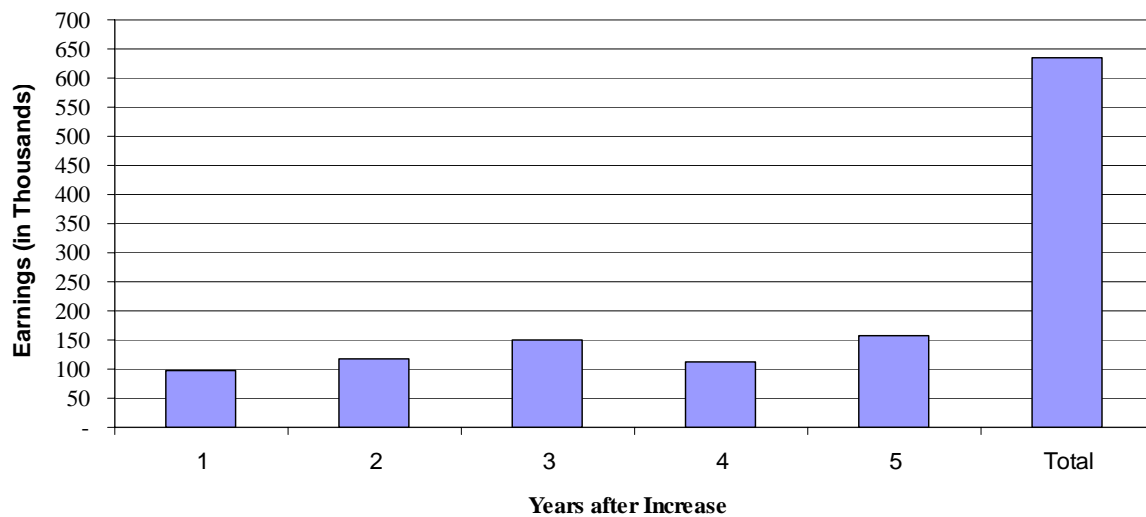


Figure 10b: The Long Term Impact of BSSC Training Programs on Earnings



In addition to considering the impact of a relatively small (ten percent) change in business incentive programs on employment and earnings, we employ the same methodology to consider a more dramatic change. Specifically, we examine the impact on state employment of entirely eliminating these incentive programs.

In *Table 2* we report the results of this exercise. Column (a) gives the total number of jobs in the state, first as a sum over the years 1996 – 2004, then by year, and last as a yearly average. Based on our estimates, we predict that, in the absence of any business incentive program, there would have been 44,829 fewer jobs in the state from 1996 to 2004, approximately 0.22% of the total number of jobs over this period. This is an average of 4,981 fewer jobs annually. In the absence of the tax incentive program the number of jobs during this period is reduced by 19,246, 2138 job annually, or 0.09% of the total number of jobs. The predicted job loss without the BSSC programs is 54,672 jobs over this period, 6,075 jobs per year, or 0.27% of the total number of jobs. The loss in jobs from the elimination of the BSSC programs is greater than the loss in jobs from the elimination of all programs because eliminating the financing program has a positive, though insignificant, impact on the number of jobs. As the *Table 2* shows, the impact of the BSSC is more variable than the impact of tax incentives.

Table 2: Impact on the Number of Jobs from Elimination of Business Incentive Programs

	(a)	Business Incentive Programs		Tax Incentive		BSSC	
		(b)	(c)	(d)	(e)	(f)	(g)
	Number of Jobs	Loss of Jobs	Percent	Loss of Jobs	Percent	Loss of Jobs	Percent
All Years	20,461,569	44,829	0.22%	19,246	0.09%	54,672	0.27%
1996	2,154,840	5,602	0.26%	1,928	0.09%	6,194	0.29%
1997	2,202,586	3,252	0.15%	2,378	0.11%	6,492	0.29%
1998	2,244,398	2,256	0.10%	2,380	0.11%	4,668	0.21%
1999	2,290,786	6,404	0.28%	2,367	0.10%	6,988	0.31%
2000	2,332,023	5,910	0.25%	2,352	0.10%	8,060	0.35%
2001	2,305,386	4,229	0.18%	2,336	0.10%	4,380	0.19%
2002	2,292,119	6,396	0.28%	2,322	0.10%	6,712	0.29%
2003	2,306,591	4,052	0.18%	2,308	0.10%	4,622	0.20%
2004	2,332,840	6,728	0.29%	2,303	0.10%	6,558	0.28%
Average	2,273,508	4,981		2,138		6,075	

Another way to measure the impact of the business incentive programs over this period is to compare our estimate of the total number of jobs lost in the absence of any business incentives with the total number of jobs in 2004. This comparison shows that, in the absence of the business incentive programs, the total number of jobs in Kentucky is estimated to be reduced by 1.9 percent $((44,829/2,332,840)*100)$. This should be compared to the total cost of the business incentives received over this period, which was \$925 million in 2005 dollars.

IV.D Spillovers from Business Incentives

As discussed earlier, it is possible that business incentives received by a firm in one county influences economic activity in neighboring counties. The impact might be through suppliers to a firm locating in neighboring counties rather than in the county where the firm which they supply is located. Or, perhaps existing firms in one county experience an increase in sales volume arising from the demand for firms receiving incentives in another county. Alternatively, expansion of business activity in one county related to obtaining business incentives might lead to reductions in business activity in neighboring counties. Thus, it is an open question whether

business incentives in one county increase or decrease economic activity in neighboring counties.

To examine the possible spillover effects we estimate a model in which we relate the business incentives in a county (in a single year) to the level of business activity in all counties in the *Area Development District (ADD)* in which that county is located excluding the level of activity in the county itself. Thus, for example, we related the employment in the Bluegrass ADD in 1997 minus the employment in Fayette County to the incentives received in Fayette County in 1995. In addition to examining short-term spillover effects we also examine the long-term (five-year) effects as well. Of course, since we expect the relationship between the level of economic activity to be more strongly related to the level of business incentives in that area than to incentives in neighboring areas, we also measure the levels of our three types of incentives in the rest of the *ADD* and include these in the model.

Table 3: The Impact of Business Incentives on Economic Activity in Other Counties in the ADD

		Tax	
		Incentives	BSSC
Change in Employment	Short Term	1.18	5.51
	Long Term	-0.85	6.44
Change in Earnings	Short Term	16,662	225,476
	Long Term	-262	398,070
Earnings per Worker	Short Term	14,103	40,917
	Long Term	307	61,800
Change in Property Values	Short Term	62,526	729,843
	Long Term	(70,645)	2,612,316

The results of our estimation, again in the form of the estimated impacts of a ten percent increase in the level of the incentives, are found in *Table 3*. Although we estimate generally small, positive spillovers from business incentives to the rest of the *ADD*, none of these impacts are statistically significant. Given the lack of statistical significance, we are hesitant to make any statements about either the magnitude or even the direction of these spillovers.

VI.E Where Are Business Incentives Awarded?

In our overview of the business incentive programs described by *Figures 1 – 8*, we offered some indication of how the use of incentive programs varied both over time and among the four regions in which we divided the state. Here we undertake a further examination of where, and in what type of county, we observe the use of business incentives.

This issue is of particular interest because of concerns about the source of the observed positive association between employment and the level of training and tax incentives in a county. Specifically, do we observe this positive relationship because firms in counties with more

employment or greater growth in employment are more likely to be eligible for these incentives? Or, is it the case that this association may reflect that receiving incentives causes positive employment growth in a county?

Our practice of relating economic activity in a county with the level of business incentives from two years earlier reduces some of our concerns that it is employment or earnings driving the amount of business incentives since, presumably, it would not be the case that employment in a county in 1997 determines the amount of training incentives received in that county in 1995.

Following this logic, we estimate another model to further examine the relationship between employment and business incentives. In this model we examine the relationship between employment from two years earlier and the current levels of business incentives in the county. For example, we relate the employment in Clark County in 1996 to the level of business incentives received in Clark County in 1998. If it is the case that business incentive awards are going to counties with faster employment growth or simply more employment, we would expect a positive relationship between employment in a county in 1996 and the amount of incentives received by firms in a county in 1998. Failure to find a positive relationship between earlier growth and the current level of incentives should reduce our concerns about the possibility that the positive relationships we found in our earlier estimation were the result of employment driving incentives and not incentives influencing employment.

Before examining the results of this estimation, in *Table 4* we report some simple comparisons between counties with and without business incentives. Our first set of comparisons is between counties with any incentives to those who received no incentive for each of the years between 1992 and 2004. There were 1,197 cases of a county receiving some sort of incentives in a year with only 483 county/years that received no funding. We report the mean and median for each of our measures of economic activity. As the table indicates, employment, earnings, and real property value are all significantly lower in counties that did not receive incentives. Note that the percentage of economic activity is higher when comparing median levels of activity than when comparing mean levels suggesting that the very large counties have received some of these benefits, a result which is not surprising. Similar patterns emerge when comparing counties with and without each of the three types of business incentives.

Although this result is interesting and informative, it is not particularly surprising and should not, in itself, be taken as evidence regarding the determination of the use of business incentives. *Table 5* reports the results of several forms of the model relating past employment in a county to the level of business incentives currently received by county businesses. Unlike our simple comparison of means, the fixed-effects estimation procedure we use to obtain these estimates of the relationship between past employment and current incentives account for characteristics of the county that may influence employment levels and growth.

Table 4: A Comparison of Counties with and without Incentives

	Counties with the Incentive			Counties without Incentive			Ratio of Means	Ratio of Medians
	# of Counties/Years	Mean	Median	# of Counties/Years	Mean	Median		
<i>Panel A. Existence of Funding for Any Program</i>								
Employment	1197	22,795	9,434	483	5,648	4,173	24.8%	44.2%
Earnings	1197	693,536	229,002	483	130,865	89,524	18.9%	39.1%
Real Property	1197	1,470,000	533,000	483	415,000	273,000	28.2%	51.2%
<i>Panel B. Existence of Tax Credit</i>								
Employment	866	25,906	10,126	814	8,882	5,237	34.3%	51.7%
Earnings	866	815,892	255,752	814	211,684	108,429	25.9%	42.4%
Real Property	866	1,620,000	547,000	814	681,000	329,000	42.0%	60.1%
Tax Credit Amount	866	910,357	257,716	814				
<i>Panel C. Existence of BSSC Training Incentive</i>								
Employment	807	29,854	13,293	873	7,074	4,839	23.7%	36.4%
Earnings	807	932,265	317,751	873	170,717	104,133	18.3%	32.8%
Real Property	807	1,940,000,000	728,000,000	873	449,000	293,000	23.1%	40.2%
BSSC Amount	807	69,383	37,533	873				
<i>Panel D. Existence of Financing</i>								
Employment	273	49,698	15,154	1287	11,679	6,625	23.5%	43.7%
Earnings	273	1,572,184	376,469	1287	329,655	139,597	21.0%	37.1%
Real Property	273	3,060,000	996,000	1287	736,000	382,000	24.1%	38.4%
Financing Amount	273	1,709,116	621,876	1287				

Table 5: Past Employment and Current Incentive Use

Difference in Employment (Percentage) with and without Incentive		
Tax Incentives	-1.83%	***
BSSC Training	0.374%	
Financing	-1.74%	
Difference in Employment (Level) With and Without Incentive		
Tax Incentives	-1,020	***
BSSC Training	400	*
Financing	-972	***
Difference in Employment (Percentage) of Ten Percent Higher Level of Incentives		
Tax Incentives	-0.1040%	**
BSSC Training	0.00418%	
Financing	-0.1369%	

Note: *** denotes significance of the effect (coefficient) at a 1% level; ** is significance at a 5% level; * is significance at a 10% level

The results in *Table 5* indicate that the level of employment two years earlier is positively associated with the current level of training incentives, but this relationship is not economically significant (and is only marginally statistically significant). In contrast, for both the tax incentives and financing we find that the level of tax incentives and financing in the current year is negatively associated with employment two years earlier. Based on these results it appears that tax incentives are more likely to be taken in counties with unusually low levels of employment and suggests that, if anything, we are understating the impact of tax incentives on employment growth. In the end these results reduce our concern that it is positive employment growth that is influencing the use of incentives. Instead, they suggest that it is the use of incentives influencing economic activity in an area.

VII. Summary and Conclusions

We begin by briefly summarizing the findings of our study and offering some suggestions for how these incentive programs might be modified in the future. Following this summary, we offer some suggestions as to what issues might merit further research and be the topic of future studies.

VII.A *A Review of the Findings*

VII.A.1 *The Competitive Setting*

Our review of both the programs in other states and Kentucky's programs indicates that Kentucky is certainly not alone in its use of these incentive programs, nor is its choice of programs particularly unique.

While the existence of business incentive programs in Kentucky's neighbors and competitors suggests that such programs might be desirable for Kentucky to remain competitive in attracting business activity to the state, we do not examine whether the "price" of increases in employment and earnings associated with these programs is too high. As we discuss later, attempts to quantify the benefits of increased employment or earnings would be a valuable extension and complement to the analysis we have undertaken here.

VII.A.2 *The Magnitude and Trends in Business Incentive Programs in Kentucky*

One of the most apparent and probably important findings of our study is the very small magnitude of these programs. In 2004, the value of tax incentives, by far the largest of the three types of programs, was less than one-tenth of one percent of state earnings (0.09%). The cost of the BSSC training incentives and state financing programs was far smaller, less than one-hundredth of a percent (0.01%) for each program. Alternatively, we can get an indication of the magnitude of these incentives relative to taxes in the Commonwealth. The amount of all business incentives in the Commonwealth in 2003 was 9.3% of taxes collected from state business based on profits and employment.¹² In 2003, business incentives were less than one percent (0.69%) of all own-sources of state revenue. Clearly modifications in the Kentucky tax code or business incentive programs have had far greater budgetary impacts than expansion or contraction of these incentive programs.

Since 1992 there has been an increase in the use of tax incentives and a contraction in the use of financing programs. Given our findings, this is probably an effective reallocation of resources. BSSC training incentives, which our analysis suggests have been the most effective of the three types of programs, have remained very small due to state budget and statutory limitations. The tax incentives program, as a percentage of earnings, has been used more in the South/Central and Eastern regions of the Commonwealth with particularly rapid growth in the South/Central region. There is little significant difference in the utilization of the BSSC training programs

¹² This calculation does not include property taxes paid by businesses since property taxes paid by businesses cannot be distinguished from property taxes paid by individuals.

among the regions or over time. The erratic nature of the use of the financing program makes it difficult to determine any differences in use among the regions of Kentucky.

VII.A.3 The Relationship between Business Incentives and Economic Growth

Although these programs are small in magnitude, we have found that these programs are associated with a positive impact on economic activity in Kentucky counties during the period covered in this study. Both the tax incentive and BSSC training programs are associated with positive and significant employment and earnings growth in the short run, with a ten percent increase in either program predicted to increase employment by 2.5 to 3.5 jobs in a county with average employment (18,322) during the period of our analysis. Increases in both programs were also positively associated with higher earnings in a county, with a ten percent increase in either program associated with between a \$160,000 to \$219,000 increase in earnings in a county. Based on the relationship between these incentive programs and employment and earnings, we estimate an increase in earnings per job of between \$57,000 and \$64,000 for a ten percent increase in tax or training incentives. The association between the financing program and employment and earnings was negative but not statistically significant. None of the three types of programs had a statistically significant impact on property values.

Both the tax incentives and BSSC training program exhibited significant long-term relationships with employment that were substantially larger in magnitude than their short-term relationships. A five-year increase of ten percent in tax credits is associated with 7.60 additional jobs, more than double the short-term impact (3.40). For the training programs this effect is even greater, with the longer-term increase associated with an additional 11.88 jobs, almost four times the magnitude of the short-term impact. The long-term impact on earnings is also approximately four times the predicted short-term impact. We also use our estimates of the relationship between business incentives and employment to estimate the change in employment associated with the absence of any incentives. We find an annual reduction in jobs of 4,981 over the period 1996 to 2004 associated with the elimination of business incentives. We estimate that on net the number of jobs in Kentucky would be 2 percent lower in 2004 in the absence of the \$925 million that has been spent on business incentives over this time period.

None of the programs has any significant impact on economic activity of any form, in the short or long run, in neighboring counties within the same ADD. Our additional analysis suggests that the positive relationship between incentives and economic activity is not simply attributable to firms in more economically-healthy counties using them more; in fact, we find that tax incentives and financing are associated with lower levels of past employment in a county. We also find that current use of BSSC is not significantly associated in any way with past employment.

Even though the different incentive programs are focused on different industries as well as different areas of the Commonwealth, some general recommendations about these programs are warranted. Our results suggest that the financing program has had little impact on economic growth during this period. This limited impact likely accounts for the fact that this program has been declining over this period.

In terms of both economic and statistical significance, the BSSC training program has the strongest relationship with a growth in employment and earnings. As we have discussed, very little is now being spent on this program so the Legislature may want to consider expanding this program.

We also find that tax incentives are positively related to employment and earnings growth in an area. However, because many of these programs are targeted towards firms in specific industries or specific areas of the state, we are reluctant to recommend expanding these programs until we examine the effect of the tax incentive programs separately and taken a closer look at the impact of these programs across regions and industries. All of these are suggestions for future research that we discuss below.

VII.B Directions for Future Research

Our review of the existing literature on the relationship between business incentives and local economic activity suggests that this study provides a unique examination of this relationship. This is made possible by having data on the dollar amount of incentives taken, by program, at the county level. In the absence of this information trying to infer the relationship between business incentives and economic activity for a relatively small area such as a county would have been impossible.

With this information, more detailed analysis is possible in the future. Our current analysis, while controlling for differences in economic activity across counties, and over time, is producing the “average” impact of these programs over the different regions and years of our data. We believe that examining how the relationship between these incentive programs and economic activity may differ in the specific regions of the Commonwealth is warranted. More detailed analysis about how the impacts of these programs vary over the business cycle would also be of interest.

In the current analysis all tax incentive programs were added together and not analyzed separately. Yet these programs have different criteria and serve different purposes. Their use also varies among the regions of the Commonwealth. An effort to distinguish between these programs, both in where they are used and their relationship with economic activity, might prove to be very enlightening and allow us to draw stronger conclusions regarding whether these programs should be expanded.

Although we consider the impact of these business incentives on both employment and earnings, we do not attempt to determine the type of employment that is associated with these incentives. That is, we have not examined in what industries we might observe expansions in employment and whether there are contractions of employment in some other industries.

One significant question we have not addressed in this report is whether the use of incentives in Kentucky has influenced firms’ decisions to locate in Kentucky. The reason we have not addressed this question is the lack of data necessary to completely answer the question. Assessing whether incentives affect a firm’s location decision requires information on the value of incentives offered by other states to companies considering locating in Kentucky, as well as

systematic information on the incentives Kentucky offers to firms that choose to locate elsewhere. Since it is unlikely that the state will ever obtain information on the incentives offered by other states, we are unable to completely address this question.

We could provide a limited answer to the question of how incentives affect location decisions by looking at data on both the incentives Kentucky offers to companies that locate in Kentucky and the incentives Kentucky offers to companies that choose to locate in other states. While the state does try and collect information on which firms choose to locate in other states and where they do end up locating, this information is difficult to obtain in a systematic and timely fashion. However, if the state is able to obtain this information in the future, then we would be happy to examine this more limited question in a future report.

Finally, there is a concern that the employment expansion associated with business incentives might lead to the need for local governments to expand infrastructure and services to businesses that are not offset by increases in local revenues. Our analysis of the impacts of these incentives on property values suggests that these employment expansions are not associated with diminished services or quality of life. However, a more thorough examination of the issue could be done by relating the level of incentives to changes in expenditures on local services to more fully understand whether increases in infrastructure come at a cost to other public services such as education, parks and recreation, and safety.

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Appendix A.I: Results of Estimation

Table A.1 provides summary statistics for our data. In *Table A.2* we report our estimates of a ten percent change in tax credits on our measures of economic activity; *Table A.3* reports the same for a ten percent change in the level of the BSSC program.

Table A.4 reports the results of both the short term and long term fixed effect estimation of the relationship between the measures of business incentives and our four measures of economic activity for the county. The subscript $t-1$ denotes the level of the variable in the preceding year with $t-2$ being its value two years earlier. All measures are logarithmic. The variables $BSSC > 0$, $Credit > 0$, and $Financing > 0$ take a value of 1 when the county has a positive value for the BSSC (two years previously) and zero otherwise. Coefficients for year and county effects are suppressed.

In *Table A.5* we report the results of the estimation of the impact of the business incentives in one county on the level of economic activity in the other counties in its *ADD*. In addition to measures of the county's incentives, again in logarithmic form, we include measures of the business incentives in the rest of the *ADD*.

Finally, *Table A.6* reports the results of our estimates of the relationship between past employment and the level of current business incentives in a county. In columns (a) and (b) the results when the measure of employment is the logarithm of employment from two years before and column (c) reports results when the measure of employment was the level of employment two years before.

Table A.1: Summary Statistics on Economic Activity and Incentive Use in Kentucky, 1992-2004

	Percent	Mean	Minimum	25%	50%	75%	Maximum
	Receiving Incentive ¹						
Employment ²		18,332	805	4,424	7,356	14,900	529,003
Earnings ³		645	7.147	104	186	479	2,480
Real Property Value		1,140	36.2	241	429	920	4,090
BSSC Training ⁴	49.4%	70,042	183	18,507	38,132	81,757	931,058
Tax Credits Claimed	55.5%	910,357	27	76,422	257,716	898,880	19,500,000
Financing	17.5%	1,709,116	6,871	232,407	621,875	1,327,278	41,300,000

¹Percentage of county/years receiving any amount of the incentive.

²Employment is based on the annual average over quarters of the establishments in the county.

³Earnings and real property value are measured in millions of 2005 dollars.

⁴Value of incentives awarded to a county in a year is measured in 2005 dollars.

Table A.2: The Long-Term Impacts of a 10% Increase in Tax Credits

	Short-Term Impact	Total-Long Term Impact	Number of Years Prior				
			1	2	3	4	5
			Change in Employment	3.40*	7.60*	2.32*	0.54
Change in Earnings	218,280*	547,532***	83,617	100,490	129,478	97,908	135,914**
Change in Property Value	100,734	58,646	(2,476)	(8,676)	10,192	23,217	69,274

Note: *** denotes significance of the effect (coefficient) at a 1% level; ** is significance at a 5% level; * is significance at a 10% level

Table A.3: The Long-Term Impacts of a 10% Increase in the BSSC Training Program

	Short-Term Impact	Total Long- Term Impact	Number of Years Prior				
			1	2	3	4	5
Change in Employment	2.79**	11.88**	1.24	1.40	2.30**	3.09**	3.86***
Change in Earnings	160,146**	635,867***	97,107	116,702	150,367*	113,703	157,842*
Change in Property Value	83,983	100,422	56,315	(16,013)	(4,962)	6,981	58,100

Note: *** denotes significance of the effect (coefficient) at a 1% level; ** is significance at a 5% level; * is significance at a 10% level

Table A.4: Results of Estimation of Short and Long Term Relationship between Business Incentives and County Economic Activity

	Employment		Earnings		Property Value	
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term
LN(BSSC) _{t-2}	0.000981 (2.21)*	0.000491 (1.01)	0.001529 (2.31)*	0.001113 (1.52)	0.000753 (1.16)	-4.8E-05 (0.07)
LN(BSSC) _{t-1}		0.000435 (0.95)		0.000926 (1.29)		0.000548 (0.98)
LN(BSSC) _{t-3}		0.000808 (2.15)*		0.001434 (1.93)		0.000645 (1.15)
LN(BSSC) _{t-4}		0.001085 (2.41)*		0.001085 (1.38)		5.6E-05 (0.09)
LN(BSSC) _{t-5}		0.001356 (3.11)**		0.001506 (1.89)		0.001464 (2.54)*
LN(Credit) _{t-2}	0.00133 (1.78)	0.00021 (0.52)	0.002421 (1.83)	0.000559 (0.80)	0.000903 (0.71)	0.000174 (0.27)
LN(Credit) _{t-1}		0.000906 (1.82)		0.000566 (0.73)		-0.00019 (0.23)
LN(Credit) _{t-3}		0.000461 (1.21)		0.000549 (0.83)		-4E-05 (0.06)
LN(Credit) _{t-4}		0.000868 (2.09)*		0.000865 (1.10)		0.000395 (0.87)
LN(Credit) _{t-5}		0.000525 (0.92)		0.002602 (2.01)*		0.000342 (0.39)
LN(Financing) _{t-2}	-0.00048 (1.19)	-0.00056 (1.15)	-0.00164 (2.51)*	-0.00234 (2.95)**	-0.0005 (0.94)	-0.00099 (1.53)
LN(Financing) _{t-1}		-0.00093 (1.92)		-0.00251 (3.52)**		-0.00123 (1.85)
LN(Financing) _{t-3}		-0.0004 (0.87)		-0.0018 (2.11)*		-0.00061 (1.01)
LN(Financing) _{t-4}		-0.00036 (0.80)		-0.00099 (1.12)		-0.00053 (0.96)
LN(Financing) _{t-5}		0.000192 (0.50)		-9.2E-05 (0.12)		-0.00043 (0.84)
<i>BSCC</i> > 0	0.002106 (0.46)	0.003622 (0.93)	-0.00269 (0.35)	-0.00194 (0.26)	0.005409 (0.89)	0.006317 (1.28)
<i>Credit</i> > 0	-0.01344 (1.37)	-0.00668 (0.81)	-0.01568 (1.03)	-0.00155 (0.14)	-0.01666 (1.58)	-0.00068 (0.08)
<i>Financing</i> > 0	-0.01436 (2.58)*	-0.00833 (1.57)	-0.028 (3.31)**	-0.01934 (2.55)*	-0.00912 (1.10)	-0.00753 (0.97)
Observations	1320	1080	1320	1080	1440	1200
Counties	120	120	120	120	120	120
R-squared	0.32	0.23	0.64	0.57	0.72	0.72

Table A.5: Results of Estimation of the Relationship between Business Incentives in a County and the Economic Activity of its Neighbors

	ADD Employment		ADD Earnings		ADD Property Value	
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term
LN(BSSC) _{t-2}	0.000267 (0.90)	0.0001 (0.39)	0.00031 (0.65)	-8.9E-05 (0.21)	0.000547 (1.18)	0.000457 (1.12)
LN(BSSC) _{t-1}		0.000153 (0.71)		0.000385 (1.12)		0.000464 (1.29)
LN(BSSC) _{t-3}		4.81E-05 (0.21)		7.98E-06 (0.02)		0.000515 (1.19)
LN(BSSC) _{t-4}		1.71E-05 (0.07)		0.00019 (0.42)		-7.2E-05 (0.16)
LN(BSSC) _{t-5}		-6.3E-06 (0.03)		5.29E-05 (0.14)		0.000594 (1.36)
LN(Credit) _{t-2}	3.68E-05 (0.09)	-0.00022 (0.88)	0.00028 (0.37)	-0.00039 (0.78)	0.000573 (0.68)	-0.00044 (1.14)
LN(Credit) _{t-1}		-0.00029 (1.10)		0.000345 (0.68)		-0.00035 (0.83)
LN(Credit) _{t-3}		-0.00008 (0.40)		0.000117 (0.28)		-0.00041 (1.11)
LN(Credit) _{t-4}		-4.8E-05 (0.26)		-5E-05 (0.16)		-5.3E-05 (0.16)
LN(Credit) _{t-5}		0.00014 (0.57)		-2.4E-05 (0.05)		0.00061 (1.22)
LN(Financing) _{t-2}	-0.00022 (1.14)	-0.00015 (0.63)	-0.00042 (1.34)	-0.00038 (1.05)	-0.00067 (1.99)*	-0.00075 (1.95)
LN(Financing) _{t-1}		-0.00015 (0.67)		-0.00028 (0.78)		-0.00068 (1.73)
LN(Financing) _{t-3}		-3.5E-05 (0.16)		-0.00026 (0.75)		-0.00032 (0.88)
LN(Financing) _{t-4}		-8.6E-05 (0.41)		-1.2E-05 (0.03)		-0.00037 (1.06)
LN(Financing) _{t-5}		0.0001 (0.59)		0.000182 (0.67)		-0.00012 (0.39)
BSSC > 0	0.002918 (1.11)	0.001568 (0.69)	0.003324 (0.78)	0.002433 (0.65)	0.002558 (0.55)	0.004569 (1.20)
Credit > 0	-0.01341 (2.93)**	-0.00835 (2.85)**	-0.01514 (2.05)*	-0.01042 (1.96)	-0.01321 (1.79)	-0.00359 (0.60)
Financing > 0	-0.00513 (1.90)	-0.00236 (0.80)	-0.0089 (2.17)*	-0.0052 (1.18)	-0.0115 (2.63)**	-0.00978 (2.10)*
LN(BSSC), Rest of ADD _{t-2}	0.002478 (1.62)	-0.00033 (0.27)	0.001735 (0.62)	-0.00195 (0.91)	0.005738 (2.39)*	0.002342 (1.12)
LN(Credits), Rest of ADD _{t-2}	0.000583 (0.55)	-0.00165 (1.29)	0.002991 (1.63)	-0.0038 (1.43)	-0.00093 (0.36)	-0.00508 (1.37)
LN(Financing), Rest of ADD _{t-2}	-0.00155 (1.26)	-0.0011 (1.03)	-0.00504 (2.56)*	-0.00423 (2.27)*	-0.00789 (3.85)**	-0.00497 (3.05)**
ADD BSSC > 0	0.002478 (1.62)	-0.00033 (0.27)	0.001735 (0.62)	-0.00195 (0.91)	0.005738 (2.39)*	0.002342 (1.12)
ADD Credit > 0	0.000583 (0.55)	-0.00165 (1.29)	0.002991 (1.63)	-0.0038 (1.43)	-0.00093 (0.36)	-0.00508 (1.37)

Table A.5 (continued)

<i>ADD Financings</i> >0	0.020772 (1.29)	0.016731 (1.26)	0.063308 (2.53)*	0.054065 (2.36)*	0.102499 (3.98)**	0.062938 (3.06)**
LN(BSSC), Rest of ADD _{t,5}		0.000111 (0.37)		0.000178 (0.25)		0.001581 (1.21)
LN(Credits), Rest of ADD _{t,5}		-0.00023 (0.78)		0.00039 (0.71)		0.000526 (0.66)
LN(Financing), Rest of ADD _{t,5}		0.000654 (4.73)**		0.001678 (5.91)**		0.000685 (2.29)*
Observations	1320	1080	1320	1080	1440	1200
Number of Counties	120	120	120	120	120	120
R-squared	0.69	0.62	0.7	0.72	0.85	0.88

Note: * significant at 5% level; ** significant at 1% level

Table A.6: The Relationship between Past Employment and Current Incentives

Dependent Variable	LN(Employment) _{t-2}	LN(Employment) _{t-2}	Employment _{t-2}
	(a)	(b)	(c)
<i>BSCC</i> > 0	0.00374 (0.83)		400.17 (1.79)
<i>Credit</i> > 0	-0.01827 (3.26)**		-1020.61 (3.65)**
<i>Financing</i> > 0	-0.0174 (3.40)**		-972.88 (3.81)**
<i>LN(BSSC)</i>		0.00004184 (0.09)	
<i>LN(Credit)</i>		-0.00104003 (2.20)*	
<i>LN(Financing)</i>		-0.00136912 (3.49)**	
Observations	1560	1560	1560
Counties	120	120	120
R-squared	0.47	0.47	0.15

Note: Absolute value of t-statistics in parentheses

* significant at 5% level; ** significant at 1% level

Appendix A.II: List of Business Incentive Programs by State

This appendix provides a detailed list of business incentive programs for each state considered a “competitor” of Kentucky. It covers the major state-level programs, using information from state agency websites. States are listed alphabetically (see the text for a discussion of Kentucky’s program). Separate sections are devoted to tax credits, job training, and financing.

Local incentives also are offered in all of Kentucky’s neighboring states. Here are examples of local incentives. Taylorsville, Illinois offers real estate tax abatement and free building permits to businesses locating outside of enterprise zones. In Georgia, Macon and Bibb County offer discounts on businesses’ new real and personal property taxes introduced in the community. Buncombe County in North Carolina provides grants to pay back projects based on their capital investment. Chester County in South Carolina offers a Fee-in-Lieu of local property taxes for businesses with capital investment greater than \$5 million.

GEORGIA

I. Tax Credits

The Job Tax Credits can be applied to a number of categories including: manufacturing, telecommunications, warehouse distribution, research and development, processing, and tourism. Job tax credits are good for each year up to five years, and can range from \$750 to \$4000 per job. The job tax credit can be used against varying percentages of tax liability, conditional on the economic prosperity of the county. The Port Job Tax Credit Bonus is \$1,250 per job, in addition to the Job Tax Credits. Eligible businesses are those with large shipments into and out of a Georgia port. Another credit within the Job Tax Credit is for Opportunity Zones, enterprise zones with substantial poverty.

The state offers property tax exemptions and abatement or reduction in occupation taxes for businesses locating in Enterprise Zones, economically distressed areas that meet specific criteria.

The Headquarters Tax Credit is available to companies establishing or relocating their North American or International corporate headquarters. Such companies can receive an income tax credit of \$5,000 per job per year for five years if the new jobs pay twice the county average wage rate, and apply to all counties regardless of tier level. A tax credit of \$2,500 is available if the wages are not twice the county average wage rate, but still greater than the county average.

The Investment Tax Credits are available to an existing manufacturing or telecommunications business that has operated a facility in Georgia for three years prior to the investment of \$50,000 or more. Tax credits range from 1% to 8% of qualified capital investment.

The Port Investment Bonus is available to taxpayers with large increases of shipments in or out of a Georgia port. The port bonus increases the investment tax credit to 5%, in lieu of the investment tax credit (above) regardless of the tier level. The port bonus is limited to 50% of income tax liability.

II. Training

The Retraining Tax Credit is available to all business categories and equals one half the employer’s approved direct retraining cost up to \$500 per employee. Retraining applies to all

programs related to a new operating system, new equipment, or a new technology. The credit can be used in a given year against 50% of taxpayer's income tax liability.

The Quick Start program offers job-specific training and orientation to Georgia businesses. The Georgia Department of Technical and Adult Education (GDTAE) administers the program via technical colleges, a number of associated universities, as well as many satellite campuses. In the past Quick Start has offered services anywhere from productivity enhancement to company orientation to advanced manufacturing technology training.

III. Financing

The Employment Incentive Program (EIP) is a financing program that may be used in conjunction with traditional private financing to carry out economic development projects which will result in employment of low and moderate income persons. Many types of projects, including both grants and loans, can be financed with EIP funding. However, projects creating opportunities for low and moderate income persons to advance themselves by obtaining employment, greater job security, better working conditions, job training, enhancement of workplace skills and advancement opportunities receive the greatest consideration.

The Entrepreneur and Small Business (ESB) Development Loan Guarantee Fund provides new financial resources and opportunities for business development in Georgia's at-risk areas by partnering with accredited Georgia financial institutions.

The Strategic Industries Loan Fund provides loan assistance for the purchase of fixed assets to eligible applicants that are being considered as a relocation or expansion site for an emerging or development-stage company in a strategic industry targeted by Georgia.

Sources:

<http://www.dca.state.ga.us/economic/Financing/index.asp>

<http://www.dca.state.ga.us/economic/TaxCredits/index.asp>

<http://www.georgiaquickstart.org/quickstart/>

ILLINOIS

I. Tax Credits

The Economic Development for a Growing Economy (EDGE) Tax Credit Program is designed to offer an incentive for companies to locate or expand in Illinois when there is competition from another state. The program provides tax credits to qualifying companies, equal to the amount of state income taxes that are withheld from the salaries of employees in the newly created jobs. Such credits can be used against corporate income taxes to be paid over a period up to 10 years. Eligible businesses must provide documentation that attests to the fact of competition among a competing state, agree to make an investment of at least \$5 million in capital improvements, and create a minimum of 25 new full time jobs in Illinois. For a company with 100 or fewer employees, the company must agree to make a capital investment of \$1 million and create at least 5 new full time jobs in Illinois.

The High Impact Business (HIB) program is designed to stimulate large-scale economic development activities through tax incentives (similar to those offered within an enterprise zone) to companies that propose to make a substantial capital investment in operations and will create or retain above average number of jobs. Eligible businesses may receive the following: investment tax credits, a state sales tax exemption on building materials, an exemption from state sales tax on utilities, a state sales tax exemption on manufacturing equipment purchases, and repair and replacement parts. Minimum requirements are \$12 million investment causing the creation of 500 full-time jobs for a project or an investment of \$30 million causing the retention of 1500 full-time jobs. Investments are required to take place outside of an Enterprise Zone and at a chosen location in Illinois. The program has been expanded to include qualified new electric generating facilities, production operations at a new coal mine, a new or upgraded transmission facility that supports the creation of 150 Illinois coal-mining jobs, or a newly constructed gasification facility as a "Coal/Energy High Impact Businesses".

The Illinois Enterprise Zone Program is designed to stimulate economic growth and neighborhood revitalization in economically depressed areas of the state. Companies participating in the program will receive state and local tax incentives, regulatory relief, and better government services.

II. Training

The Employer Training Investment Program (ETIP) encourages Illinois workers to upgrade their skills in order to keep up to date in new technologies and business practices, enabling companies to remain competitive, expand into new markets, and introduce more efficient technologies into their operations. ETIP grants can reimburse Illinois companies up to half the cost of training their employees. Grants may be awarded to individual businesses, intermediary organizations operating multi-company training projects, and original equipment manufacturers sponsoring multi-company training projects for employees of their Illinois supplier companies.

III. Financing

The AgriFIRST Grant Program is designed to provide grants to persons and agribusinesses in Illinois for the purpose of developing projects that enhance the value of agricultural products or expand agribusiness in Illinois.

The Illinois Capital Access Program (CAP) is designed to encourage financial institutions to make loans to small and new businesses that do not qualify under conventional lending policies. CAP is a form of loan portfolio insurance, which provides additional reserve coverage to the lender on loan defaults. By participating in CAP, lenders have available to them a proven financing mechanism to meet the needs of financial institutions and Illinois small businesses.

The Enterprise Zone Participation Loan Program (EZ/PLP) is a variation of the conventional Participation Loan Program (see below), in that the Department of Commerce and Economic Development (DCEO) subordinates the loans through participating lending institutions, but the EZ/PLP may be able to provide small businesses located in an enterprise zone with a more attractive loan rate than a conventional PLP.

The Illinois Finance Authority (IFA) is a self-financed, state authority principally engaged in issuing taxable and tax-exempt bonds, making loans, and investing capital for businesses, non-profit corporations, agriculture and local government units statewide. IFA finances about \$3 billion each year, helping generate economic growth and job creation.

The Large Business Development Program (LBDP) is designed to provide grants to businesses undertaking a major expansion or relocation project that will result in substantial private investment and the creation and/or retention of a large number of Illinois jobs. Funds available through the program may be used by large businesses for bondable business activities, including financing the purchase of land or buildings, building construction or renovation, and certain types of machinery and equipment. Grant eligibility and amounts are determined by the amount of investment and job creation or retention involved.

The Manufacturing Modernization Loan Program is designed to provide manufacturers with access to adequate and affordable financing for upgrading and modernizing their manufacturing equipment and operations.

The Minority, Women, and Disabled Participation Loan Program (MWD/PLP) program is a variation of the conventional Participation Loan Program (see below), in that DCEO subordinates the loans through participating lending institutions, but the MWD/PLP program can provide Illinois small businesses that are 51 percent owned and managed by persons who are minorities, women, or disabled, with loans up to \$50,000 or 50 % of the total project.

The Participation Loan Program (PLP) is designed to work through banks and other conventional lending institutions to provide subordinated financial assistance to Illinois small businesses that employ Illinois workers. A business with 500 or fewer employees may apply for a PLP loan of not less than \$10,000 or more than \$750,000. Loans shall not exceed 25% of the total project and may not be used for debt refinancing or contingency funding.

The Revolving Line of Credit (RLOC) Program can provide qualifying businesses with a subordinated line of credit through banks and other convention lending institutions at affordable interest rates.

The Rural Micro-Business Participation Loan Program is a variation of the Participation Loan Program designed to provide subordinated loans of up to 50% of a project (maximum \$25,000) to Illinois Rural Micro-businesses through participating lending institutions. A rural micro-

business is a for profit business that: (i) employs 5 or fewer full-time employees, including the owner if the owner is an employee, and (ii) is based on the production, processing, or marketing of agricultural products, forest products, cottage and craft products, or tourism. The borrower is required to provide equity of at least 10% of the project up to \$1,000 (10% of a \$10,000 project). Funds cannot be used for debt refinancing or contingency funding.

Illinois law allows units of local governments the ability to designate areas within their jurisdiction as Tax Increment Financing (TIF) districts. These specially designated districts are used by local governments as a way to spur economic growth by dedicating the sales tax revenues and additional property tax revenues generated within the TIF for improvements within the district with the hope of encouraging new economic development and jobs.

Sources:

http://www.illinoisbiz.biz/dceo/Bureaus/Workforce_Development

http://www.illinoisbiz.biz/dceo/Bureaus/Business_Development

INDIANA

I. Tax Credits

The Certified Technology Park Program was created as a tool to support the growth and attraction of high-technology business in Indiana and to promote technology transfer opportunities. Designation as a Certified Tech Park allows for local recapture of certain state and local tax revenue which can be invested in the park. There are several eligibility requirements for approval in obtaining the status of a Certified Tech Park. Parks are allowed to capture a maximum of five million dollars over the life of a park in incremental sales and income taxes.

The Clean Energy tax program supports Indiana's advanced agricultural industry and provides an incentive for the development of renewable energy. Producers and distributors of bio-diesel and ethanol may be eligible for a tax credit, calculated as a percentage of their fuel production or distribution. The maximum credit amount that may be allowed to an applicant is \$3,000,000. Eligibility requirements include the proposal of a business plan, along with an application to the state. Typically, credits are granted in the chronological order to which they were received.

The Economic Development for a Growing Economy (EDGE) Program rewards companies creating new jobs and contributing to the growth of Hoosier income. EGDE credits are calculated as a percentage of the payroll tax withholding for net new Indiana jobs. EDGE credits may be granted up to ten years. Eligibility requirements differ among businesses that are creating new jobs or preserving existing jobs. Businesses can potentially be awarded the full state income tax withholdings due to the project; however, the company must pledge to maintain operations in Indiana for two years after the term of the award.

The Hoosier Business Investment Tax Credit (HBITC) was established to encourage capital investment in Indiana by providing a credit against a company's Indiana tax liability. The credit amount is based on the company's qualified capital investment with the final credit amount based on the analysis of the economic benefits of the proposed investment. A company's credit award may be up to 10% of their qualified capital investment and may be carried forward for up to nine years.

The Industrial Recovery Tax Credit (Dinosaur Building) provides an incentive for companies to invest in facilities requiring significant rehabilitation or remodeling expense. After a building has been designated as an industrial recovery site, companies may be eligible for a tax credit calculated as a percentage of the qualified rehabilitation expense. Eligibility requirements include investments made in certified vacant industrial facilities, consisting of at least 250,000 square feet of floor space in service at least twenty years ago. Additionally, the building must be entirely vacant for two years. Furthermore, if the credit is larger than the taxpayer's state tax liability, it may be carried over to the following taxable years.

The Venture Capital Investment Tax Credit improves access to capital to fast growing Indiana companies by providing individual and corporate investors an additional incentive to invest in early stage firms. Investors who provide qualified debt or equity capital to Indiana companies receive a credit against their Indiana income tax liability. Maximum amount of credit is equal to the lesser of: the total amount qualified investment capital provided to the qualified Indiana business in the calendar year multiplied by 20% or \$500,000. Eligible applicants include

taxpayers who are an individual or state entity with any state tax liability. Additionally, within two years after certification, the taxpayer must supply eligible investment capital to an eligible Indiana business. Again, if the credit is larger than the taxpayer's state tax liability it may be carried over to the following taxable years, up to five taxable years.

The state also offers tax credits specifically aimed at the film and motor sports industries, as well as credits for locating in one of the state's 29 enterprise zones.

II. Training

The Skill Enhancement Fund (SEF) encourages companies to invest in their existing workforce and train new employees. SEF provides reimbursement for eligible training expenses over a two-year term. The maximum amount awarded through the SEF program typically does not exceed 50% of the company's training budget.

The Technology Enhancement Certification for Hoosiers (TECH) helps Hoosier companies meet the ever-growing demands of the new information economy by helping workers obtain new technology skills. This program was established in 2000 and is a reimbursement grant program which provides financial assistance to existing companies that are committed to training their workers in the latest technology information skills. The maximum grant award for any company or non-profit organization is \$50,000, \$2,500 per employee or 50 percent of training costs, whichever is less. Training activities eligible for reimbursement include those offered by industry-certified training providers.

III. Financing

Indiana's financing programs target local governments rather than businesses. Local governments may offer financing incentives to businesses.

Sources:

<http://www.in.gov/iedc/workforce/>

<http://www.in.gov/iedc/incentives/>

MISSOURI

I. Tax Credits

The Chapter 353 Tax Abatement is designed to help cities revitalize "blighted areas" by providing tax abatements for up to 25 years, beginning when the Urban Redevelopment Corporation (URC) takes title to the property. In the first ten years property is not subject to real property taxes, except in the amount of real property taxes assessed on the land, exclusive of improvements, during the calendar year prior to the calendar year the URC acquired the title. The next 15 years, the real property may be assessed up to half of its true value. A city could potentially approve a full tax abatement for the 25 years.

The Enhanced Enterprise Zone provides state tax credits to new or expanding businesses in a Missouri Enhanced Enterprise Zone. It replaces the Enterprise Zone Tax Benefit Program. Eligible applicants include for-profit "urban redevelopment corporations" organized pursuant to the URC law. Tax credits are available for up to five years, based on tax credits set aside for the project. Tax credits maximum value per calendar year is \$4,000,000; however, as of January 1, 2007, this maximum will increase to \$7,000,000 per calendar year.

The Loan Guarantee Fee Tax Credit Program provides state tax credits to an "eligible small business" for the amount of a guarantee fee paid to either the U.S. Small Business Administration or the U.S. Department of Agriculture for a small business loan. Eligible small business is defined as having gross receipts less than one million dollars, or greater than one million dollars with less than thirty full time employees. No limits exist as to the amount awarded annually.

The Quality Jobs Program provides income and withholding tax credits for the creation of new jobs with salaries at least the county average and that offer health insurance that pays at least half of the premium. The program excludes a few industries such as retail, and the minimum threshold of created jobs varies by location and type of firm (the lowest threshold is 10). Tax credits are only applicable to tax liability in the year that they are earned. Businesses have the option to transfer, sell, or assign the credits. Additionally, the residual balance is refundable. Finally, per calendar year tax credits may not exceed \$12,000,000. A business may start a new five year period for each time it meets the new job threshold, and can do so as many times as the requirement is met.

The Rebuilding Communities Tax Credit Program helps stimulate eligible business activity in Missouri's "distressed communities" by providing state tax credits to eligible businesses that locate, relocate or expand their business within a distressed community. Eligible businesses include those with 75% or more of its employees at the facility in the distressed community, 100 or fewer employees at all locations nationwide, and a concentration in manufacturing, computer software design, telecommunications, etc. Businesses can choose from several credit options for the size and duration of the credit, but all credits have a maximum limit of \$8 million a year.

The Sales Tax Exemption exempts machinery and equipment used to establish a new manufacturing facility or expand an existing manufacturing facility from local and state sales/use tax, given such machinery and/or equipment is used directly in ultimately manufacturing a product intended for sale.

The Small Business Incubator Tax Credit Program is administered by the Missouri Department of Economic Development (DED). They may issue a 50% state tax credit to a taxpayer who makes a contribution to an approved incubator sponsor in Missouri. Credits are able to carry forward at the most five years, and can be sold or transferred. The maximum amount of tax credits, per calendar year, is \$500,000.

The state also offers tax credits specifically aimed at the film, mutual fund, and wine industries.

II. Training

The Missouri Customized Training Program and the New Jobs Training Program provides financial assistance for classroom training. Eligibility requirements include wage rates as well as types of industries and occupations, creating new jobs in the state above their peak employment level or retraining existing employees as a result of a substantial new capital investment.

III. Financing

The Action Fund Loan provides a loan to certain types of for-profit companies that need funds for start-up or expansion and have exhausted other sources. Eligibility extends to all cities and counties within Missouri. However, projects must be in a “non-entitlement” area, defined as a county with a population less than 200,000 or a city with a population less than 50,000.

The Urban Enterprise Loan was developed to assist Missouri’s small business owners with the creation, expansion and retention of their business enterprise located in the St. Louis and Kansas City urban areas. The Missouri DED contracts for the administration of a micro-lending program. To be eligible, businesses must be located in urban areas in St. Louis and Kansas City. Eligible applicants include any Missouri resident with a for-profit small business located within the designated urban areas.

The Missouri Development Finance Board is one statewide issuer of various types of tax-exempt bonds, including some for small manufacturing facility projects. The amount is based upon the state’s population in the preceding year. In Missouri, the DED has the authority to allocate the tax-exempt cap to projects. Because there is no tax on interest earned by the holders of tax-exempt bonds, the interest rate is typically lower than conventional financing, including taxable bonds.

Sources:

<http://www.missouridevelopment.org/Business%20Solutions/Financial%20and%20Incentive%20Programs.aspx>

NORTH CAROLINA

I. Tax Credits

North Carolina offers several tax credits to eligible businesses. The credits may be used to offset 50% of the taxpayer's state income and/or franchise tax liability. Any credits that are not used may be carried forward for at the most five years. These credits are available statewide and are specifically based upon a county's tier (level of economic distress).

Eligible businesses that create a minimum number of full-time jobs during the year may apply for the Job Creation Tax Credit based on the number of net new jobs created. The amount of the credit is determined by the location of the new jobs, ranging between \$500 and \$16,500 per job. The credit is taken in equal installments over four years following the year the job is created.

The Investment Tax Credit is a credit based on the cost of machinery and equipment placed on operation during the year, in excess of the applicable threshold. The credit percentage (between 4% and 7%) and the applicable threshold (between \$0 and \$2 million) are both based on the location where the machinery and the equipment are used.

The state offers a Research and Development tax credit to taxpayers who claim the Federal Research and Experimental Tax Credit to increase research activities in North Carolina. Businesses may receive a credit equal to 25% of the state's apportioned share of the federal credit claimed.

A business that purchases or leases property and uses it as a Central Administrative Office is allowed a credit equal to 7% of the real property assessment. Under this program, businesses are required to hire at least 40 new office jobs during the taxable year the property is under operation. The credit is capped at \$500,000 per business. Additionally, credit is received over the following seven years that the real property is put into service.

Eligibility requirements for all tax credits include that the business have: a good environmental record, no overdue tax debts, good OSHA record, health insurance for full-time employees and pay at last 50% of premium, and meet wage standards specific to the tier in which they operate. Additionally, businesses must be of a certain type and an eligible NAICS code (i.e. certain industry).

II. Training

Businesses that are eligible for the job creation credit or investment tax credit may be eligible for the Worker Training Tax Credit if they plan to train at least five eligible employees. The amount of the credit is equal to the amount of wages paid during the training capped at either \$500 or \$1,000 per employee trained based on location.

The Job Development Investment Grant Program may provide annual grants to new and expanding business measured against a percentage of withholding taxes paid by new employees. The Economic Investment Committee oversees the program and can award up to 15 grants in a calendar year.

III. Financing

The One North Carolina Fund provides financial assistance to expanding businesses or industries vital to North Carolina's growing economy. The Governor is allowed to distribute grants on an "as-needed" basis. The project location or expansion must be in competition with another area outside the state.

Sources:

<http://www.nccommerce.com/finance/incentives/>

<http://www.investnc.com/fa/>

http://www.nccommerce.com/finance/pdf/Lee_Act_RD_Credit_Summary.pdf

OHIO

I. Tax Credits

The Community Reinvestment Area program grants local real-property tax incentives for residents and businesses that invest in designated areas of Ohio.

The Enterprise Zone program provides real and personal property tax incentives for businesses that expand or locate in Ohio. There is up to 60% exemption in unincorporated areas on real property improvements or tangible personal property tax valuation for at the most ten years. Incorporated areas are eligible for a 75% exemption.

Ohio's Job Creation Tax Credit provides a refundable tax credit against state income or corporate franchise taxes based on state income tax withheld from new full-time employees for companies willing to expand or locate in Ohio. To be eligible, companies must create at least 25 new full-time jobs paying at least 150% of federal minimum wage and the business must maintain operations at the project site for twice the term of the approved tax credit.

The Job Retention Tax Credit provides a state income or non-refundable corporate franchise tax credit to businesses that promise to retain a certain level of full-time jobs. To be eligible, a business must currently employ at least 1,000 full-time employees and make a capital investment of at least \$200 million or in certain cases a business can apply if it makes a minimum investment of \$100 million and commits to continue to pay the retained positions at least 400% of federal minimum wage.

The Manufacturing Machinery and Equipment Sales Tax Exemption excuses a business from paying state and county sales tax for companies that purchase machinery and equipment for manufacturing activities.

The Ohio Manufacturing Machinery and Equipment Grant/Tax Credit provides a nonrefundable corporate franchise or state income tax credit for manufacturers located in Ohio that purchase qualified new or retooled machinery and equipment used in manufacturing. The tax credit is 7.5% on the excess investments, while "priority investment areas" are eligible for a 13.5% credit. The value of the credit is divided equally over seven years and can be carried over at most three years.

The state offers two tax credits for research and development. The Research and Development Sales Tax Exemption frees businesses from the obligation to pay usual state and county sales tax for companies that purchase equipment for research and development activities. The Research and Development Tax Credit is non-refundable and can be applied against the corporate franchise tax. The credit equals 7% of the excess amount of qualified research expenses, and any unused credit earned in the taxable year can be carried forward for up to 7 years.

The Technology Investment tax credit encourages investment in small, research and development and technology-oriented firms. This credit allows investors to decrease their state taxes by a fourth of the amount invested.

The state also offers two warehouse-related credits. The Warehouse Inventory Tax Exemption is an exemption from the personal property tax on qualifying inventory. The Warehouse

Machinery and Equipment Sales Tax Exemption is an exemption from state and county sales tax for companies that purchase eligible warehousing equipment.

II. Training

The Training Tax Credit is for employers who choose to train existing employees who run the risk of losing their jobs due to skill inefficiencies. Ohio awards \$20 million annually with no business receiving more than \$100,000 per year.

The Ohio Investment Training Program (OITP) provides financial assistance and technical resources for customized training involving employees of new and expanding Ohio businesses in sectors that require large investments to create and retain jobs. OITP will provide up to 50 percent reimbursement for instructional costs, materials and training-related activities.

III. Financing

The Automotive Suppliers Zero Percent Financing Initiative promotes the location or expansion of automotive manufacturing. The finance applies to research and development operations that lead to new capital investment as well as job creation.

The Innovation Ohio Loan program awards competitively priced loans to Ohio companies to support the commercialization of innovative products and services. The program provides finances up to 75 percent of a project's qualifying costs between \$250,000 and \$5 million through loans to leading technology companies.

The Ohio Enterprise Bond Fund provides fixed rate loans for up to 90 percent of the project cost of land and building acquisition, construction, expansion or renovation and equipment purchases for eligible businesses.

The 166 Direct Loan is a program that provides loans for land and building acquisition, expansion or renovation, and equipment purchase up to 30 percent of the cost not to exceed \$1 million in distressed areas of Ohio. Regional 166 Direct Loan provides loans for land for construction in addition to the other expenses just mentioned. The program is administered by 12 local economic development centers. The business must create or retain 1 job for every \$15,000 or \$35,000 received.

The Pioneer Rural Loan grants direct loans up to \$750,000 for businesses locating or expanding in Ohio's rural areas that promise and commit to creating new jobs in these areas. Loans may be used for acquisition of land and buildings, new construction, renovation and expansion of existing buildings, and acquisition of machinery and equipment.

The Research and Development Investment Loan Fund (R&D Fund) promotes economic development, innovative techniques and products, business expansion, and job creation by encouraging private-sector R&D investments. The R&D Fund provides assistance in the form of a low-interest loan, partnered with a dollar-for-dollar credit to companies meeting program requirements.

The Rural Industrial Park Loan offers direct loans and loan guarantees up to \$1 million or 75 percent for project costs to rural, distressed local communities and other eligible applicants committed to creating well-planned industrial parks.

The Urban Redevelopment Loan program promotes the redevelopment of urban properties for the purchase of private sector job creation. Businesses can finance up to 40 percent of the cost for redevelopment projects not to exceed \$5 million.

Sources:

http://www.odod.state.oh.us/EDD/Loans_Grants.htm

<http://www.odod.state.oh.us/OTI.htm>

SOUTH CAROLINA

I. Tax Credits

The Corporate Headquarters Tax Credit attempts to reduce the cost of expanding or relocating a corporate headquarters facility by providing a 20 percent credit base on the value of the portion of the facility devoted to direct lease costs or headquarters operation in the first five years of operation. Eligibility requirements include the creation of at least 40 new full-time jobs, facility location, and the facility being the sole corporate headquarters within the region. Such credits could potentially eliminate corporate income taxes for up to ten years, beginning in the year they are earned.

The Enhanced Corporate Headquarters Tax Credit very much resembles the above tax credit. However, it differs in that it equals 20 percent of the tangible personal property costs of establishing the headquarters. Eligibility requirements differ as well and include the property being purchased for the headquarters facility or R&D, used for headquarters or R&D related services, used to create a minimum of 75 permanent new full-time jobs that perform headquarters or R&D related functions and service. This credit differs from the one above in that it can be used to eliminate both franchise taxes as well as corporate income tax. Additionally, this credit can be carried forward up to fifteen years.

The Economic Impact Zone Investment Tax Credit permits manufacturers who choose to locate in “Economic Impact Zones” a credit, good for one use, against a corporate income tax of up to five percent of a company’s investment in new production equipment. The amount of credit depends on the Internal Revenue Code’s applicable recovery period for property. Additionally, this credit has the ability to eliminate all corporate income taxes, as well as to carry forward ten years.

The Job Tax Credits compensates new companies and expanding companies for creating jobs in South Carolina. For example, manufacturing and processing, warehousing and distribution, and research and development must create two net new jobs. The credit’s full value ranges from \$1,500 to \$8,000 per new net job for up to five years, however, this varies between tier specific counties.

Property tax abatement is available for manufacturing and distribution companies. The required investment is \$50,000, and additional incentives are available for the first five years. The estimated property tax savings is around 20 to 25 percent.

The Sales Tax Exemption supports expanding and new industries with state and local sales tax exemptions. For example, this includes research and development machinery and equipment, machinery and equipment used in producing tangible goods, etc. Also, manufacturing or distribution projects investing \$35 million or more can exempt sales taxes for material-handling equipment.

South Carolina offers a Child Care Program Tax Credit, a Research and Development Tax Credit, and a Community Development Tax Credit. In addition, the 5-Year Property Tax Abatement is offered as a property tax incentive. In addition, the state also offers the following discretionary incentives: 20-Year Fee-in-Lieu of Property Taxes (FILOT), 30-Year Super Fee-in-Lieu of Property Taxes (Super FILOT), and Job Development Credit.

II. Training

The Center for Accelerated Technology Training (CATT) program is an employment training resource available to those companies locating or expanding in South Carolina. The State Board for Technical and Comprehensive Education (TECH) operates the program and oversees the statewide Technical Education College System. The program is provided at no cost to the company, with the exception of very specialized areas. CATT is responsible for recruiting, screening, and training individuals for specific assignments with new and expanding businesses and industries.

The state also provides funds for eligible businesses to negotiate with the Coordinating Council for a refund of up to \$500 per production employee per year for retraining. Retraining must be necessary for the business to stay competitive or for the introduction of new technologies.

III. Financing

The Business and Industry Loan Program was developed in an effort to stimulate job creation and retention in rural areas of South Carolina. Loans under this program range from \$750,000 to \$5 million. Those eligible for such financing are new or existing businesses in U.S. Census tracts of 50,000 people or less.

Business Solutions provides financing and assistance. Specifically, the service helps small and mid-size business find private lenders as well as “bridge” resources from the public sector.

Sources:

<http://www.sccommerce.com>

TENNESSEE

I. Tax Credits

The Excise Tax allows business to receive 1% excise tax credit for the purchase, installation, and/or repair of qualified industrial machinery; the purchase of qualified equipment associated with the required \$500,000 capital investment by a distribution or warehouse facility; or the purchase of computers, computer networks, software, computer systems, telephone systems and any peripheral devices purchased to reach the “required capital investment” to qualify for the jobs tax credit. Net operating loss may carry forward up to 15 years, and all capital losses may be claimed the year incurred.

The Franchise Tax credit provides \$2,000 (or \$4,500 in special enhancement counties) per new full-time employee in businesses that meet requirements of a minimum 25 new full-time jobs, additional capital investment of \$500,000, and offer a minimal health care plan, for new jobs in the future resulting in a net increase in jobs. There is no franchise tax on finished goods inventory in excess of \$30 million for fiscal year beginning on July 15, 1998, property under construction, not being utilized by the business, and pollution control equipment. Property rented from an industrial development board may be capitalized on the business books. The jobs tax credit can be applied to both the franchise and excise tax. The percentage of franchise and excise tax liability offset allowed ranges from 33 1/3 percent to 100 percent for total employment in Tennessee, ranging from less than 1,000 to 5,000 or more.

The state does not collect property tax on the following: goods-in-process, finished goods inventories in hands of manufacturers, inventories of merchandise for sale, goods-in-transit (free port), and pollution control equipment required for compliance with federal, state or local environmental protection laws.

The Sales and Use Tax is not collected on purchases, installation and repairs of qualified industrial machinery; purchases of material handling and racking equipment associated with the required capital; investment of \$10 million by a distribution or warehouse facility; raw materials for processing; pollution control equipment of manufacturers; any materials that become a component part of the finished product; and for containers, labels and packaging materials if they are sold with or accompany the product at no additional charge. Sales tax is reduced for manufacturers' use of energy fuel and water, and the tax is exempt if the energy fuel and water is used directly in the manufacturing process and separately metered. A credit of 5.5% is available for sales and use taxes paid on building materials, machinery and equipment used in new or expanded regional, national, or international headquarters if the expansion requires a capital investment of \$50 million.

The state also offers tax credits specifically aimed at businesses providing day care, as well as for power bills available to businesses expanding in the Tennessee Valley.

II. Training

The Tennessee Job Skills (TJS) program is a work force incentive grant program focused on enhancing employment opportunities and meeting the needs of new and existing industries. Through training, the program shall give priority to the creation and retention of high-wage jobs. The focus is on employers and industries that promote high-skill, high-wage jobs for emerging, high-technology manufacturing occupations.

The FastTrack Job Training Assistance Program provides training assistance for new and existing business and industry. It is available as an incentive by the State of Tennessee when associated with new investment for facilities, equipment and new job hires. Training can be both pre-employment and post-employment, including classroom and on-the-job training. Reimbursement of development and instructor cost either by company personnel or selected vendors, including educational institutions are eligible for support. Travel-related cost, for the purpose of training, is considered a viable training expense.

The Tennessee Industrial Training Service (ITS) provides training assistance as an incentive for new industry planning to relocate in Tennessee or for existing industry to expand business operations in Tennessee. The amount of capital investment and number of new jobs created from the investment determine the level of training assistance. ITS funds are intended to support manufacturing and industrial-type organizations but are not limited to any one industry. The hiring of a minimum of 25 new, full-time employees is a prerequisite for consideration of this training assistance. Assistance is limited to full-time production/technical workers only.

III. Financing

The Telecommunications Assistance Program is an assistance program for small or minority-owned businesses that may include loans, technical assistance and services, and consulting and educational services.

The Tennessee Small Business Energy Loan Program provides low-interest loans of up to \$300,000 to qualified Tennessee-based businesses to help upgrade the level of energy efficiency in their buildings and plants and to improve manufacturing processes. Companies with fewer than 300 employees or less than \$3.5 million in annual gross sales or receipts are eligible to apply for loans to improve energy efficiency. Loans can be repaid over a period of time not to exceed 7 years. Businesses located in three-star communities are eligible for loans with zero percent interest; all other businesses are eligible for loans with three percent interest.

The Tennessee Clean Energy Technology Grant Program is a business grant program for the purchase and installation of renewable and other clean energy technology projects in the state. The program will be available to any size business that is currently operating in the state. The purpose of the program is to supplant the use of fossil fuels by using approved renewable and other clean energy technologies including solar electric (PV), wind, solar thermal (water heating), hydrogen fuel cells and hybrid solar lighting. Grants cannot be used to start a business or for operating capital.

The Economic Development Loan Fund (EDLF) is a multimillion-dollar revolving loan program designed to stimulate capital investment and job creation in the Tennessee Valley Authority (TVA) region. EDLF loans are made available to companies for fixed asset purposes such as plant expansion and equipment purchase. Types of projects include expansion of existing industrial operations, location of new manufacturing operations, and retention of existing manufacturing operations when there is a real threat to their continued existence. Depending on job creation and capital investment, loans are made for up to \$2 million.

The Enterprise Demonstration Project is a revolving loan fund that requires a loan participation of a one-to-one match with a financial institution. The fund is administered and operated by West

Tennessee Venture Capital Corporation. This program can finance a minimum of \$25,000 to a maximum of \$300,000.

TVA has invested capital and is a limited partner in Commerce Capital. Commerce Capital's \$5 million equity fund leverages up to \$90 million federal dollars for the operating capital needs of rapidly-growing small businesses in the Tennessee Valley. These investments (in the form of loans) are made in debt and equity financing for companies in health care, manufacturing, environmental services, communications and information systems. Investments range from \$500,000 to \$3 million.

Revolving Loan Funds (RLFs) are available through nine development districts in Tennessee. The development districts operate subsidiary community development corporations that perform the actual lending. Revolving Loan Funds can be used for real estate acquisition, expansion, renovation and construction, acquisition of machinery and equipment, and working capital. For every job created, the company is eligible for \$5,000 in loans for a maximum of \$100,000. Terms for RLFs are based on the life of the assets, generally up to seven years for machinery and equipment and up to fifteen years for real estate loans. Interest rates are determined by the development corporation.

Sources:

http://tennessee.gov/ecd/rg_ch5.htm

VIRGINIA

I. Tax Credits

There are currently 57 Enterprise Zones that have been designated. In addition to state incentives, each zone community offers additional local incentives to qualified businesses.

The Major Business Facility Job Tax Credit applies to qualified companies locating or expanding in Virginia. Companies receive a \$1,000 corporate income tax credit for each new full time job created over a threshold number of jobs. Companies locating in Enterprise Zones or economically-distressed areas are required to meet a 50 job threshold; all other locations have a 100 job threshold. The \$1,000 credit is available for all qualifying jobs in excess of the threshold and is taken in equal installments over three years (\$333 per year). Non-qualifying jobs include seasonal positions, building and grounds maintenance, security and other positions ancillary to the principal activities of the facility. Credits are available for taxable years beginning on or after January 1, 1995, but before January 1, 2010. Unused credits may be carried over for up to 10 years.

Qualified businesses locating or expanding operations in a Technology Zone may receive local permit and user fee waivers, local tax incentives, special zoning treatment, or exemption from ordinances. Once a local technology zone has been established, incentives may be provided for up to 10 years. Each locality designs and administers its own program.

The state offers industry-related incentives, particularly with respect to sales tax, as well as tax credits for recycling equipment. Property tax incentives are provided at the local level in Virginia.

II. Training

The Worker Retraining Tax Credit allows eligible Virginia employers to receive an income tax credit equal to 30% of all expenses made by the employer for eligible worker retraining. The credit has a spending cap of \$2.5 million in any taxable year. Eligible worker retraining consists of courses at Virginia community colleges and private schools certified by the Dept of Business Assistance or retraining programs through apprenticeship agreements approved by the Virginia apprenticeship council.

The New Jobs Program targets expansions of existing companies or new facility locations which involve competition with other states or countries. Expansions of existing companies or new company locations must be creating a minimum of 25 new net jobs and must be making a capital investment of at least \$1,000,000.

The Retraining Program provides services and funding to companies to assist in upgrading the skills of existing employees identified as essential to the production or distribution of a product. Companies participating in the program are typically those which are undergoing an integration of new technology into their production processes, changing product lines in keeping with marketplace demands, or substantially changing service delivery processes requiring an assimilation of new skills and technological capabilities. Companies must have a minimum of 10 full-time employees needing to be retrained, and a new capital investment of at least \$500,000 is required as the catalyst for the project.

Workforce Services, a division of the Virginia Department of Business Assistance, provides customized recruiting and training services to companies creating new jobs or experiencing technological change. They offer consulting services, organizational development, electronic media services, and funding. Eligibility for assistance depends on the type of job and industry.

III. Financing

Virginia offers several financing programs. The Virginia Investment Partnership Grant fund provides grants for existing Virginia firms. As the name suggests, the funds are for investment. Virginia has economic development programs for the tobacco and coal regions. The Virginia Small Business Financing Authority provides services such as “gap” loans and loan guarantees for financing of \$1 million or less.

Sources:

<http://www.yesvirginia.org/pdf/guides/BusinessIncentives-2006-2007.pdf>

WEST VIRGINIA

I. Tax Credits

Eligible businesses that make investments in new or expanded businesses can receive the Economic Opportunity Credit.

Businesses that make capital improvements of at least \$50 million to an existing base of \$100 million or more may qualify for the “Five-for-Ten” incentive program. This program assesses the new capital addition at a salvage value of 5 percent for the first 10 years.

The Manufacturing Sales Tax Exemption reduces the tax liability to manufacturers. With the exemption, materials and equipment purchased for direct use in manufacturing are exempt from the 6 percent state sales and use tax. The state also provides the Manufacturing Investment Credit to assist manufacturers that make capital investments in an industrial facility.

Businesses performing research and development activities can qualify for exemption against West Virginia’s consumer sales and service tax for purchases of tangible personal property and services with the Strategic Research and Development Credit. Businesses that are eligible for this credit are also eligible for the High Growth Business Investment Tax Credit, which allows businesses to earn a tax credit equal to 50 percent of their investment.

The Tourism Development Incentive assists businesses that invest in and operate a new or expanding tourism destination project. These businesses may receive a return of up to 25 percent of approved development costs over 10 years through a consumer sales tax credit.

Goods in transit to an out-of-state destination are exempt from ad valorem property taxes when goods are warehoused in West Virginia if the business qualifies for the Warehouse “Freeport” Tax Exemption.

Investors in West Virginia capital companies that have a capital base of at least \$1 million but not greater than \$4 million are permitted a state tax credit equal to 50 percent of their investment under the West Virginia Capital Company Credit.

II. Training

Workforce West Virginia provides both financial and technical assistance to employers. Customized training is available using a variety of techniques. The Competitive Improvement Program provides training grants up to \$1,000 per manufacturing employee in small or mid-sized firms. The Governor’s Guaranteed Work Force Program provides training grants of up to \$2,000 per worker for companies creating at least 10 new jobs. The Small Business Work Force Program provides technology and technology training for small businesses.

III. Financing

The West Virginia Economic Development Authority has a direct loan program that provides up to 45 percent in financing fixed assets by providing low-interest, direct loans to expanding state businesses and firms locating in West Virginia. The loan term is generally 15 years for real estate intensive projects and five to 10 years for equipment projects. Loan proceeds may be used for the acquisition of land, buildings and equipment.

The Authority also administers an indirect loan program to assist businesses that cannot obtain conventional bank financing through a loan insurance program through participating commercial banks. The program insures up to 80 percent of a bank loan for a maximum loan term of four years.

The Jobs Investment Trust (JIT) is a public venture capital fund used by expanding businesses in any stage of operation to create or retain jobs as well as promote diversification within the state. JIT makes invests in projects expected to yield a financial return proportionate to the level of risk it assumes.

The Leveraged Technology Loan Insurance Program expands the loan insurance coverage to 90 percent for those businesses involved in the development, commercialization, or use of technology-based products and processes.

Entrepreneurs can apply for a loan from \$500 to \$10,000 through the Small Business Development Loan Program. Another financing option is the Linked Deposit Program, which provides low-interest loans to small businesses for amounts up to \$150,000 and for terms up to four years.

The West Virginia Economic Infrastructure Bond Fund is a financial assistance program that provides funding for projects likely to foster and enhance economic growth and development such as public utilities, county development authorities, and private companies for infrastructure improvements. It emphasizes business and/or industrial parks, job creation, and development. Projects can receive up to a \$3 million in financial assistance.

The West Virginia Economic Development Authority administers the Venture Capital Program that provides for debt and equity venture capital investment to small business under the West Virginia Capital Company Act.

Sources:

<http://www.wvdo.org/business/taxes.html>

<http://www.wvdo.org/workforce/employers.html>