



# **An Examination of Incentives to Attract and Retain Businesses in Kentucky**

**by**

***William Hoyt, Christopher Jepsen and  
Kenneth R. Troske***

**Center for Business and Economic Research  
University of Kentucky**



# Introduction

- Offering incentives to businesses considering locating in a state, or to try and keep businesses from leaving a state, has become wide spread in recent years.
- One reason this remains controversial is the lack of rigorous empirical analysis of these programs assessing their effectiveness.
- The Partnership Board of the Cabinet for Economic Development contracted with CBER to produce a series of reports examining the business incentive program in Kentucky.
- This is the first of the reports.



# Introduction

- In this report we:
  - Review previous studies examining incentives
  - Briefly outline the currently existing incentive programs administered by the Cabinet
  - Discuss incentive programs in neighboring states
  - Discuss the data and methodology we use to analyze the impacts of business incentives
  - Present the results from our analysis
  - Offer some conclusions based on the results and discuss issues to be examined in future reports



# Introduction

- Report available at:  
<http://gatton.uky.edu/CBER/ResearchReports.html>



# Kentucky's Business Incentive Programs

- For our study we divide the incentive programs into three groups:
  - Tax Incentives (KIDA, KREDA, KJDA, KIRA)
  - Training Incentives (BSSC)
  - Financing Incentives (KEDFA, EDB)
- Will not discuss the details of the incentive programs in Kentucky.



# Previous Studies

- Advantages of this study over most of the previous studies
  - County-level information on actual tax incentives received by firms in a county as opposed to tax incentives awarded.
  - Data for a number of years (1992-2004).



# Other States' Incentive Programs

- All states we looked at offer some form of tax incentives, training incentives and financing incentives.
- Kentucky has incentives that are similar to the states we compete with in attracting businesses.
- The main differences between states lie in the type of credits, training and financing offered.



# Data and Methodology

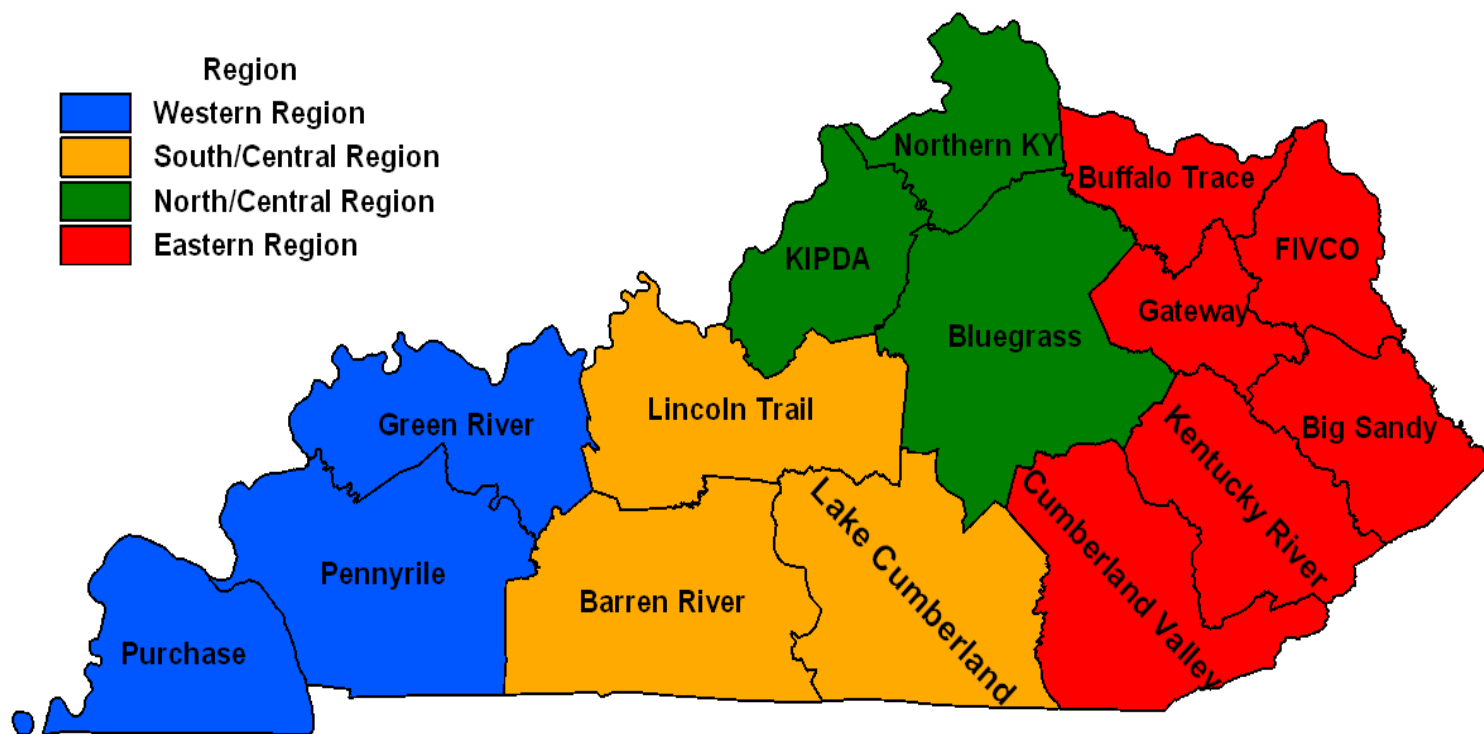
- All of our data on incentives come from the Cabinet for Economic Development
- We examine three measures of economic activity:
  - Employment
  - Earnings
  - Property Values
- Discussion will focus on employment and earnings



# Data and Methodology

- All of our analysis uses annual data
- Geographic unit varies in the report
- The initial analysis of trends done at the state level and regional level using four regions based on ADDs.
- All dollar figures have been converted to 2005 dollars.

**Figure 1: Regions of Kentucky**





# Data and Methodology

- Our more rigorous statistical analysis examines the impact of the incentive programs on economic activity in a county.
  - This means we are looking at how an increase in incentives received by firms in a county are associated with economic activity in the county.



# Data and Methodology

- When examining the short-term impact of incentives on economic activity we look at how incentives received two years ago impact economic activity in the current year.
  - For example, we look at the impact of incentives taken in 2000 on employment growth in a county in 2002.



# Data and Methodology

- There are a number of reasons why it may take a couple of years before we see the economic impact of the incentives
  - A firm may continue to grow for a number of years after receiving the incentive.
  - When a firm hires workers, these workers spend more money in a community, which impacts other businesses in an area. It may take a couple of years for these indirect effects to be seen.



# Data and Methodology

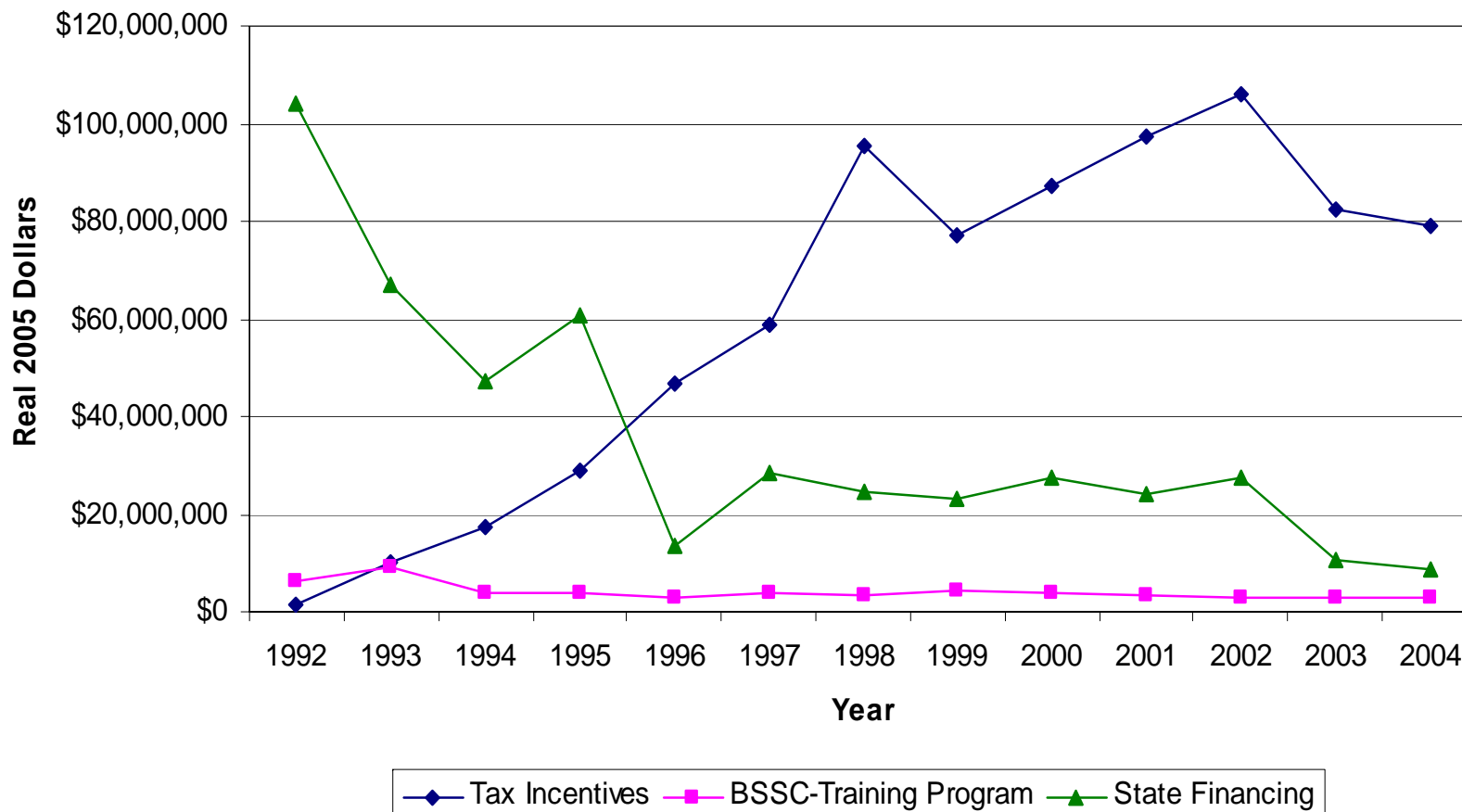
- When examining the long-run impact of incentives, we estimate the effects of incentives taken in each of the five previous years on economic activity in the current year.
  - For example, we estimate the impact of incentives taken by firm in a county in 1995, 1996, 1997, 1998, and 1999, on growth in employment in the county in 2000.



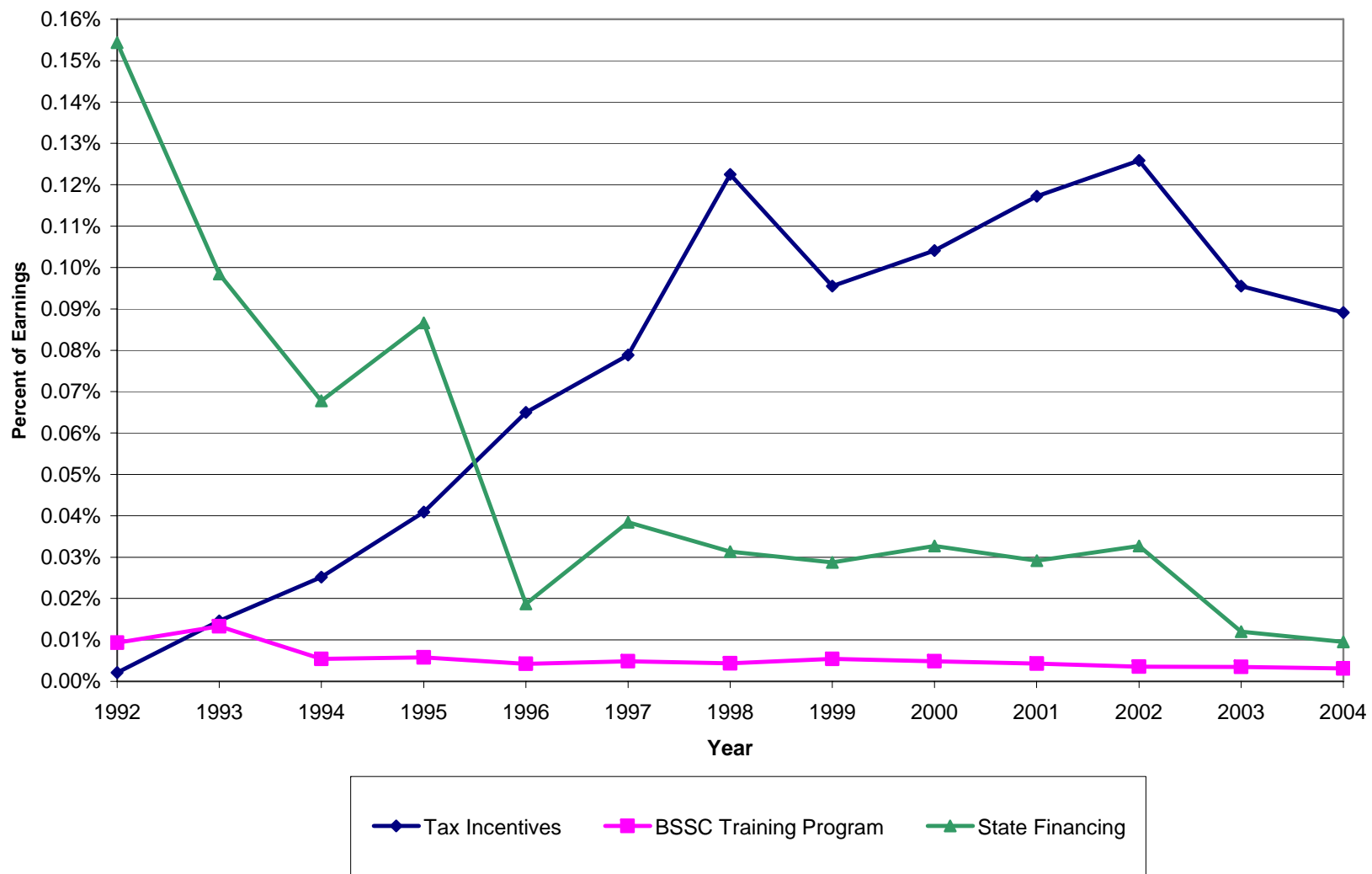
# Relationship Between Incentives and Economic Activity

- Start by looking at trends and regional differences in the use of incentives

*Figure 2: Amount of Business Incentives Taken in Kentucky, 1992-2004*



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

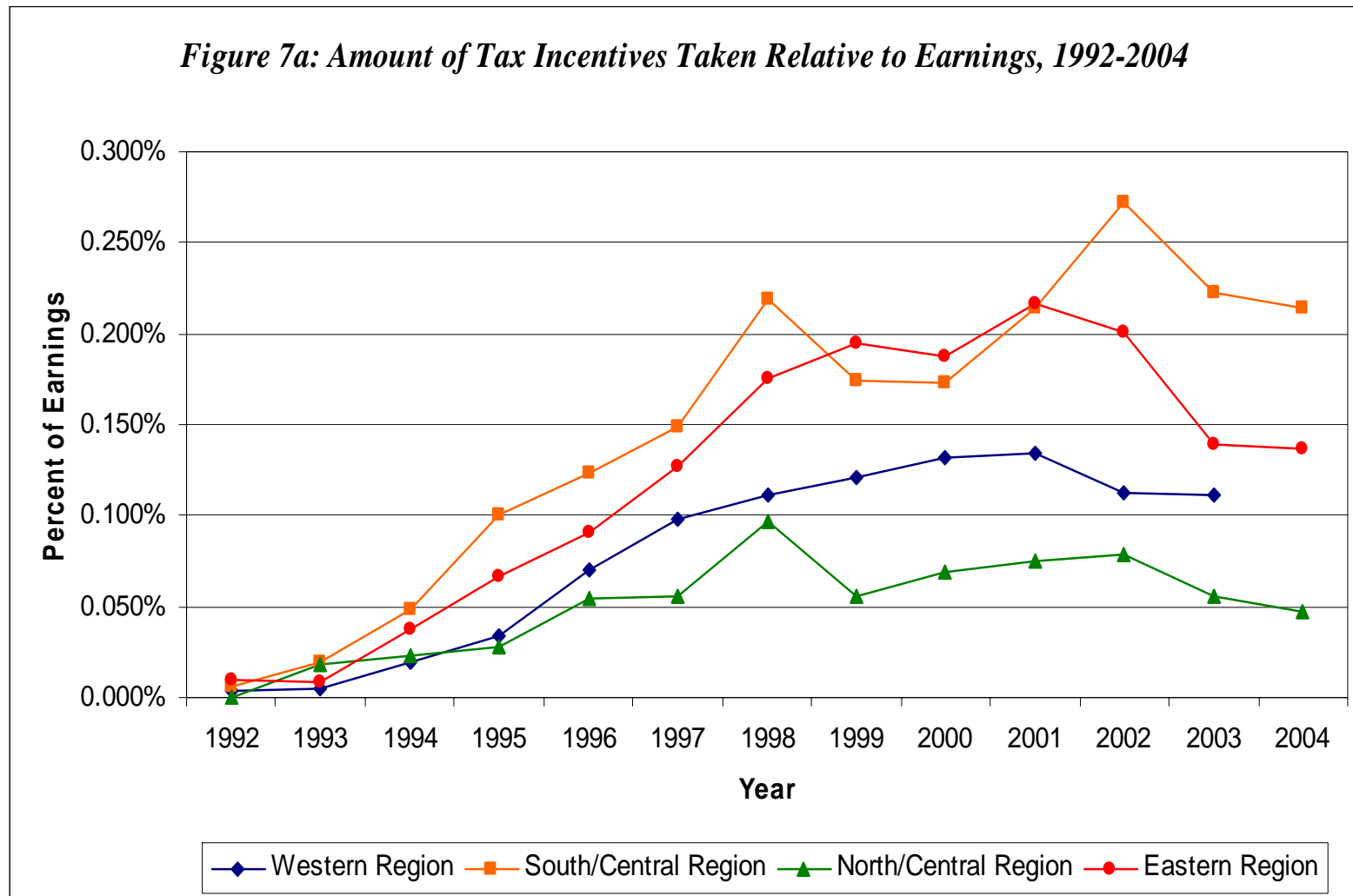




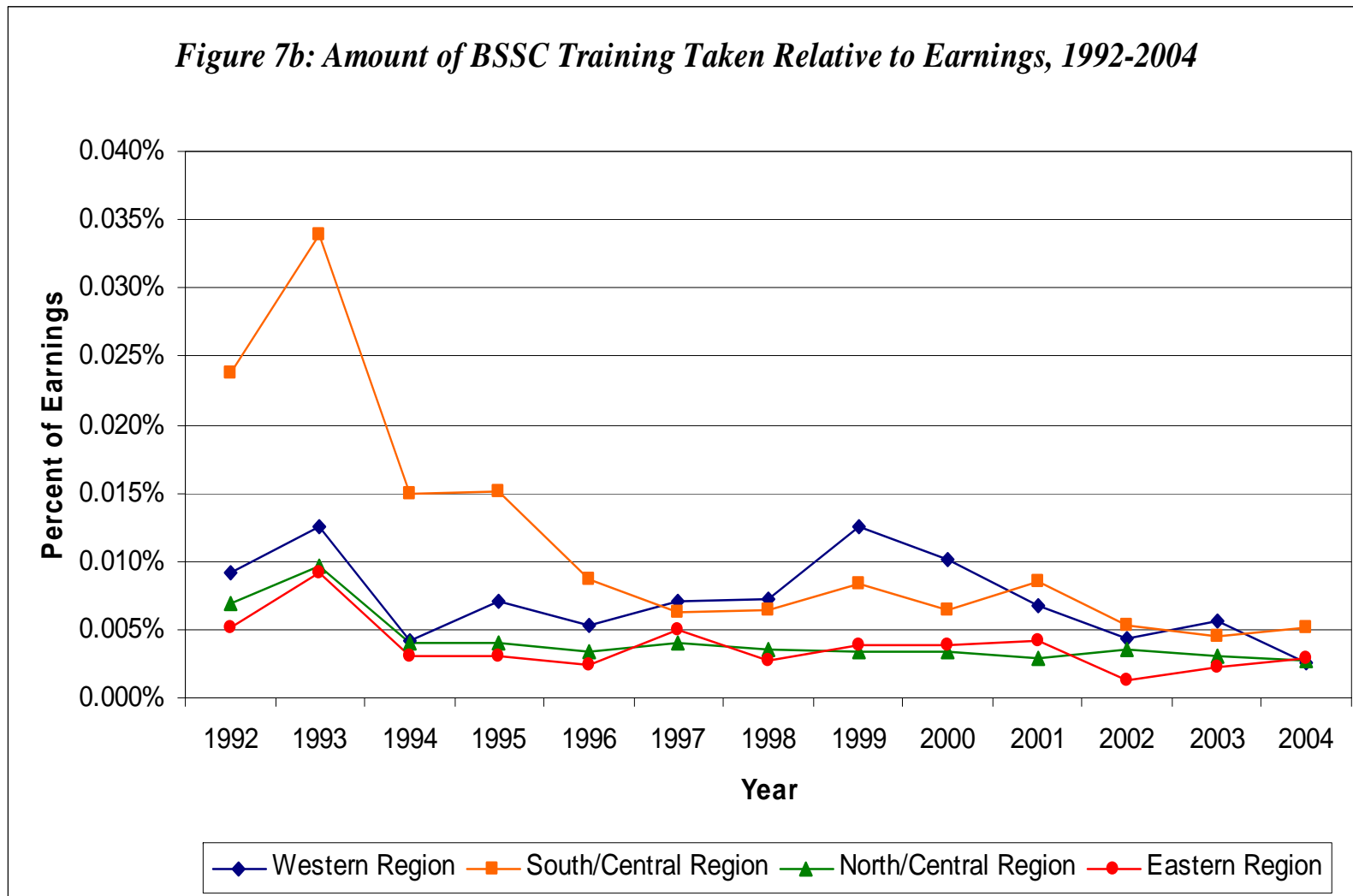
# Amount of Business Incentives

- Overall amount of business incentives are fairly small
  - The combined amount of all programs in a year never exceeds 0.2% of total earnings in the state.
  - In 2003 the amount of the incentives is less than 10% of business taxes collected.
  - In 2003 amount of incentives was less than 1% of total state government revenue.

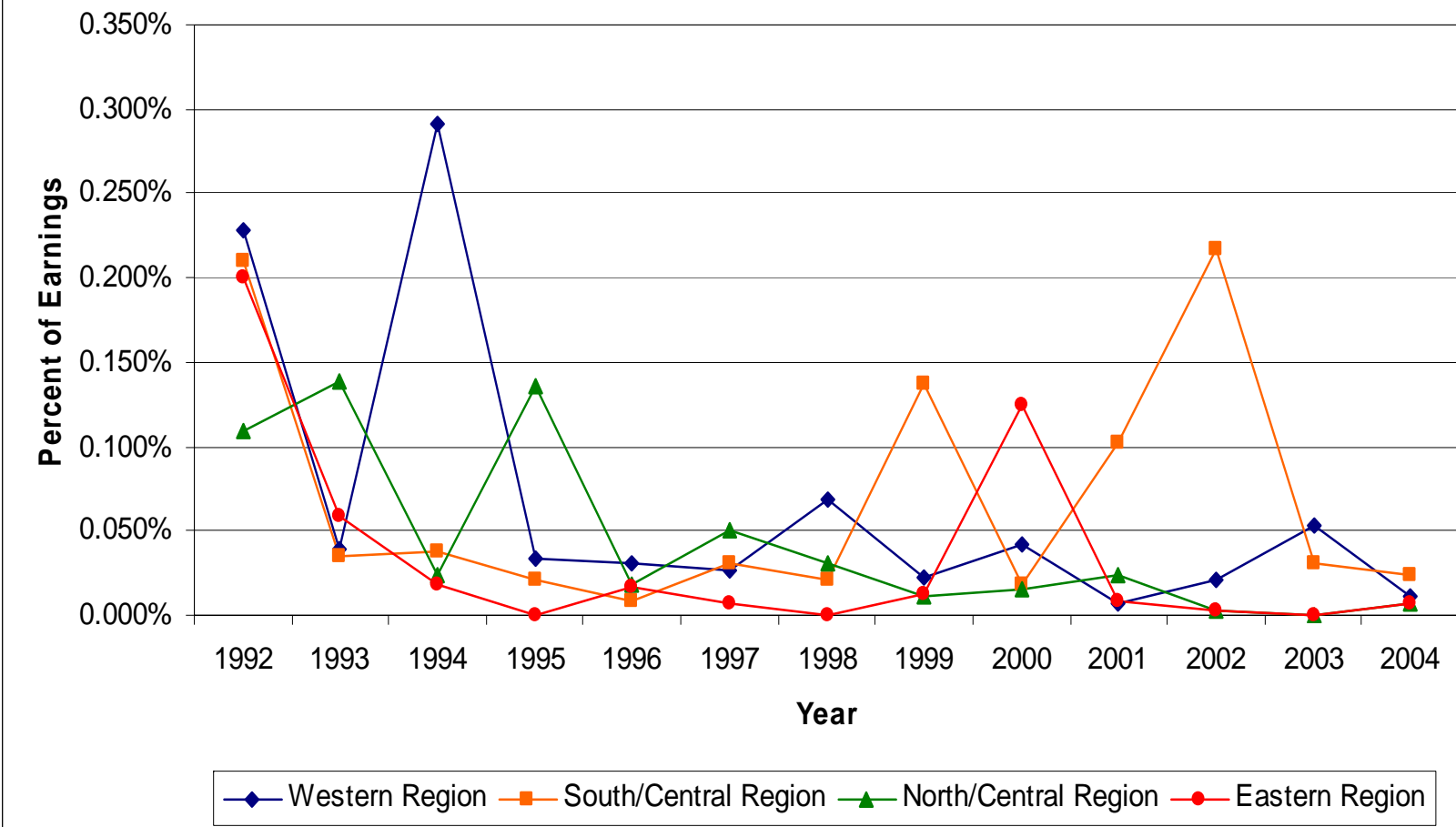
*Figure 7a: Amount of Tax Incentives Taken Relative to Earnings, 1992-2004*



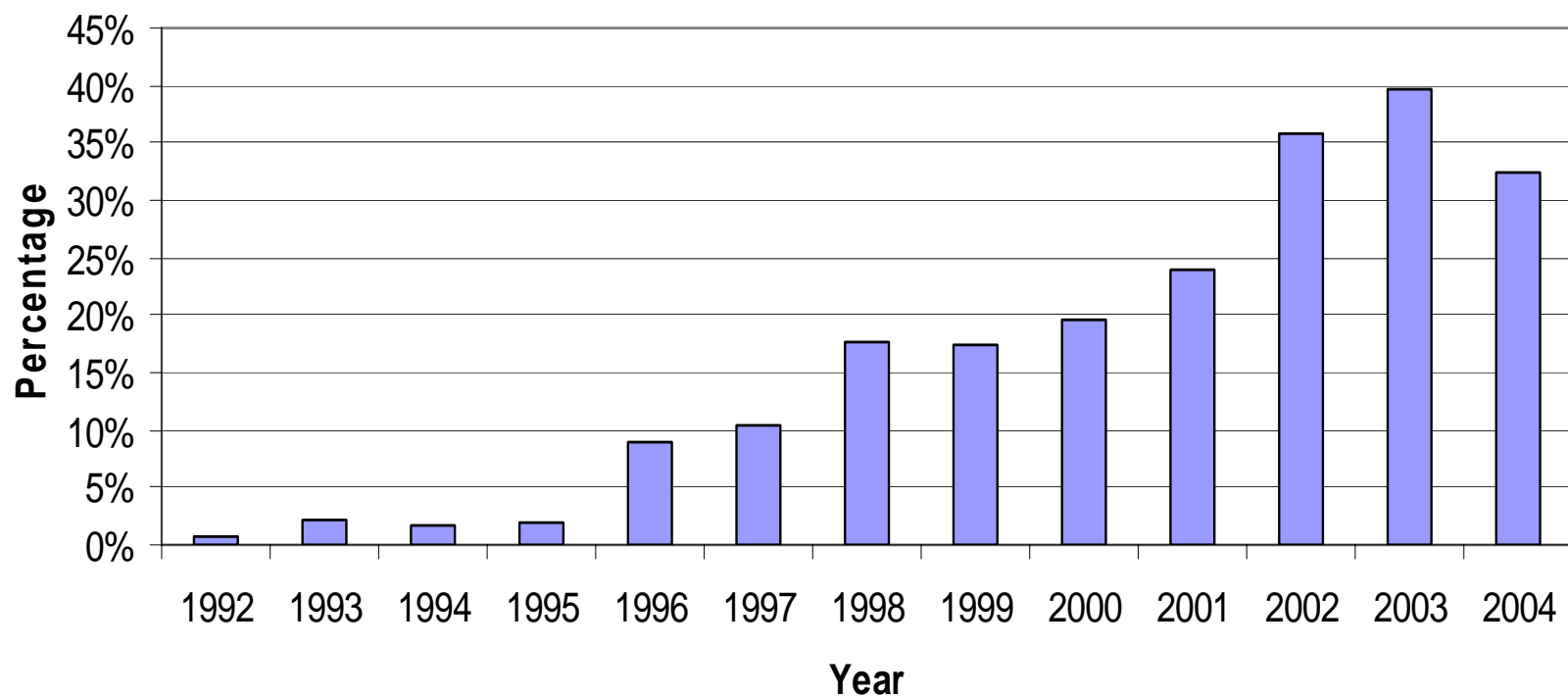
*Figure 7b: Amount of BSSC Training Taken Relative to Earnings, 1992-2004*



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



*Figure 8: Tax Incentives Claimed as a Percentage of Tax Incentives Awarded*





## Value of Incentives Claimed vs. Awarded

- Only a small percentage of Tax Incentives awarded are ever claimed
- By 2004 only 12% of incentives awarded had been claimed.
- Shows that it is important to use tax incentives claimed when studying the impact of incentives.



# Short-term Relationship Between Incentives and Economic Growth

- Based on our regression analysis we estimate the effect of a 10% increase in each of the incentive programs on economic activity in the average county.
- Keep in mind
  - A 10% increase in the tax incentive programs is \$91,036.
  - A 10% increase in the BSSC program is \$7,004.
  - A 10% increase in the financing program is \$170,912.



# Short-term Relationship Between Incentives and Employment

- Our estimates show that
  - A 10% increase in tax incentives is associated with an increase of 3.40 jobs in a county.
  - A 10% increase in the BSSC program is associated with an increase of 2.79 jobs in a county.
  - A 10% increase in the financing program is associated with a decrease of 2.28 jobs in a county.
    - Not statistically significant
- Average county has 18,332 jobs.



# Short-term Relationship Between Incentives and Earnings

- Our estimates show that
  - A 10% increase in tax incentives is associated with an increase of \$218,280 in earnings.
  - A 10% increase in the BSSC program is associated with an increase of \$160,146 in earnings.
  - A 10% increase in the financing program is associated with no increase in earnings.
- Average county has \$645 million in earnings.



## Short-term Relationship Between Incentives and Property Values

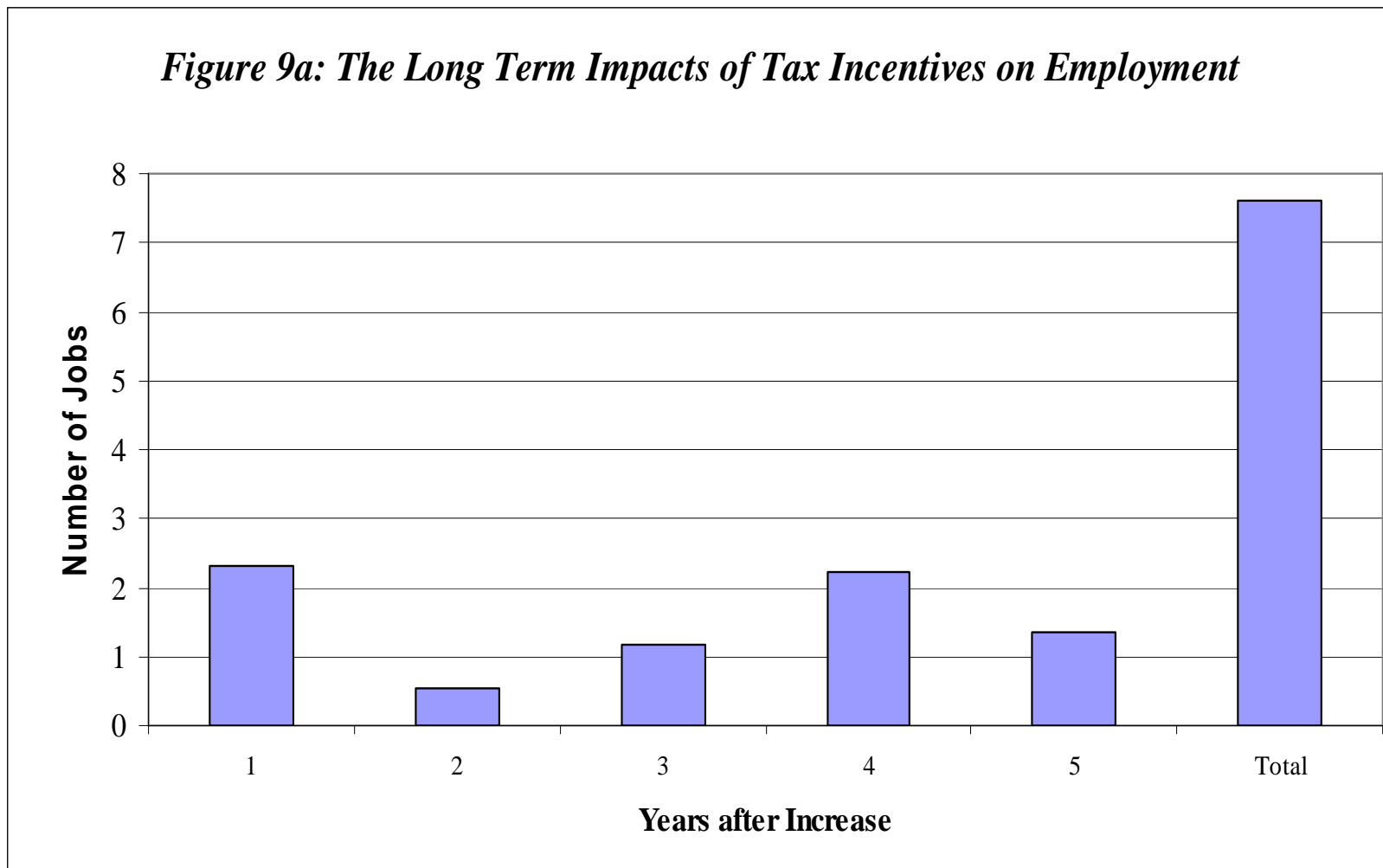
- Also look at the relationship between incentives and property values.
- If benefits of incentives exceed the costs then property values should rise. If costs exceed the benefits then property values should fall.
- Estimates show no significant relationship between a change in any of the incentive programs and property values in a county.



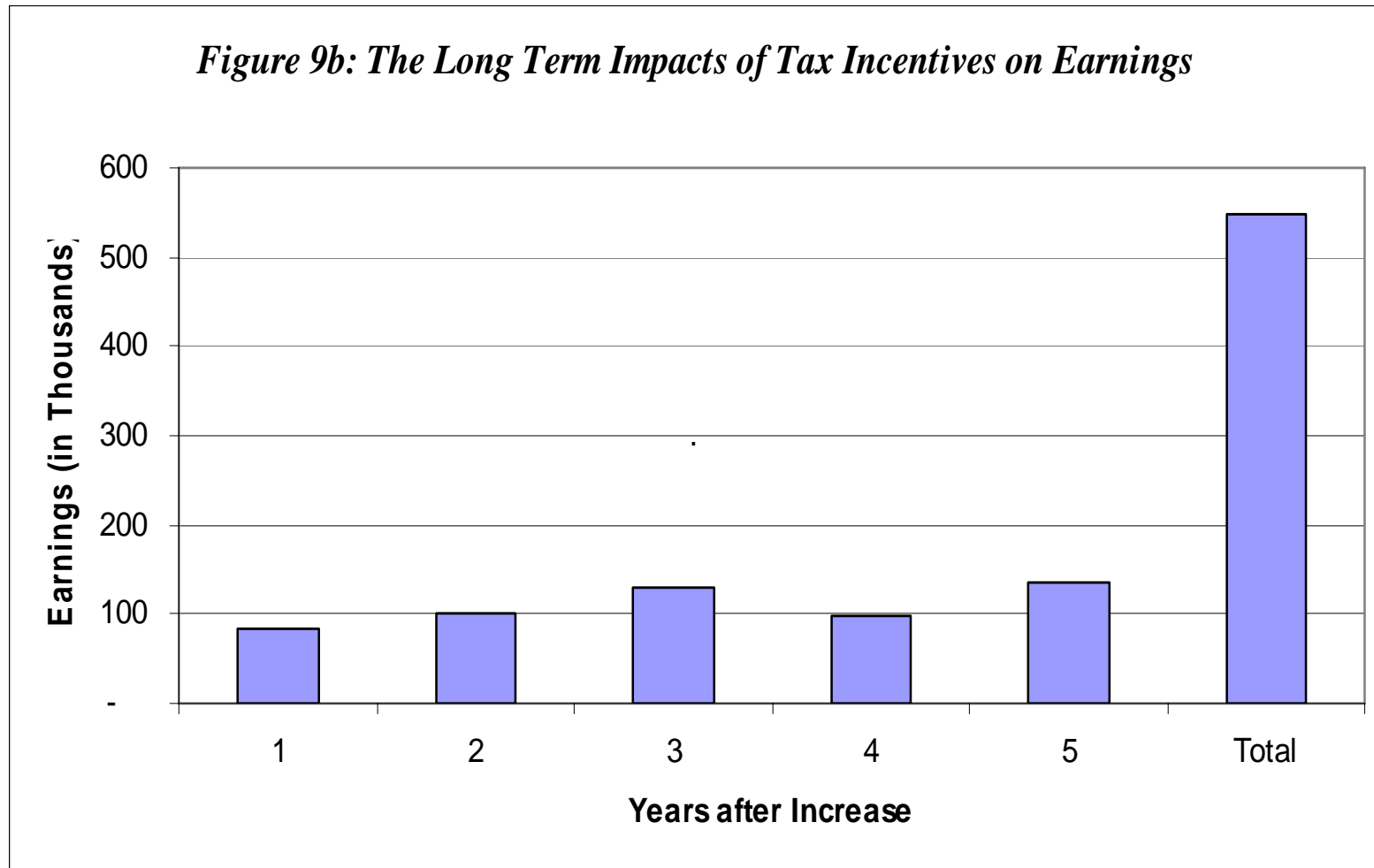
# Long Term Relationship Between Incentives and Economic Growth

- Now we examine the long term relationship between incentives and economic growth
- Recall we allow economic activity in a county to be affected by incentives received by firms in each of the previous five years.
- Focus on tax and training incentives effects on employment and earnings.

*Figure 9a: The Long Term Impacts of Tax Incentives on Employment*



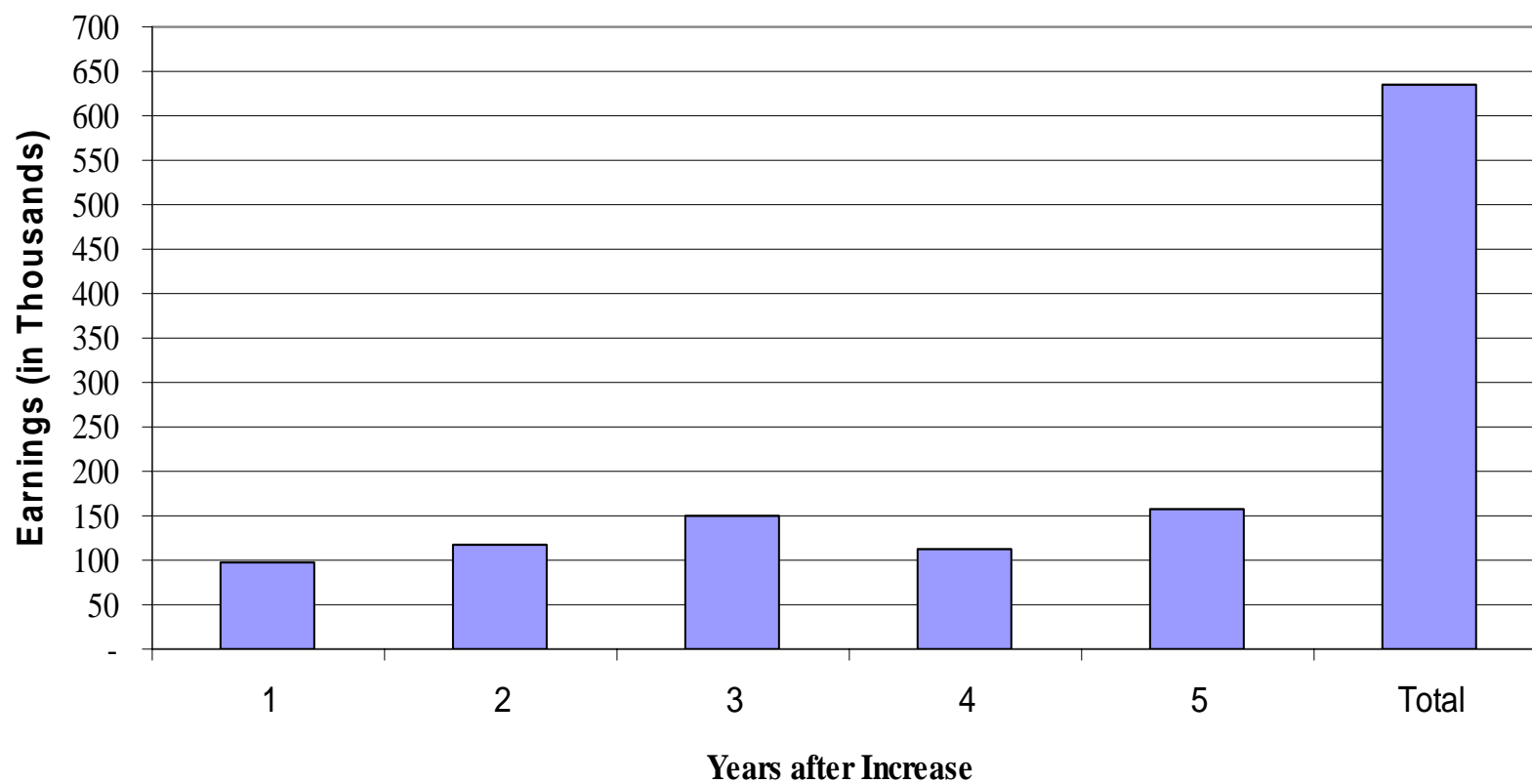
*Figure 9b: The Long Term Impacts of Tax Incentives on Earnings*



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



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





# Overall effect of incentives

- Based on our estimates we can calculate the number of jobs that would be lost in the absence of the incentive program.
- The use of business incentives is associated with 4,981 jobs, or 0.22% of total jobs, annually.
  - BSSC incentives are associated with 6,075 jobs, or 0.27% of total jobs, annually.
  - Tax incentives are associated with 2,138 jobs, or 0.1% of total jobs, annually.



# Overall effect of incentives

- Without business incentives from 1996 to 2004 we estimate that Kentucky would have had 44,829 fewer jobs in 2004, which is 1.9% of the total number of jobs.
- Total amount of incentives claimed over this period is \$925 million (2005 dollars).
- \$20,000 per job.
- Based on our estimates, without business incentives over this period, earnings would have been lower by \$4.5 billion.



# Spillovers from Business Incentives

- Also looked at whether incentives taken by firms in one county affect economic activity in other counties in the same ADD.
- Found no evidence of spillovers.



# Main Findings

- Kentucky's business incentives are very similar to the incentives offered by its competing states.
- 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 statutory and budget limitations).



# Main Findings

- 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.



# Main Findings

- 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 the average county.
- A ten percent increase in the BSSC program, which is equivalent to \$7,004, is predicted to increase employment by 2.79 jobs and increase in earnings of \$160,146 in the average county.



# Main Findings

- Financing programs were found to have no significant relationship with either employment or earnings.
- We find that both the tax incentives 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.



# Main Findings

- Without business incentives between 1992 to 2004, we estimate that Kentucky would have had 44,829 fewer jobs in 2004, which is 1.9% of the total number of jobs.



# Recommendations

- Decline in the state financing program seems appropriate.
- Legislature may want to consider expanding the BSSC training program.
- Tax incentives have a positive impact. However, we want to look at them individually before recommending that they be expanded.



# Future Report

- Look at tax incentive programs separately.
- Look at how the estimated size of effects vary by:
  - Region
  - Industry
  - Across the business cycle
- Type of employment associated with changes in incentives



# Future Report

- We have not looked at how incentives affect location decision of firms.
- To provide a complete answer requires data on:
  - Incentives Kentucky offers firms.
  - Incentives other states offer firms.
- Data on what other states offer are unavailable so we were unable to address this question.



# Future Report

- Could provide a partial answer if we had data on:
  - What Kentucky offers to firms that come to Kentucky and to firms that decide not to come to Kentucky.
  - Where firms that decided not to come to Kentucky located.
  - Cabinet tries to collect this information but it is hard to obtain in a systematic and timely fashion.
  - If we could get these data we could try and provide a partial answer in a future report.



# Final Remarks

- Kentucky has long been one of the poorest states in the country.
  - Kentucky ranked 44<sup>th</sup> in per capita personal income in 1939, 1970, and 2004.
- Primary reasons for Kentucky's low income is the low level of education among Kentucky workers and lack of innovative activity occurring in the state.

Figure 3: Percent of Population Age 25 and Older With a College Degree

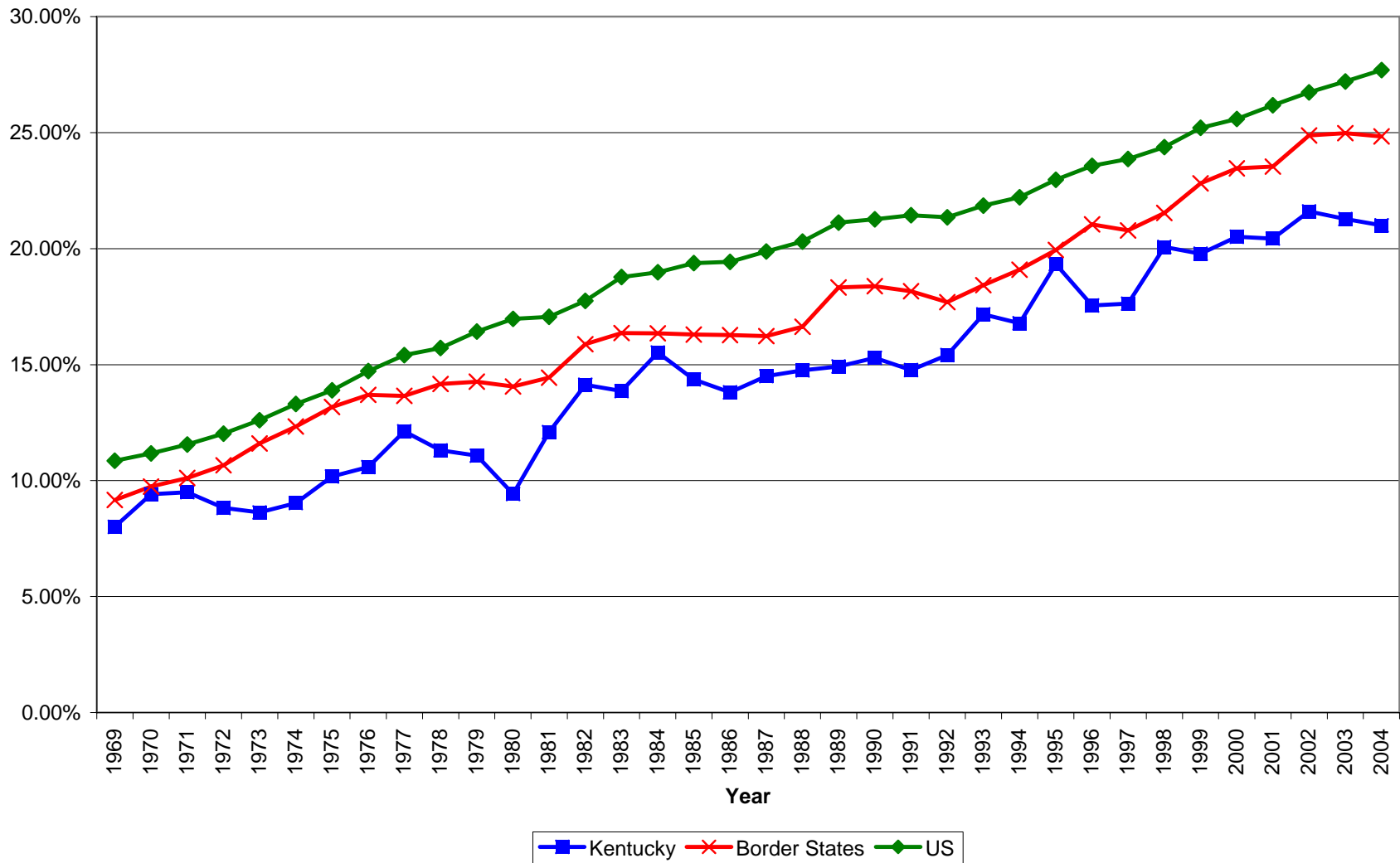
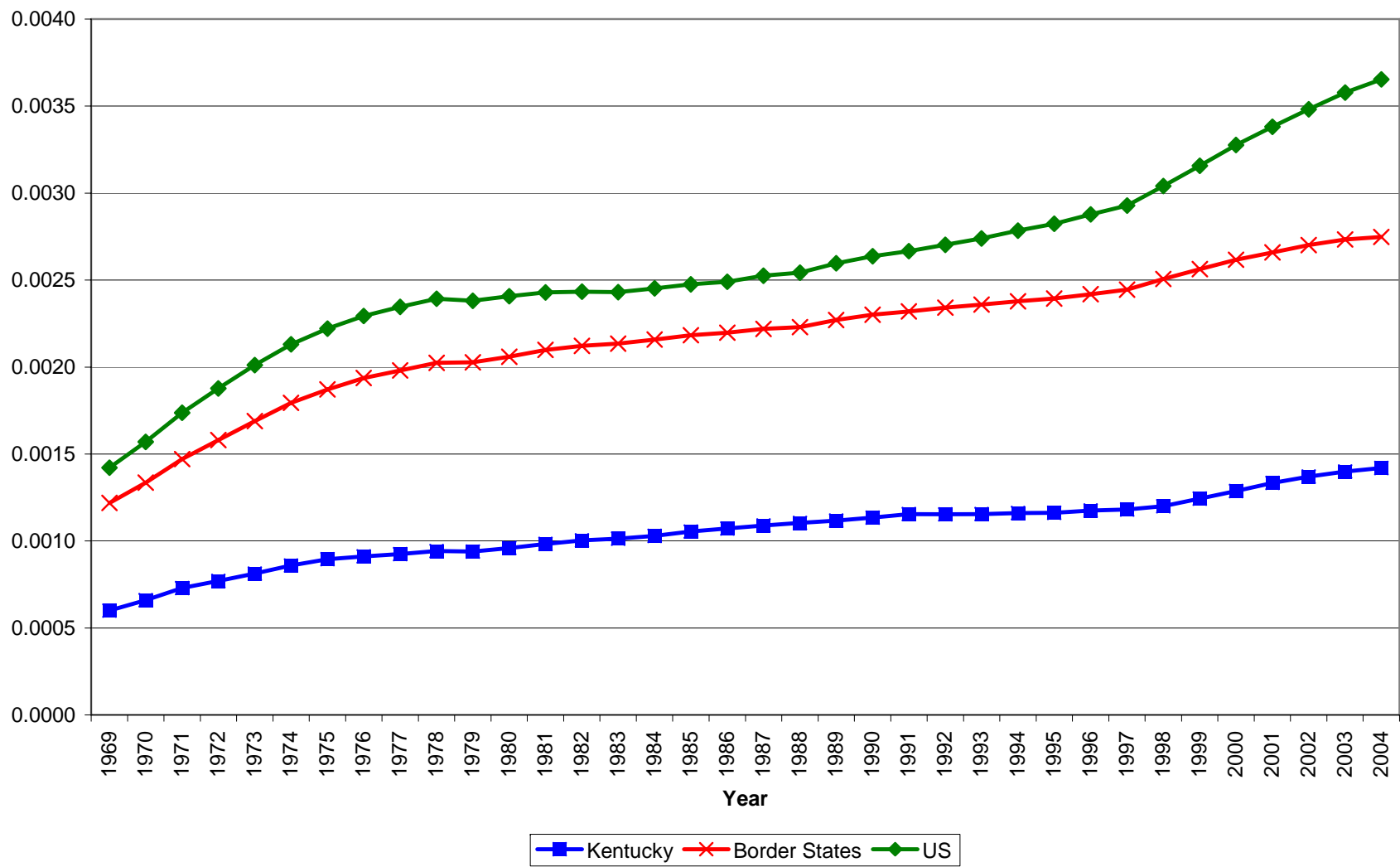




Figure 4: Stock of Patents Per-Capita





# Final Remarks

- If we fail to address these fundamental gaps sustained economic growth, no matter what incentives we offer businesses, will never be realized in the Commonwealth.