Job Creation and Firm-Specific Location Incentives

Nathan M. Jensen

George Washington University

natemjensen@gwu.edu

Abstract:
Government economic development programs provide opportunities for firms to leverage financial incentives for business expansion and relocation. This paper examines the ability of these incentives to promote employment. Using establishment-level data from the state of Kansas as well as original firm-level survey data, I evaluate the effectiveness of financial incentives in creating jobs through recipient firms. My findings from the establishment-level data indicate that incentive programs have no discernable impact on firm expansion, measured by job creation. In addition, the survey data suggest that incentive recipients highly recommend this program to other firms, but few firms actually increased their employment in Kansas because of these incentives; similarly, few firms would have left the state if they had not benefited from this program. Thus, incentives have little impact on the relocation or expansion decisions of firms.

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1. Introduction

One of the most often utilized local, state, and national economic development policies is the allocation of incentives to attract new investment, retain firms, or help facilitate the expansion of existing companies. These incentives come in many different forms, including tax holidays, worker retraining grants, subsidized loans, and infrastructure improvements. However, these different incentive types share two common features. First, they are targeted to specific firms, either through policy discretion or detailed eligibility criteria, and second, they are controversial in terms of both their effects and costs.

Although many countries limit the use of incentives through national legislation,[1] the U.S. is an outlier because the majority of incentives in the U.S. come from cities and states competing with each other (rather than other countries) for investment, with few restrictions from the federal government. This competition across cities and states has led to scathing exposés, such as the "Kansas City economic border war" series in the *New York Times*.[2] In fact, the Kansas City metropolitan region, which straddles the Missouri-Kansas border, has become a symbol of the problems with incentive competition within the United States. On the other side of the debate are various economic development agencies stressing the importance of incentives in increasing the competiveness of locations for domestic and international firms.

Given the thousands of incentives allocated to firms each year, it is easy to find positive or negative examples of incentives. For instance, some incentives can be credited with capturing investment or facilitating an expansion that generates direct local jobs and tax revenues, which have broader positive spillover effects for the community. More common, however, are criticisms of incentive programs that point to the inefficiency and ineffectiveness of incentives as a job creation

[1] The European Union also polices incentives through state aid rules.
[2] Mac William Bishop, "Border War: Kansas City," *New York Times*, December 1, 2012, http://www.nytimes.com/video/business/100000001832941/border-war.html.

strategy. What is the overall impact of incentives on job creation? I review this literature in the next section.

In this paper, I explore a representative state incentive program, the Promoting Employment Across Kansas (PEAK) program. Examining this program has a number of advantages. First, Kansas, on many dimensions, is a typical U.S. state. Specifically, Forbes places Kansas in the middle (25th) in terms of ranking its business environment,[3] and the Tax Foundation places Kansas in 22nd in terms of the state's business tax climate.[4] Second, the PEAK program shares many features with other state incentive programs. As documented by Mattera et al. (2012), 16 states now offer over 2,900 similar incentive programs that subsidize investment through the use of payroll tax rebates.[5] Furthermore, like other U.S. state incentive programs, the state of Kansas monitors firm compliance with the incentives' conditions and has the ability to "claw back" incentives from non-performing firms.[6]

Although the PEAK program is comparable to other incentive programs, another major advantage of this study is its high level of internal validity. Using data on all company establishments in Kansas across a range of industries, it is possible to examine what is essentially the complete universe of companies in Kansas and compare this universe of cases with the firms that received the incentives. Using matching techniques, I generate a control group for each firm receiving a PEAK incentive. I then compare employment generation between the two groups. Based on this analysis, the main finding is that there is no statistically significant difference in the employment creation of firms in the PEAK program relative to the firms that did not receive the PEAK incentives.

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[3] http://www.forbes.com/places/ks/

[4] http://taxfoundation.org/article/2015-state-business-tax-climate-index

[5] Just five states, Kentucky, Illinois, Indiana, Ohio, and New Jersey, have granted 1,980 of these incentives (Mattera et al. 2012a, 4).

[6] Mattera et al. (2012b) finds that 90% of programs have these provisions, although the actual enforcement varies dramatically across programs.

This finding points to the ineffectiveness of the PEAK program in generating employment. However, it is important to note that the empirical research design requires us to assume that we can generate a control group based on observable factors and use this control group to create a counterfactual on how many jobs would have been created in the absence of this program. Another unique aspect of this study is that to complement the matching results, I utilized freedom of information act (FOIA) requests to identify the individuals in each of the PEAK recipient companies that formally applied for PEAK incentives. I then fielded an internet survey in October 2014 that asked the individual PEAK applicants about their involvement in the PEAK program as well as their alternative options.[7] The survey included a counterfactual question on what the respondent's firm would have done if it had not received a PEAK incentive. In short, this survey asked firms to report, among other things, their expected job creation in the absence of the PEAK program.

The results from this survey, outlined in Section 5, are consistent with the findings from the matching analysis. Most respondents indicated that the program was efficient, more generous than the programs of competing locations, and worth recommending to other firms. Despite these clear benefits of the program to individual firms, the majority of respondents indicated that these incentives had no effect on their behavior. Less than a quarter of firms indicated that they would have left the state of Kansas without the incentive program, and less than a third of firms indicated that they would have employed fewer workers in Kansas without the incentives. Consistent with many of the arguments on the redundancy of incentives, outlined in the next section, over two-thirds of the firms suggested that there was little change in their employment behavior as a result of the PEAK program.

[7] The FOIA documents included the name and email address of the individual applying on behalf of the firm for the PEAK program.

The findings from this study identify a tension in the use of these incentive programs by governments. More specifically, although incentives can be used to increase employment and further expand businesses, the evidence suggests that recipients perform no better than non-recipients, at least in terms of job creation. My survey evidence also points to participation in this program as a strategy for obtaining government subsidies for expansions or relocations that were planned to happen already with or without this government support.

In the next section, I briefly discuss the existing rationale for market interventions to facilitate job creation. Although the literature on this topic is enormous, a few themes emerge in the literature that are worth noting. Then, in Sections 3 and 4 I introduce the Kansas PEAK program as well as the use of matching methods to explore how incentives shape firm employment decisions. Section 5 details the results from the PEAK program firm-level survey, and Section 6 provides some concluding remarks.

2. Economic Incentives as an Economic Development Strategy

From a public policy perspective, few topics are as important, and politically salient, as the creation of high-quality jobs, and therefore, national, state, and local governments use public policy to encourage job creation. Perhaps the most common of these strategies is the use of incentives to attract and retain companies; for instance, a survey of U.S. municipalities found that 95% of respondents indicated that they utilized some form of incentive to attract firms. Although every U.S. state has a menu of incentives to offer firms (Jensen et al. Forthcoming), many of these states have shifted toward offering fewer but much larger "megadeal" incentives (Mattera et al. 2013). In general, firms considering relocation or expansion have a menu of options available that vary by location.

With this in mind, can government policies be used to stimulate job creation? A vast literature on industrial policy has debated this question by differentiating between "horizontal industrial policy," which aims to create a business-friendly environment in general, and "vertical industrial policy," which aims to target individual sectors or firms (Gaul 1995; Lazzarini 2015). Financial incentives are perhaps the most extreme case of vertical industrial policy, where government agencies allocate resources to firms either through a formula that makes certain firms more qualified than others or through policy discretion.

Politicians have numerous public policy levers that can affect investment decisions, but few are as immediate and as targeted to individual firms as investment incentives. As mentioned above, incentives can come in a variety of forms; for example, governments often provide tax abatements against future profits, which essentially incentivizes companies to capture a larger share of future profits while presenting no immediate costs to the government. At the other extreme, governments can offer low-interest loans or grants to firms, essentially subsidizing a relocation or expansion through the use of public money. Although the variety of these incentives changes every year, what is central about them is that politicians target the policies toward an individual firm.

The existing literature has provided a rationale for how targeted incentives can facilitate economic growth (Klein and Moretti 2013). Specifically, proponents of incentives often argue that the attraction of even a single major firm can serve as a catalyst for local economic development, having positive impacts on wages, property values, and ultimately tax revenue in the area (Greenstone and Moretti 2003). If a small incentive can swing the decision of a large firm, the benefits of these incentives will far outweigh their costs.

The targeting of individual firms allows policymakers to both price discriminate between firms that are on the fence about whether to invest as well as target firms that will have the biggest impact on the community. For example, imagine two firms. One firm will create ten jobs but have

few other spillover effects in the Kansas City area. A second firm will create ten direct jobs and, by sourcing from suppliers and using local distributors, that firm also will create an additional ten jobs indirectly. Although both firms have the same payroll and sales, the second firm is much more valuable to the region.

Unfortunately, despite the clear theoretical motivations, global research on incentive programs has found little empirical support for the effectiveness of these programs,[8] including evidence from individual countries as diverse as Brazil (Rodríguez-Pose and Arbix 2001), Indonesia (Wells et al. 2001), and Italy (Bronzini and de Blasio 2006). In a review of the literature, Zee, Stotsly, and Ley (2002) warn that although the evidence for these policies is inconclusive, they seem to create opportunities for rent-seeking and corruption. Easson (2004, 63) provides the following clear and critical summary, "Tax incentives are bad in theory and bad in practice." Research by James (2009) finds that over 70% of investors in a number of countries would have made their investments even without incentives.[9] This is consistent with other critical overviews of the use of incentives (Morisset and Pirnia 1999; Blomstrom and Kokko 2003; Klemm and Van Parys 2012).

The academic literature focusing solely on U.S. incentive programs finds more mixed results. Buss (2001) provides an overview of over 300 studies on the topic, noting the literature's many conflicting results. Peters and Fisher (2004) conclude that the majority of studies point to the inefficiency of incentives, and Patrick (2014) finds that non-tax incentives have a moderate *negative* impact on medium-term employment but no impact on long-term employment. In addition, Reese (2014) explores a broader range of incentive policies and how their interactions could affect local economic development.

[8] One exception is a study of Alberta's job training incentives. Gattiker (1995) finds that worker training incentives, which are general and not firm-specific, had a large positive net-benefit for the community.
[9] The countries with the highest "redundancy rates" were Jordan, Mozambique, Serbia, and Thailand.

Numerous studies on incentives and tax policies in general find that incentives are rarely the main factor in shaping investment location or expansion decisions, as shown in Bobonis and Shatz's (2007) study of German manufacturing operations in the United States. Instead, incentives are often what firms look for to sweeten the deal once they have made a decision. Thus, they are not especially effective in luring new firms to a region. In a review of the literature, Bartik (2005) argues that this leads to incentives that are excessively costly.[10]

Although summaries of the literature point to concerns about the use of incentives, focused studies on a single state or metropolitan region find more heterogeneous results. Studies of incentives in Ohio (Gabe and Karybill 2002) and Michigan (Hicks and LaFaive 2011) find that incentives had no positive impact on employment. In contrast, job tax incentives (and property tax abatements) had a significant positive impact on employment in the Atlanta metro region (Bollinger and Ihlanfeldt 2003). In an analysis of 540 manufacturing firms in the Appalachian region, incentives affected the initial location choice but not expansion decisions (Walker and Greenstreet 2005). At least one study provides evidence that there are positive and negative effects of incentives and suggests that incentives should only be used to generate employment in the highest unemployment areas (Wassmer and Anderson 2001).

In addition, much of the debate centers around the impact of enterprise zones on job creation. In a careful study of California's enterprise zones, Neumark and Kolko (2010) find that these zones are ineffective in creating local employment. In contrast, Busso, Gregory, and Kline (2010) find that enterprise zones in six metro regions had a major impact on job creation and local wages. Finally, Bondonio and Greenbaum (2007) find nuanced results, showing that the commonly found null impact of incentives fails to account for the complex dynamics of new establishments and firm deaths. They show that enterprise zone programs can, in fact, have positive impacts on

[10] Fox and Murray (2004), focusing on large investment projects, argue that incentive wars for investment provide few net benefits to communities.

receiving firms, but many of these net benefits are offset by non-incentive firms failing. One of the most recent works on the subject by Greenbaum and Landers (2009) uses the provocative title: "Why Are State Policy Makers Still Proponents of Enterprise Zones? What Explains Their Actions in the Face of a Preponderance of Research?" They argue that there is little evidence that these programs are successful and that policymaker support for these programs likely is driven by special interests that benefit from these programs.

Thus, despite widespread criticism of these programs, the empirical debate remains unsettled. In particular, some of this debate centers on defining the proper criteria for success since some incentive programs have been associated with job creation, while most programs have been criticized as either ineffective or inefficient. In the next section, I outline an empirically testable theory on the impact of incentives on job creation, followed by an empirical research design. This research design includes both a comparison of firms that received incentives with a control group of firms that did not as well as a direct survey of firms that received incentives, reviewing how the incentives shaped their location and employment decisions.

3. The "Promoting Employment Across Kansas" Incentive Program

U.S. states and municipalities are active in providing incentives to companies, and thus, there are numerous potential programs that one could evaluate. For example, from 2006 to 2011, Kansas allocated just short of $1 billion in incentives across a number of state economic development programs (Legislative Division of Post Audit 2014). These incentive programs have a number of goals, but as many of the names suggest, employment creation is central to many of them.[11]

In this paper, I examine Kansas' flagship program, Promoting Employment Across Kansas (PEAK), as a representative incentive program. There are numerous advantages of evaluating the

[11] Many programs also list capital investment as a goal.

PEAK program, which was established in 2009, including the detailed data available on it through FOIA requests, ranging from the timing of proposed job creation to the names and email addresses of the managers that applied for the PEAK incentive. In addition, this program, administered by the Kansas Department of Commerce and the Kansas Department of Revenue, was one of two programs evaluated as part of the Kansas Post Audit Committee.[12]

Although the background information on PEAK applicants is exceptional, PEAK has many similarities to other state programs. For instance, PEAK provides an incentive to encourage employment creation by firms in Kansas (i.e., retaining up to 95% of the payroll withholding taxes of eligible employees). More specifically, the Kansas Legislative Audit (2013) noted that "The PEAK program was created in 2009 to encourage businesses to create jobs by locating, relocating, or expanding operations in Kansas. In return, companies can retain or be refunded a portion of state withholding taxes."[13] The PEAK program provides an incentive of up to 95% of state withholding tax to firms (domestic or foreign) for ten years that meet specific criteria based on the location.[14] Companies receiving PEAK incentives must not be in bankruptcy and or delinquent with their taxes. Employers must propose the creation or retention of at least ten PEAK jobs, and these PEAK jobs must pay at least the prevailing county wage and include health insurance.[15] Firms proposing more than 100 jobs can apply for a longer incentive period.

Firms that are granted PEAK incentives can begin collecting the incentives immediately, but they are required to create their proposed PEAK jobs within two years and maintain these jobs for

[12] Legislative Division of Post Audit (2013).
[13] A small number of industries, such as gambling, retail trade, and utilities, are ineligible for the PEAK program.
[14] This program is administered by the Kansas Department of Commerce but the Department of Revenue is responsible for processing the incentive payments.
[15] PEAK jobs must be full time and employers must pay at least 50% of the health insurance premiums for each PEAK employee. The original legislation required firms to pay the county mean wage. This was amended in 2010 to be either the country *median* wage or the industry mean wage.

the entire period of their PEAK incentive.[16] Employers who do not create the proposed PEAK jobs within two years are subject to "clawbacks," which can include the canceling of an award and the repayment of some or all of the PEAK incentive granted to the firm.

Although there are clear eligibility conditions and clawbacks designed to police the use of incentives, this program has been heavily criticized. Part 1 of the Kansas Legislative Audit identifies problems with the administration of the program as well as company self-reporting that never was verified. In short, the existing data on the Kansas incentive program hampers both the functioning and evaluation of this program. In addition, the Legislative Division of Post Audit (2013, 11–12) highlights the lack of actual, as opposed to estimated, results and notes that this is a major constraint in evaluating these programs.

Summarizing the total cost of this program is difficult because the incentives provide tax credits for the future. However, the Kansas Legislative Audit (2013) found that through December 2012, the program had created 5,200 jobs at a cost of $21 million (or a total cost of over $4,000 per job), where this cost reflected the total incentives paid through December 2012 and did not include the projected future costs of the incentives. In addition, using a FOIA request, I obtained estimates of the program applicants' expected total number of jobs and benefits. These estimates indicated that a total of 17,708 jobs were proposed for just over $330 million in projected incentives (for a cost of $18,000 per job).

Given the program's stated goal of job creation (and retention), I focus on the narrow question of whether this incentive program helped generate local employment opportunities, ignoring the actual cost of this job creation to the state.[17] Other questions, such as the quality of jobs

[16] Firms can propose PEAK periods of between five and ten years. Firms must maintain the proposed PEAK jobs for the entirety of the proposed PEAK time period. An analysis of PEAK applications finds that 50% of the proposed PEAK jobs occur in year one.
[17] Head et al. (2000); Buettner and Ruf (2007).

created, spillovers to other firms, and fiscal cost of the program are all important public policy questions for future research.

However, even focusing simply on employment creation suffers from serious concerns of bias. For instance, if it is only firms that already were considering expanding applying for expansion subsidies, it is difficult to identify causally if a subsidy is triggering an expansion or if the application is a signal of the firm's prior interest in expansion. This bias has been documented in a global study by James (2009), which found that most firms receiving an incentive would have created jobs even without an incentive.

This highlights the difficulty in evaluating these incentive programs. The types of firms that are expanding and relocating, and thus receiving PEAK incentives, may be very different from those that do not receive PEAK incentives. Thus, I use matching methods in the next section to help account for observable factors among these groups, such as firm size and sector, and answer the core question in this paper: Holding other observable factors constant, do we observe greater job growth in companies that participated in the PEAK program?

Although focusing on observable differences between PEAK and non-PEAK firms is a start, this theory and research design also must account for unobservable factors that may shape the decision to apply for PEAK incentives. For example, it might be the case that only firms that are already considering expansion are going to apply for PEAK incentives for expansion. Even if these firms did not receive the PEAK incentives, they would probably have expanded in the future (and created jobs). Therefore, unobservable factors, such as the underlying propensity to expand, can complicate a causal interpretation of our analysis. However, differentiating between these two situations is central to understanding firm strategies in utilizing these incentive programs. Are these

programs a sort of prize for activities the firm was going to engage in anyway, or are they shaping expansion and relocation strategies?

Thus, to address the causal relationship between incentives and job creation, we must generate the counterfactual of what these firms would have done without the PEAK incentives. Although many firms may use incentives for new job creation, firms simply can classify jobs that would have been created in the absence of these incentives as "new." In some cases this can go as far as manipulating job numbers; for instance, simple statistics, such as pledges of jobs created, have been manipulated to maximize incentives (Gabe and Kraybill 2002). This suggests that many of these incentives are redundant. For example, Faulk (2002) finds that 72.4–76.5% of jobs created in a Georgia incentive program would have happened even without incentives.[18]

It is helpful to look at some basic descriptive statistics on the firms that relocated to Kansas through the PEAK program and those that came without PEAK support. According to data presented in the Kansas Legislative Audit (2013), 54 incentives were provided to firms expanding their existing establishments and 34 were provided to companies relocating to Kansas. Although these statistics are informative, it is difficult to evaluate how many of these PEAK-supported relocations generated new jobs in Kansas since these relocations may have happened without a PEAK incentive. In addition, some of these establishments were moved just a few miles across the state line from Missouri. Therefore, can we associate PEAK incentives with job creation?

This is a difficult question and would require detailed data of individual employees. What the data do tell us, however, is that the vast majority of PEAK incentives that went to relocations were for firms previously located in Missouri (27 out of 34 relocations). This bias toward attracting Missouri firms contrasts with the National Establishment Times-Series (NETS) data on Kansas that

[18] As argued by Li (2006), these incentive programs can generate rent-seeking activities by firms, leading firms to compete for incentives. In a cross-national study, Li finds that incentives are more common in countries with weaker rule of law and less democratic institutions.

I present in the next section. According to this relatively comprehensive database of over 45,000 relocations, almost 35,000 relocated from another location in Kansas and only 10,000 relocated from another state. In addition, although 79.4% of the PEAK incentives provided to out-of-state relocations were targeted at Missouri firms, Missouri firms only represent 30.4% of the out-of-state relocating firms in the NETS data. Thus, although many firms relocated to Kansas from large states like Texas (831 establishments) and California (696 establishments) based on the NETS data, firms from these states very rarely received a PEAK incentive. These simple descriptive data suggest that a large number of PEAK incentive firms may simply be shifting jobs across the Missouri-Kansas border.

In addition, these descriptive statistics offer insights into the strategic use of relocation incentives by managers. For example, the majority of firms taking advantage of these incentives are shifting their operations across the Missouri-Kansas border, some of them just a few miles. Thus, firms currently operating in Kansas City, MO most likely have the ability to shift their location to Kanas City, KS to obtain PEAK incentives. This provides some evidence concerning the firms targeted by the PEAK program, but it still does not answer this paper's main question. Thus, considering the mixed evidence on the impact of incentives on employment creation, this project aims to examine if these incentive programs achieve their stated goal of employment creation. In other words, would PEAK-recipient firms have created the same number of jobs, or even left the state, without these incentives?

4. Research Design and Analysis

Evaluations of incentive programs are notoriously difficult. The first problem is data limitations. Many countries, states, and cities provide very few details about their incentive programs, and even fewer details on the companies that received the incentives. Although this lack

of transparency has been well documented in other studies,[19] it points to another challenge in evaluating incentive programs: the generation of a counterfactual is necessary for a proper evaluation. In other words, what decisions would a manager have made without the incentive? Would jobs, sales, and profitability be lower if the company did not receive the incentive? Would the executives have moved the company to another location, or would the company possibly have gone out of business?

These are difficult questions to answer, and most of the information required is in the hands of companies seeking incentives. Thus, this information asymmetry (i.e., only the company knows if the incentive is necessary) can lead governments to provide excessively generous incentives to firms that would have undertaken the same activity without government support.[20] This means that to evaluate an incentive program properly, we cannot just look at a firm that received an incentive tied to a new investment or expansion. In this scenario, we will mostly likely see a correlation between new capital investment and more jobs with the incentive program, but what inferences can we draw about how much of this outcome we should attribute to the incentive program?[21]

Even a study of a company over time can lead to the erroneous conclusion that the incentives had a positive outcome. For example, imagine a company that is in business for 20 years and engaged in three expansions of employment. In Year 1, the company started with ten jobs, in Year 5, an expansion of an additional five jobs (15 jobs in total), and in Year 10, another expansion of five jobs (20 jobs in total). If the company received an incentive in either or both expansion years, most statistical models would find a positive relationship between incentives and job creation.

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[19] See Buss (2001).
[20] See LeRoy (2005).
[21] To give an illustrative example, imagine that a state creates a college scholarship program. Clearly, pointing out that the students with the scholarship are enrolled in college does not prove that the scholarship persuaded the students to go to college. In other words, if the scholarships are given to the best and brightest students, showing that students who received scholarships perform better than non-scholarship students again fails to show the added value of the college scholarship itself to an already talented student.

However, the main problem here is that if companies only apply for and receive incentives in the years that they already were considering expanding, it is highly likely that we are concluding erroneously that incentives help generate jobs. This is akin to claiming that hospitals kill people because many people die in hospitals. Companies that receive incentives for job creation create some jobs, but this does not mean that the incentives were effective in creating these jobs.

Although there are few clear fixes to this problem of causal inference, in this paper I outline a relatively comprehensive database of firm establishments that gives us some leverage on this problem. Since we know that, as mentioned above, companies that are already considering expanding or relocating are more likely to apply for and receive incentives, we can use this rich dataset to perform "matching methods" to attempt to compare firms that received incentives with other very similar firms based on observable characteristics. Thus, we can explore if the firms that received incentives performed better than their peer groups. In the next section, I provide an overview of the Kansas PEAK program and the establishment-level dataset that I used for matching PEAK firms with similar firms in Kansas.

4.1 Matching PEAK Firms with Kansas Establishments

Although there is no silver bullet to overcoming the lack of information collected on companies receiving incentives, existing data on the employment and sales of PEAK companies relative to other establishments in Kansas are available. To assess the impact of PEAK incentives on individual firms requires fine-grained establishment-level data. Fortunately, Walls & Associates created one of the most comprehensive databases of establishment-level data using Dun & Bradstreet data. These NETS data, in contrast to many other sources of firm data, disaggregate each establishment of a firm. This is critical because most incentive programs provide funding for a single establishment; for example, the single location of a company that has multiple Kansas locations.

These data have been used by other researchers and compared to existing databases. The most comprehensive analysis can be found in Neumark, Wall, and Zhang (2011). In their study, they examined the correlations in employment numbers between the NETS data and U.S. Current Population Survey and Current Employment Statistics, which yielded an overall correlation of 0.99 and 0.95 respectively, though the NETS data generally had higher estimates of employment and lower levels of employment change.[22]

The most comprehensive data starts in 1992, when Dun & Bradstreet were allowed to purchase Yellow Pages data to call individual firms directly. This massive data collection effort has resulted in a database of millions of firms across the United States and includes detailed information on 500,000 firms located in Kansas. Using public records requests, documentation from the Kansas Legislative Audit, and news media sources, I linked PEAK incentive recipients to the NETS data. As outlined in the Kansas Legislative Audit, between 2009 and 2013, 117 companies had signed PEAK agreements, though only 94 companies were provided incentives and were active during the review. Thus, this paper captures the vast majority of the PEAK incentive recipients.

<Insert Figure 1 Here>

Comparing PEAK firms to all 500,000 establishments in the NETS data would be an unfair comparison. This is the case because PEAK firms tend to be much larger in terms of both employment and sales and may be concentrated in different sectors. In Figure 1, I visualize the kernel density of employment of all firms in the NETS database prior to receiving any PEAK incentives (i.e., in 2006, three years before the start of the PEAK program). I classify PEAK firms as those that received a PEAK incentive in the future. What is unsurprising is that PEAK firms were

[22] The NETS higher employment number was attributed to better coverage of small firms in the NETS database. The lower rates of employment growth were attributed to the large number of employment estimates in the NETS database.

much larger than the non-PEAK firms even before receiving incentives. Thus, central to evaluating this program is finding the correct comparison set of firms.

Luckily, there is a large literature on the use of "matching methods" to compare treatment (i.e., firms receiving PEAK incentives) and control (i.e., firms that are similar to PEAK firms but did not receive incentives) groups. My main results utilize coarsened exact matching (Iacus et al. 2012), which matches PEAK firms with control firms that share similar characteristics, and I also present robustness tests using two other types of matching. For all of the matching tests, I use a set of observational variables, including the firm's previous employment (i.e., employment in 2006, prior to the start of the incentive program), whether the firm is a subsidiary of a parent company, and the company's sector (i.e., the three-digit Standard Industrial Classification (SIC) code).

Matching firms based on their 2006 employment allows us to examine the employment created from 2006 to 2012 for firms that received PEAK incentives and those that did not, which in turn provides us with the opportunity to examine how employment changed from 2006 to 2012 for the PEAK and non-PEAK firms. In addition, matching allows us to harness the power of our dataset of 500,000 firms in order to select a control set of firms that shares nearly identical attributes with the firms that received PEAK incentives.

<Insert Table 1 Here>

<Insert Figure 2 Here>

Simple descriptive statistics demonstrate how the population of PEAK firms and non-PEAK firms are substantially different on a number of dimensions (see Table A1 in the appendix). Table 1 presents the results of the coarsened exact matching using 2006 employment and whether the firm was a subsidiary. In Figure 2, I present the kernel densities of the two sets of firms' employment in 2006 to illustrate the level of previous employment of the control and treatment firms. The level of employment, prior to the start of the incentive program, is very similar across the

control and treatment groups. In addition, Model 1 suggests that PEAK incentives, with a coefficient of 0.06—or just over one job, has essentially no impact on job creation.

For comparison, my public records request on the PEAK program revealed that this same set of firms used in Model 1 proposed creating an average of 124 jobs, or a natural log of 4.83, and received an estimated benefit of just under $2.53 million. The jobs associated with the PEAK program are not only incredibly small, they are well below the expectations set by the firms in their applications.

In the second model, I include the three digit SIC sector dummy variables, matching PEAK firms with firms from the same sector. There are numerous sectors with firms that did not receive any PEAK incentives, and thus these sectors are dropped. This is a conservative test, where we only compare firms within a three digit SIC sector, leading to many dropped observations. Yet the empirical results are unchanged. There is no significant impact of PEAK incentives on firm employment in 2012.

In Model 3, I use a variant of matching called entropy balancing (Hainmueller 2012, 2013). Although coarsened exact matching has a number of advantages, its main disadvantage is that treatment observations that cannot be matched to a control observation are dropped.[23] However, entropy balancing allows us to harness the information contained to generate an area of common support between the treatment and experimental groups using weighting to achieve balance without dropping observations.

In the appendix (Table A1), I present the balance between the treatment and experimental groups both before and after balancing. Firms receiving PEAK incentives were three times larger than non-PEAK firms before the incentive program was even started, and these firms were ten times more likely to be subsidiaries. After entropy balancing, the means of both variables are almost

[23] Model 3 adjusts for the first and second moments using the tar option of ebalance in Stata.

identical (presented in the second panel of Table A1), though the variance of employment is twice as large in the non-PEAK firms compared to the PEAK firms. I depict the kernel density of employment in 2006 (prior to the incentives) for both PEAK and non-PEAK firms after balancing in Figure 3.

<Insert Figure 3 Here>

Using the weights generated by entropy balancing, I estimate an ordinary least squares model of job creation. I present the results in Table 1, Model 3. Even after the additional efficiency of entropy balancing, we find similar substantive results. There is no statistically significant impact of PEAK incentives on employment in 2012. Again, there is *no* impact of incentives on employment.

As a final test, I return to coarsened exact matching, this time matching each PEAK firm with a single non-PEAK firm. This obviously leads to a dramatic decrease in the sample size, but the results of this matching are equally clear: There is no evidence that the PEAK program created employment in PEAK firms.

4.2 Robustness Test: Propensity Score Matching

As a robustness test I utilize the most well known of these methodologies: propensity score matching, using the five "nearest neighbors." These are not necessarily geographic neighbors. Rather, they are firms that looked very similar to the firms receiving PEAK incentives. To match these firms, I use a set of observational variables including the firm's previous employment, whether the firm is a subsidiary of a parent company, and the three-digit SIC code. In Table 2, I present a comparison of these firms using the natural log of 2012 employment.

<Insert Table 2 Here>

In the first row, I present the natural log of total employment, comparing PEAK and non-PEAK firms. PEAK recipient firms are almost three times as large in 2012 as non-PEAK firms

(3.55 versus 1.20). This difference is substantially meaningful and statistically significant, but this finding is largely driven by the fact that PEAK firms were already larger prior to receiving a grant and were already different on a number of dimensions. In the second row, we compare each PEAK firm to the five "nearest neighbor" firms, or firms in the dataset that, in 2006, looked similar to the PEAK firms in terms of employment and whether or not they were a subsidiary of a parent firm. When we make this comparison, the difference between the two sets of firms shrinks by a factor of 10 to an only 0.24 difference between firms, and this difference is not statistically different from zero.

In the first row of Model 2, I again present the same comparison between PEAK and non-PEAK firms. However, in the matching, I now include the three-digit SIC code to help identify the five nearest neighbors. To be clear, now we are comparing firms that received PEAK incentives to firms that are of a similar size (in 2006), of the same subsidiary or non-subsidiary status, and in the same industry. These estimates are even more striking with the difference between firms shrinking to 0.08.

These results suggest that the PEAK program has had a limited impact on job creation and that firms used these incentives to subsidize already planned expansions. Unfortunately, these observational data do not allow us to observe a manager's strategy directly or the counterfactual of what decisions the manager would have made without a PEAK incentive. To explore these strategic choices directly, I surveyed PEAK recipients, and I present this evidence in the next section.

5. A Survey of PEAK Incentive Recipients

The central question of this research project is how the PEAK program was used by firms, and if this program led to an increase in the number of employees. In other words, are firms leveraging public resources for expansion, or are they harnessing public resources to subsidize

activities they were going to engage in with or without government support? To examine this question directly, I conducted a survey of PEAK incentive applicants.

Using a FOIA request on the PEAK program, I identified 105 PEAK incentive applicants. I intentionally use the term applicants because it includes companies that could have withdrawn their l as well as companies that did not receive their incentives because they did not fulfill the PEAK requirements in terms of the number of jobs created or the minimal wages offered. These applications identify the individual responsible for the application and the direct email for this applicant. This email address was the first point of contact for our survey. In the event that the email was returned, a research assistant searched for a point of contact in the company and sent a direct email. In total, 84 correct email addresses from the PEAK applications were used to field the survey and an additional 21 alternative email addresses were found through web searches.

For all 105 firms, managers received a recruitment email and a link to an online Qualtrics survey.[24] I include a copy of this email in Appendix B. Survey participation was voluntary, and there was no compensation for participation. All responses are completely anonymous. I received a total of 25 responses for a response rate of 23%, although some respondents did skip some questions. This response rate is similar to Cycyota and Harrison's (2006) average response rate of 32% from 231 studies from 1992–2003 and Baruch and Holtom's (2008) average response rate of 35%.[25]

One concern with any survey that relies on managers answering questions about their own firm is possible bias in this self-reporting. Podsakoff and Organ (1986) note two of these biases that could affect this study. First, what they term the "consistency motif" is the tendency of respondents to provide consistent answers to questions. For instance, respondents might try to or unintentionally formulate a consistent narrative of the PEAK program. This could make it difficult to separate a firm's individual experience with the program from the respondent's evaluation of how important

[24] All respondents were emailed and sent one additional follow-up email approximately one week later.
[25] Baruch and Holtom (2008) examined 1,607 management studies surveying individuals and organizations.

the program was for the firm. As I note in the results below, there is little correlation between a respondent's answer on their evaluation of the efficiency of the PEAK incentive program and how the incentive program affected the firm's expansion or relocation.

Second is social desirability bias, a long-discussed issue in behavioral research, which is the tendency of respondents to provide answers that are consistent with social norms. For instance, since firms were provided public incentives for a job creation program, respondents may feel pressure to link their receipt of a PEAK incentive to job creation. This bias is a concern, potentially increasing the likelihood of responses consistent with the hypothesis that the PEAK program was central to encouraging employment. Therefore, I discuss this point in the results section.

I include the full list of questions in Appendix C, which are broken down into four sets of questions. The first set of questions concerned background information about the companies, including the size of the company, details on the location of the company's headquarters, and a verification that the company had applied for a PEAK incentive (100% of respondents indicated that this was correct).

<Insert Table 3 Here>

I provide a summary of some of the most relevant questions in Table 3.[26] I do not include questions with no response from the manger in the totals below. However, one important descriptive point is that the majority of firms (14 out of 24) indicated that they were applying for PEAK incentives for expansion, while ten and six firms out of 24 indicated that they were applying for relocation and retention, respectively.[27] Of these applicants, 88% indicated that they received PEAK awards, while the remaining respondents indicated that they received the incentive but the program was terminated. For many firms, respondents indicated that they received competing offers

[26] In Appendix D we provide a series of charts on the distribution of answers for all of our questions.
[27] Note that these categories are not mutually exclusive. Respondents had the option to check more than one.

from other locations,[28] and ten out of 22 respondents indicated that the PEAK incentives were more generous than the competitor offers.

The vast majority of respondents had a positive experience with the PEAK program and indicated that the program was either "very efficient" or "somewhat efficient." In addition, 22 out of 24 respondents would "definitely recommend" or "probably recommend" this program to other firms. Numerous respondents also provided individual write-in responses commending the program. Thus, this survey finds general satisfaction with the program among firms, noting the competitiveness of the program relative to other states and the efficiency of the program's application process.

However, the key set of questions is the counterfactuals on what the firms would have done without the PEAK incentive. I asked two direct questions to applicants. First, I asked if the firm would have left the state of Kansas without a PEAK incentive, providing three possible answers.

11. Without the PEAK incentive, would your company have left the state of Kansas?
    No
    Yes
    Unsure

Next, I asked about the firm's expected employment without a PEAK incentive:

12. Without the PEAK incentive, would your company have hired fewer employees or the same number of employees?
    Fewer
    Same
    Other [Blank]

Both of these questions reveal that a large percentage of the incentives appear to be redundant, as presented in Table 3. Only five managers (out of 24) indicated that they would have left Kansas without the PEAK incentive program. However, this question on relocation is a difficult one since some of the firms were applying for PEAK incentives for expansion. Our second question is a more comparable measure of the impact of PEAK incentives. Again, only five out of 24 firms

[28] 15 out of 24 respondents indicated that they received competing offers.

claimed that they would have hired fewer workers without support from the PEAK program.[29] These responses are strikingly similar to the work cited in Section 2, which finds high levels of redundancy in terms of incentive programs.

How do these findings compare to the observational data? Only about one-third of firms indicated that the PEAK incentive program would have had an impact on job creation for their company. Thus, the null results in the previous section most likely are driven by the large number of firms that made no changes to their employment plans because of the PEAK program. In addition, this survey provides further advantages over the observational data analysis in understanding how firms utilized these incentive programs. One simple conjecture concerning the PEAK recipients' poor job creation performance could be the high costs of applying for and complying with the PEAK incentive program. Yet, respondents did not indicate serious concerns with this process and overwhelmingly recommended the PEAK program to other firms. Furthermore, the majority of firms received incentive offers from other jurisdictions, but the PEAK program was more generous than these other options.

Lastly, the survey included a final question asking about a specific policy. The Missouri State Legislature introduced a bill that proposed limiting incentive competition in the Kanas City area. We asked the respondents if they had heard of the bill (50% had) and if they supported this legislation. The largest percentage of respondents "neither supported nor opposed" the legislation (42%) with a smattering of responses in the supported or opposed categories, followed by 21% of respondents indicating "don't know."[30] Thus, there is only limited support, and limited opposition, for ending a very specific type of incentive competition in the region.

[29] 4% of respondents were unsure.
[30] The distribution is as follows: Strongly support (0%), Support (8%), Neither support nor oppose (42%), Oppose (17%), Strongly oppose (13%), and Don't know (21%).

It is important to note that caution is merited in the use of firm surveys. First, the small sample size can lead to a small number of outliers driving the results. Although the response rate of this survey is comparable to previous firm-level surveys, the small number of firms that participated in the PEAK program makes this a valid concern. Yet, when compared to previous surveys of incentives, the finding concerning the redundancy of incentives is remarkably similar to existing scholarship on the topic. Second, querying firms on their use of incentives can be prone to a number of biases. However, as noted earlier, most of these biases would lead to over-reporting the impact of incentives.

Third, and perhaps most importantly, is that the evaluation of these survey results is subjective. What percentage of the firms must sway their investment and employment decisions for us to call this program successful? The finding that one-third of firms was impacted by this program could be evidence for a program that indeed had a positive impact on employment in Kansas. This final point is important, and these criteria are best left to policymakers and citizens. However, the goal of this project is to document, as clearly as possible, the impact of the PEAK program on employment in Kansas. The matching results indicate that there is no clear evidence that these incentives created jobs, and the survey evidence suggests that roughly two-thirds of firms accepted PEAK incentives, but that these incentives had no impact on their investment or employment behavior. However, for one-third of firms, managers indicated that the PEAK program did indeed affect their employment.

6. Conclusion

Few government policies are more important than creating jobs for the citizenry. In this paper, I explored the impact of financial incentives targeted at individual firms as a state job creation strategy. Since this evaluation requires finding a comparison group of firms to use as a "control group," I used matching techniques to help create this set of control firms. In addition, I used an original survey of incentive recipients to explore firms' use of incentives, which suggested that the PEAK program is both popular and ineffective. Specifically, managers commended Kansas for running an efficient incentive program and noted that it is more generous than the incentive programs of competing locations. However, few firms answered that, absent the PEAK program, they would have created fewer jobs.

These results add to the growing debate on the effectiveness of local economic development policies. Although this study focuses on a single incentive program and the "economic border war" between Kansas and Missouri may seem unique, broader lessons can be learned. For instance, the results suggest that even firms that were considering expansion, not relocation, indicated that their employment plans were unchanged upon receipt of a PEAK incentive. Overall, I find that there is no concrete evidence that the PEAK incentive program is effective at generating jobs in Kansas.

With this in mind, what are the implications of this work for policymakers? One obvious conclusion is that one of the most common economic development policies harnessed by cities and states is broadly ineffective in increasing employment. Although some firms indicated that incentives helped facilitate job creation, the vast majority of jobs seem to be redundant, simply channeling government resources to firms that would have expanded or relocated anyway.

Equally important is the fiscal impact of this program on the state. Applicants to the PEAK program proposed over 17,000 jobs at a projected cost of approximately $330 million. According to the matching methods, very few of these were "new" jobs that would not have occurred without the

PEAK incentive. The survey results are slightly more optimistic, where 21% of firms indicated that they would have hired fewer employees without the PEAK incentive. If these firms are representative of the total population of PEAK firms, then the PEAK program only generated 3,848 jobs at a cost per job of over $86,000. These are obviously back of the envelope calculations, but the point is that with a very large percentage of "redundant" jobs, the costs of these programs are very high.

How does Kansas pay for these incentive programs and what are the opportunity costs? Unlike some incentive programs that are funded by a special sales tax, the Kansas incentive programs are supported by the general budget. However, an anecdote from 2013 provides some evidence of the opportunity costs of these economic development programs; Kansas raises revenues in the form of bonds for some of these incentive programs, and these bonds are subject to the normal ratings. In 2013, these bonds were downgraded due to concerns of a major cut in Kansas' personal income taxes (Moody's 2013). What this example suggests is that economic development bonds are not paid from additional business activity. They are funded by personal income taxes. Without revenues from personal income taxes, and no indication that rating agencies believed that the economic development policies would lead to additional tax revenues in the future, the state had to make hard decisions on how to allocate its scare public resources for economic development, with the risk of one of the main revenue-generators being downgraded. This paper helps to clarify these decisions by finding that one of the most common and representative incentive programs most likely ineffective and inefficient.

Table 1. Comparing firms receiving PEAK incentives to other firms in Kansas: coarsened exact matching (CEM)

	CEM Model 1	CEM Model 2	EBAL Model 3	CEM Model 4
PEAK	0.066	0.088	0.250	-0.116
	(0.216)	(0.216)	(0.216)	(0.324)
Constant	2.616***	2.484***	3.297***	2.798***
	(0.004)	(0.007)	(0.030)	(0.241)
Sector	No	Yes	No	No
N	297,544	79,752	147,883	144

Note: The dependent variable in the first stage is the natural log of total establishment employment in 2012. The first row for each model presents differences between firms receiving PEAK incentives and those that do not. The second row presents the average treatment effect from propensity score matching of 51 PEAK incentive recipients using the five nearest neighbors.
*** p<0.01, ** p<0.05, * p<0.1.

Table 2. Comparing firms receiving PEAK incentives to other firms in Kansas using propensity score matching

			Average			
		Difference	PEAK	Control	S.E.	T-stat
Model 1	Unmatched	2.35***	3.55	1.20	0.19	12.48
(Baseline)	Matched	**0.24**	3.55	3.31	0.25	0.96
Model 2	Unmatched	2.62***	3.55	0.93	0.17	15.22
(Industry)	Matched	**0.08**	3.55	3.46	0.25	0.33

Note: The dependent variable in the first stage is the natural log of total establishment employment in 2012. The first row for each model presents differences between firms receiving PEAK incentives and those that do not. The second row presents the average treatment effect from propensity score matching of 51 PEAK incentive recipients using the five nearest neighbors.
*** p<0.01, ** p<0.05, * p<0.1.

Table 3: Results from a survey of PEAK recipients

	Yes	No	DK	%
Background Information				
Company headquartered in Kansas	19	5		0.79
Company seeking incentives for expansion	14	10		0.58
Company seeking incentives for relocation	10	14		0.42
Company seeking incentives for retention	6	18		0.25
Efficiency of the PEAK Program				
Application process was very or somewhat efficient	17	7		0.71
Would definitely or probably recommend program	22	2		0.92
Questions on the PEAK Program				
PEAK benefits greater than other state offers	10	5		0.67
Would have left Kansas without the PEAK program	5	7	11	0.22
Would have hired fewer workers without PEAK program	5	11	7	0.22

Note: Appendix C provides the exact working of the questions. Yes and No columns count the number of responses fitting into each category. Note that the questions on expansion, relocation, and retention are not mutually exclusive. Appendix A and D provide descriptive data for all of the survey questions. "DK" is the total "Don't Know" response for questions that offered this option.

Figure 1: Kernel density of pre-PEAK employment

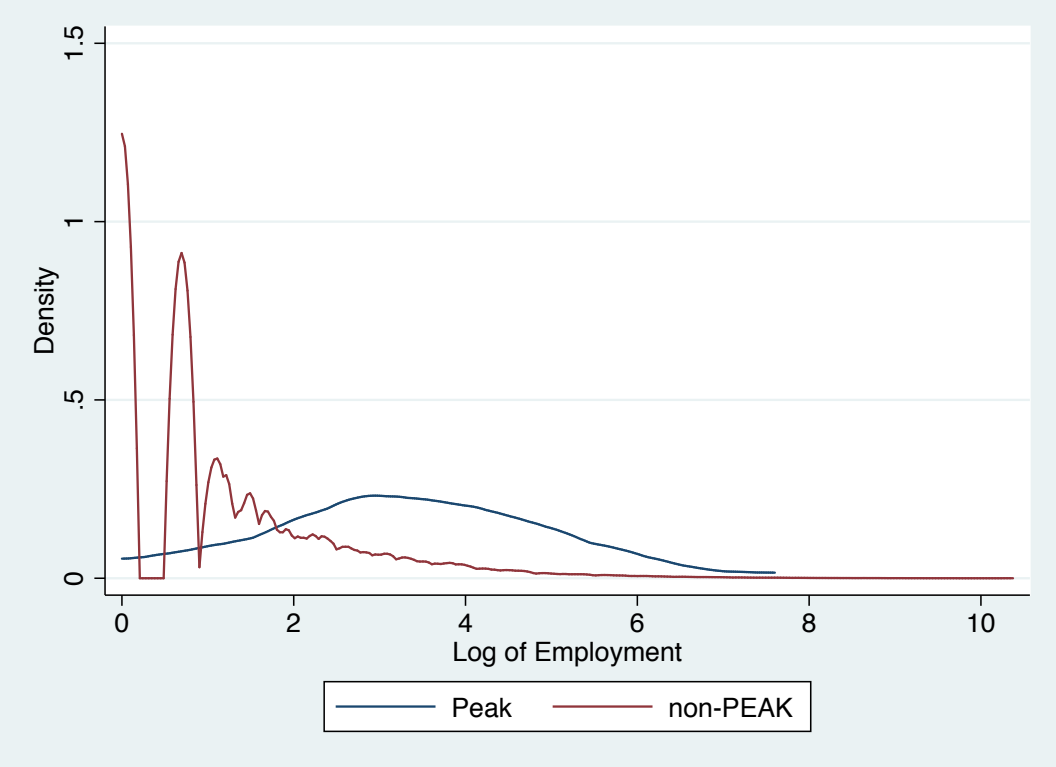


Figure 2: Kernel density after coarsened exact matching

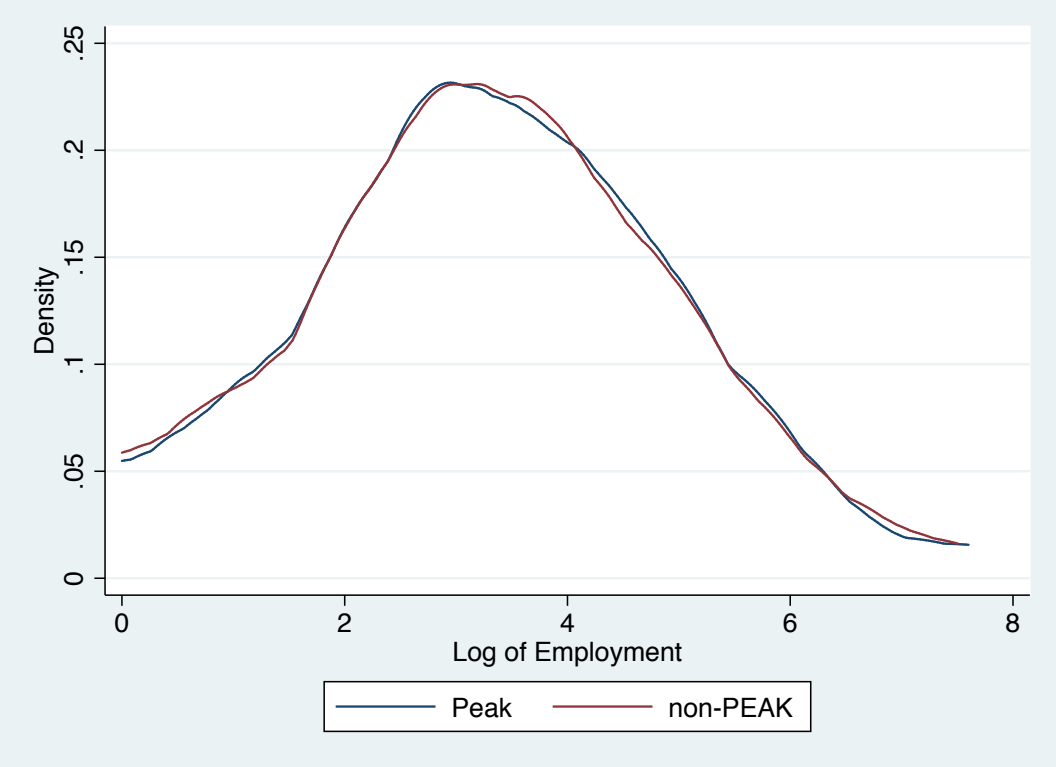
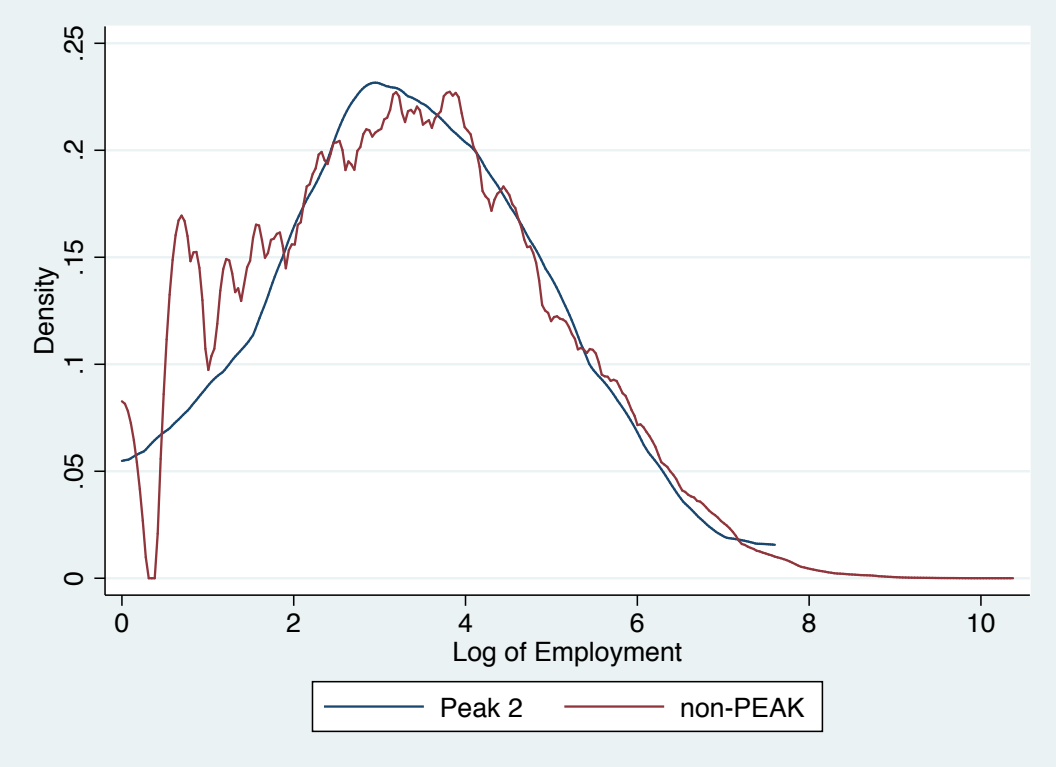


Figure 3: Kernel density after entropy balancing



References

Barney, Jay B. 1991. Firm resources and sustained competitive advantage. *Journal of Management* 27: 643–650.

Bartik, Timothy J. 2005. Solving the problems of economic development incentives. *Growth and Change* 36 (2): 139–166.

Baruch, Yehuda and Brooks C. Holtom. 2008. Survey Response Rate Levels and Trends in Organizational Research. *Human Relations* 61 (8): 1139.

Bhagwati, Jagdish. 1982. Directly Unproductive, Profit-Seeking (DUP) Activities. *Journal of Political Economy* 90 (5): 988–1002

Billings, Stephen. 2009. Do enterprise zones work? an analysis at the borders. *Public Finance Review* 37(1), 68–93.

Bishop, Mac William. 2012. Border War: Kansas City. *New York Times*, December 1, 2012. http://www.nytimes.com/video/business/100000001832941/border-war.html

Bobonis, Gustavo J., and Howard J. Shatz. 2007. Agglomeration, Adjustment, and State Policies in the Location of Foreign Direct Investment in the United States. *The Review of Economics and Statistics* 89(1): 30–43.

Bondonio, Daniele and Robert T. Greenbaum. 2007. "Do local tax incentives affect economic growth? What mean impacts miss in the analysis of enterprise zone policies." *Regional Science and Urban Economics* 37 (2007): 121–136.

Buettner, Thiess, and Martin Ruf. 2007. Tax Incentives and the Location of FDI: Evidence from a Panel of German Multinationals. *International Tax and Public Finance* 14(2): 151–64.

Buss, Terry F. 2001. The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions: An Overview of the Literature. *Economic Development Quarterly* 15 (1): 90–105.

Busso, Matias, Jesse Gregory, and Patrick M. Kline. 2010. Assessing the Incidence and Efficiency of a Prominent Place Based Policy. National Bureau of Economic Research, Working Paper 16096.

Cycyota, Cynthia and David A. Harrison. 2006. What (Not) to Expect When Surveying Executives. A Meta-Analysis of Top Manager Response Rates and Techniques Over Time. *Organizational Research Methods* 9 (6): 133–160.

Easson, Alex. 2004. *Tax Incentives for Foreign Direct Investment.* The Hague: Kluwer Law International.

Faulk, Dagney. 2002. "Do state economic development incentives create jobs? An analysis of state employment tax credits." *National Tax Journal* 55, no. 2 (2002): 263–280.

Fox, William F. and Matthew N. Murray. 2004. Do Economic Effects Justify the Use of Fiscal Incentives? *Southern Economic Journal* 71, no. 1 (2004): 78–92.

Gattiker, Urs E. 1995. Firm and Taxpayer Returns from Training of Semiskilled Employees. *Academy of Management Journal* 38, no. 3 (1995): 1152–1173.

Greenbaum, Robert T and Jim Landers. 2009. Why Are State Policy Makers Still Proponents of Enterprise Zones? What Explains Their Actions in the Face of a Preponderance of the Research? *International Regional Science Review* 32 (4): 466–479.

Gual, J. 1995. The three common policies: An economic analysis, in Buigues, P., Jacquemin, A,. and Sapir, A. (eds.), *European policies on competition, trade and industry. Conflict and complementarities.* Edward Elgar Publishing, Cheltenham, UK

Hainmueller, J. 2012. Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. *Political Analysis*, 20(1): 25–46.

Hainmueller, Jens and Yiqing Xu. 2013. Ebalance: A Stata Package for Entropy Balancing. *Journal of Statistical Software* 54 (7): 1–18.

Head, Keith C.; John C. Ries and Deborah L. Swenson. 2000. Attracting Foreign Manufacturing: Investment Promotion and Agglomeration. *Regional Science and Urban Economics* 29: 197–218.

Hicks, Michael J., and Michael LaFaive. 2011. The influence of targeted economic development tax incentives on county economic growth: Evidence from Michigan's MEGA credits. *Economic Development Quarterly* 25 (2): 193–205.

Iacus, Stefano M. Gary King, and Giuseppe Porro. 2012. Causal Inference without Balance Checking: Coarsened Exact Matching. *Political Analysis* (20) 1: 1–24.

ICAincentives.com. 2013. The Only Global Incentive Deal Database. http://www.icaincentives.com/.

International City/County Management Association and National League of Cities. 2009. *Economic Development 2009 Datasets*. http://bookstore.icma.org/Data_Sets_C42.cfm

Jensen, Nathan M., Edmund Malesky, and Matthew Walsh. Forthcoming. Competing for global capital or local voters? The politics of business location incentives. *Public Choice*

Klein, Patrick, and Enrico Moretti. 2013. People, places and public policy: some simple welfare economics of local economic development programs. National Bureau of Economic Research Working Paper 19659.

Klemm, Alexander and Stefan Van Parys. 2012. Empirical evidence on the effects of tax incentives. *International Tax and Public Finance* 19 (3): 393–423.

Krueger, Anne. 1974. The Political Economy of the Rent-Seeking Society. *American Economic Review* 64 (3): 291–303.

Lazzarini, Sergio G. 2015. Strategizing by the government: can industrial policy create firm-level competitive advantage. *Strategic Management Journal* 36: 97–112.

Legislative Division of Post Audit. 2013. Performance audit report. Economic development:

determining which economic development tools are most important and effective in promoting job creation and economic growth in Kansas. Part 1.

Li, Quan. 2006. Democracy, Autocracy and Tax Incentives to Foreign Direct Investors. A Cross-National Analysis. *Journal of Politics* 68 (1): 62–74.

Mahoney, Joseph T., Anita M. McGahan, and Christos N. Pitelis. 2009. The Interdependence of Private and Public Interests. *Organization Science* 20 (6): 1034–1052.

Mattera, Philip, Kasia Tarczynska, Leigh Mcllvaine, Thomas Cafcas and Greg LeRoy. 2012a. Paying Taxes to Their Bosses: How A Growing Number of States Subsidize Companies with the Withholding Taxes of Workers.
< http://www.goodjobsfirst.org/sites/default/files/docs/pdf/taxestotheboss.pdf>

Mattera, Philip, Thomas Cafcas, Leigh McIlvaine, Andrew Seifter and Kasia Tarczynska. 2012b. Money-Back Guarantees for Taxpayers: Clawbacks and Other Enforcement Safeguards in State Economic Development Subsidy Programs
<http://www.goodjobsfirst.org/moneyback>

Moody's 2013. Moody's Investor Service. Rating Action: Moody's Downgrades Kansas Department of Commerce IMPACT Bonds to A3 to Aa3.
< https://www.moodys.com/research/Moodys-downgrades-Kansas-Department-of-Commerce-IMPACT-bonds-to-A3--PR_276575>

Neumark, David, and Jed Kolko. 2010. "Do Enterprise Zones Create Jobs? Evidence from California's Enterprise Zone Program." *Journal of Urban Economics* 68: 1–19.

Neumark, David, Brandon Wall, and Junfu Zhang. 2011. "Do Small Businesses Create More Jobs? New Evidence from the National Establishment Time Series." *Review of Economics and Statistics* 93(1): 16–29.

Patrick, Carlianne Elizabeth. 2014. Does Increasing Available Non-Tax Economic Development

Incentives Result in More Jobs? *National Tax Journal* 67 (2): 351–386.

Peters, Alan and Peter Fisher. (2004). The failures of economic development incentives. *Journal of the American Planning Association,* 70(1): 27–37.

Pew Center on the States. 2012. *Evidence Counts: Evaluating State Tax Incentives for Job Growth.*

Podsakoff, Philip M. and Dennis W. Organ. 1986. Self-Reports in Organizational Research: Problems and Prospects. *Journal of Management* 12 (4): 531–544.

Reese, Laura A. 2014. "The Alchemy of Local Economic Development." *Economic Development Quarterly* 28, no. 3 (2014): 206–219

Rodríguez-Pose and Arbix. 2001. Strategies of Waste: Bidding Wars in the Brazilian Automobile Sector. *International Journal of Urban and Regional Research* 25 (1): 134–154.

U.S. PIRG. 2014. *Follow the Money: How the 50th States Rate in Providing Online Access to Government Spending Data.* U.S. PIRG Education Fund. <http://uspirg.org/sites/pirg/files/reports/Following%20the%20Money%20vUS%20v2_0.pdf>

Walker, R. and D. Greenstreet. 1991. "The Effect of Government Incentives and Assistance on Location and Job Growth in Manufacturing." *Regional Studies* 25: 13–30.

Wassmer, R. W. and J. E. Anderson. 2001. "Bidding for Business: New Evidence on the Effect of Locally Offered Economic Development Incentives in a Metropolitan Area," *Economic Development Quarterly* 15 (2001): 132–148.

Wells, Louis T., Nancy J. Allen, Jacques Morisset, and Neda Pirnia. 2001. "Using Tax Incentives to Compete for Foreign Investment: Are They Worth the Costs?" FIAS Occasional Paper 15.

Zee, Howard H., Janet G. Stotsly and Eduardo Ley. 2002. "Tax Incentives for Business Investment: A Primer for Policy Makers in Developing Countries," *World Development* 30 (9): 1497–1516.

APPENDIX TABLE OF CONTENTS

APPENDIX A: ADDITIONAL TABLES

Table A1: Descriptive statistics

Summary Statistics

	PEAK Firms	Non-PEAK Firms
Ln Employment Pre-Peak Program (2006)	3.246	1.081
	(1.716)	(1.264)
Ln Employment Post PEAK Program	2.682	0.961
	(1.836)	(1.161)
Subsidiary (1=yes)	0.121	0.012
	(0.328)	(0.109)
Multiple Moves (1= firm moved more than twice)	0.065	0.016
	(0.248)	(0.125)

Note: Means and standard deviations of variables for PEAK and non-PEAK firms

Table A2: Balance tables for entropy balancing

Balance Before Weighting

	Treatment		Control	
	Mean	Variance	Mean	Variance
Ln Employment 2006	3.246	2.943	1.081	1.597
Subsidiary	0.203	0.165	0.018	0.018

Balance After Weighting with Sector

	Treatment		Control	
	Mean	Variance	Mean	Variance
Ln Employment 2006	3.246	2.943	3.242	6.215
Subsidiary	0.203	0.165	0.2031	0.162

Table A3. Comparing firms' incentives and relocations to other firms in Kansas using propensity score matching

			Average			
		Difference	Treatment	Control	S.E.	T-stat
Model 3	Unmatched	2.65***	3.53	0.88	0.12	21.63
(Incentives)	Matched	**-0.16**	3.47	3.63	150.63	-0.77
Model 4	Unmatched	0.64***	1.73	1.10	0.01	66.76
(Relocation)	Matched	**0.07**	1.73	1.66	0.05	1.39

Note: The dependent variable in the first stage is the natural log of total establishment employment in 2012. The first row for Model 3 presents differences between firms receiving incentives (from ICAincentives) and those that are not. The second row presents the average treatment effect from propensity score matching using the five nearest neighbors. The first row for Model 4 presents differences between firms relocating to Kansas and those that are not. The second row presents the average treatment effect from propensity score matching using the five nearest neighbors.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

APPENDIX B: SURVEY RECRUITMENT EMAIL

You are invited to participate in a research study under the direction of Dr. Nathan Jensen of the Department of International Business, George Washington University (GWU), and funded by the Ewing Marion Kauffman Foundation. Taking part in this research is entirely voluntary. The link to the survey is at the end of this email.

The purpose of the study is to ask about your views on the Kansas Business Environment and the Kansas "Promoting Employment Across Kansas" (PEAK) Program.

If you choose to take part in this study, you will answer a brief online survey that *doesn't collect any personal information*. The total amount of time you will spend in connection with this study is 10–15 minutes. You may refuse to answer any of the questions and you may stop your participation in this study at any time.

There is no compensation for participating in this study, but we are happy to share the results of this survey. Please email Professor Nate Jensen at natemjensen@gwu.edu if you would like a summary report of this survey.

The Office of Human Research of George Washington University, at telephone number (202) 994-2715, can provide further information about your rights as a research participant. Further information regarding this study may be obtained by contacting Professor Nathan Jensen at natemjensen@gwu.edu

Your willingness to participate in this research study is implied if you proceed with completing the survey.

Your link directly to this survey is here:
http://gwu.qualtrics.com/SE/?SID=SV_067AG8fPr0hmTEp

APPENDIX C: SURVEY QUESTIONS

First we will ask a few quick questions about your company. Please fill in the following details:

1. Background

1. Is your company headquartered in Kansas?
    Yes
    No

2. How many states does your company operate in and how many full-time employees does your company employ in Kansas
    Number of states [Blank]
    Total number of employees [Blank]

2. Kansas PEAK Program

3. Public records indicate your company applied for a Promoting Employment Across Kansas (PEAK) grant. Is this correct?
    Yes
    No

[If respondent answers "No", skip to Section 3]

4. What was the purpose of the PEAK incentive? (Check all that apply)
    Expansion
    Relocation
    Retention
    Other [Blank]

5. How would you rate the process of applying for the PEAK grant? Note that we are asking about the application process in terms of how much time and energy you and your organization invested in the process. We will ask you about your experience with the program later.
    1. Very Efficient
    2. Somewhat efficient
    3. Neither efficient nor inefficient
    4. Somewhat Inefficient
    5. Very Inefficient

6. Did your company receive the incentive or was it terminated or never granted?
    Received incentive
    Terminated
    Never granted
    Other [Blank]

7. Please briefly comment on any problems your organization had with this program.
    [Blank paragraph]

3. Company Plans and the PEAK Program

8. Given your company's experience, would you recommend other companies to apply for PEAK incentives?

Definitely would recommend
Probably recommend
Probably not recommend
Definitely would not recommend
Don't know

9. Did your company receive any other incentive offers to expand or locate in other States at the time you were applying for the PEAK incentive?

Yes
No
Don't know

[Provide Question 10 only if the respondent answered "Yes" to Question 9]

10. Comparing the PEAK program benefits to the other offers would you say that:

The PEAK program was more generous
The PEAK program was roughly equal to other states
The PEAK program was less generous

11. Without the PEAK incentive would your company have left the state of Kansas?

No
Yes
Unsure

12. Without the PEAK incentive would your company have hired fewer employees or the same number of employees?

Fewer
Same
Other [Blank]

[Provide Question 13 only if the respondent answered "fewer" in Question 12]

13. In your best guess, how many <u>fewer</u> employees would your company have in Kansas if the company didn't receive a PEAK incentive? Write "0" if your company would have employed the same number of workers.

[Blank]

4. Opinions on the Kansas Business Environment

14. The Missouri Legislature has passed a bill that would limit incentive competition in the Kansas City region. Have you heard about this bill?

Yes
No

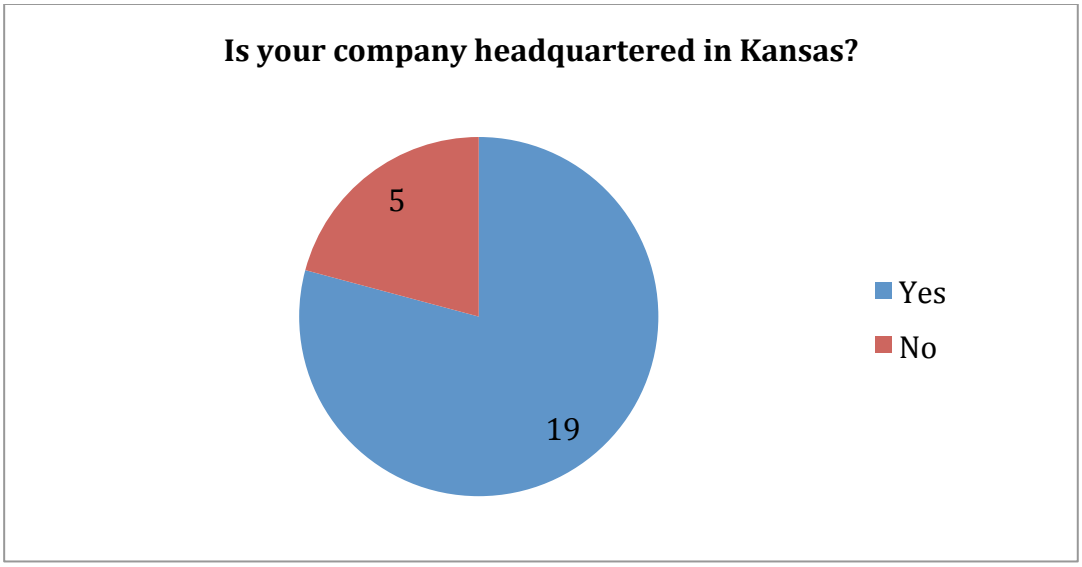
15. Overall, would you support Kansas passing legislation limiting the use of incentives in the Kansas City area?

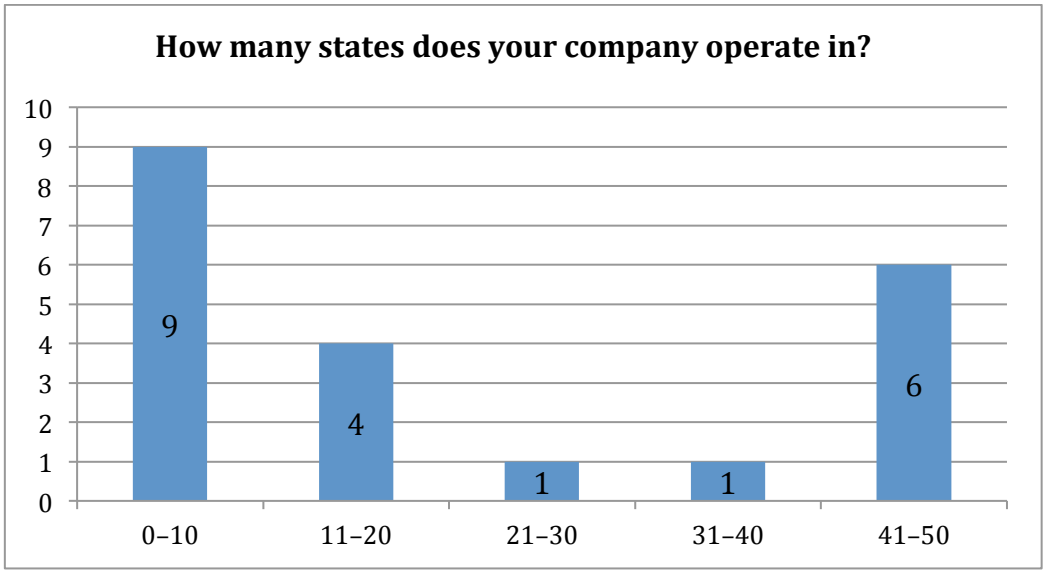
Yes
No
Other [Blank]

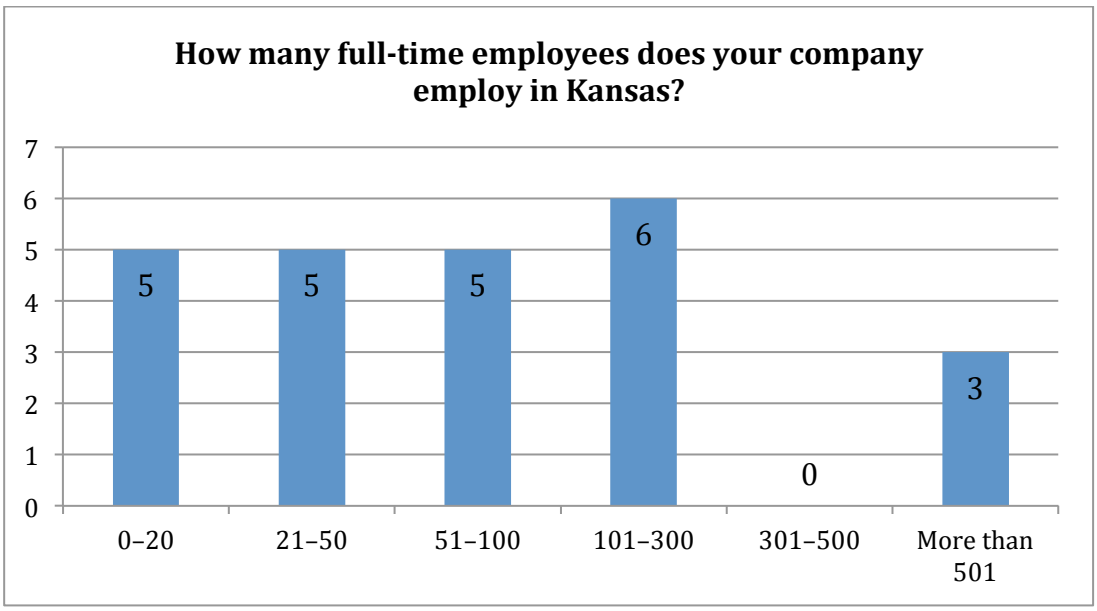
16. If you could provide one concrete piece of policy advice to the Governor or state legislature that would help businesses like your own, what would it be?

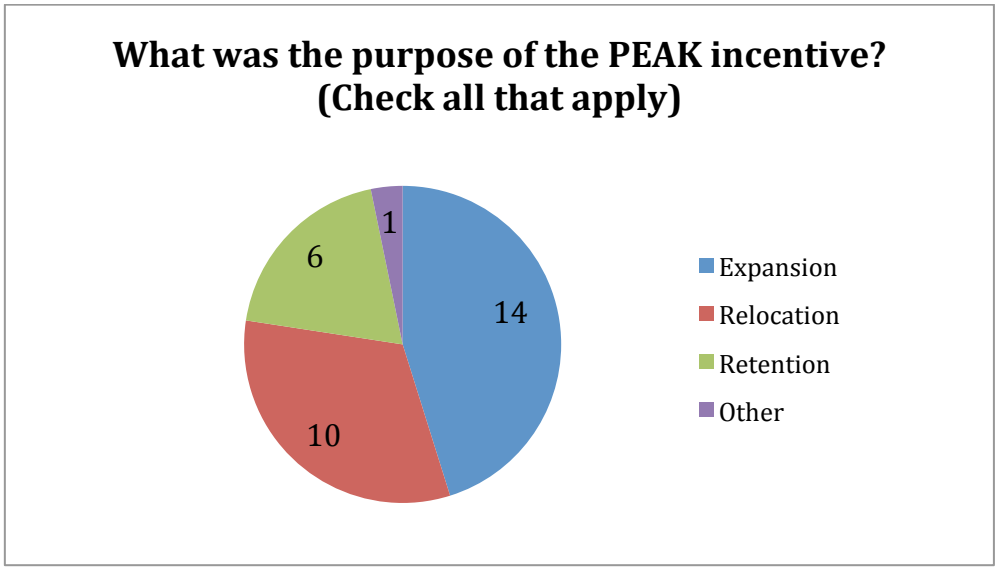
[Paragraph]

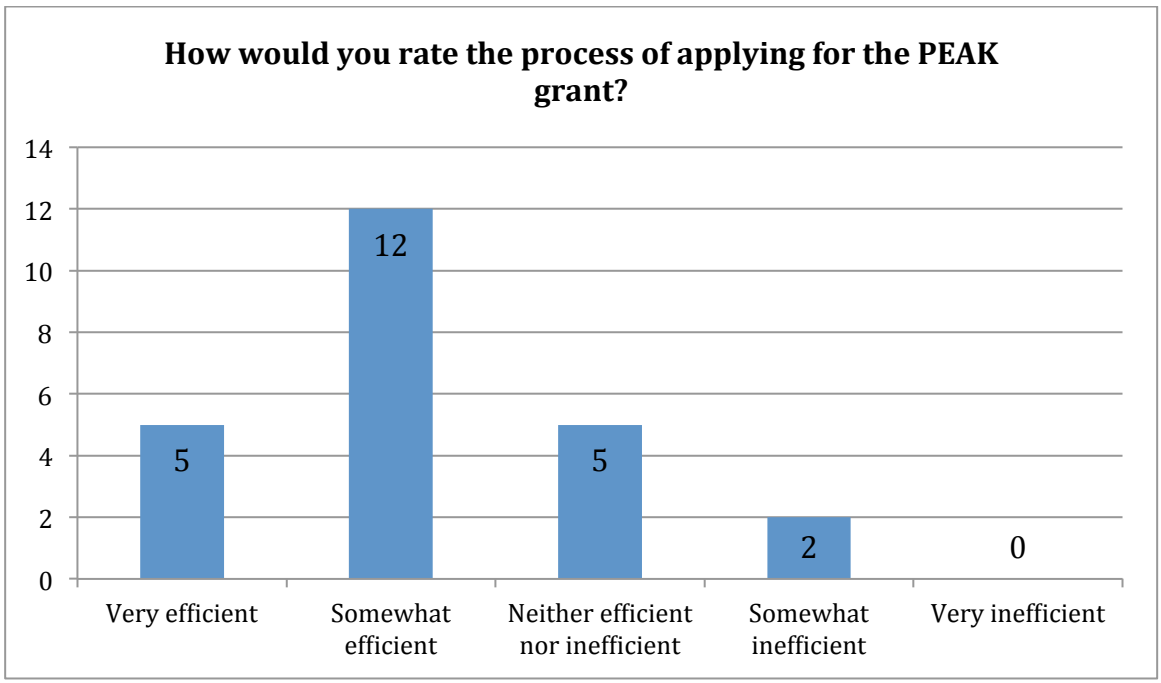
Appendix D: Raw Survey Data

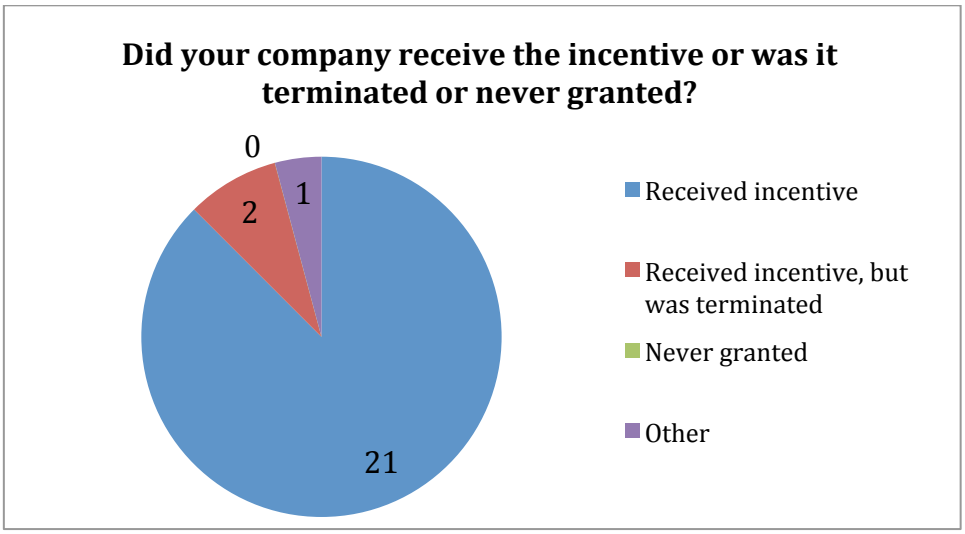


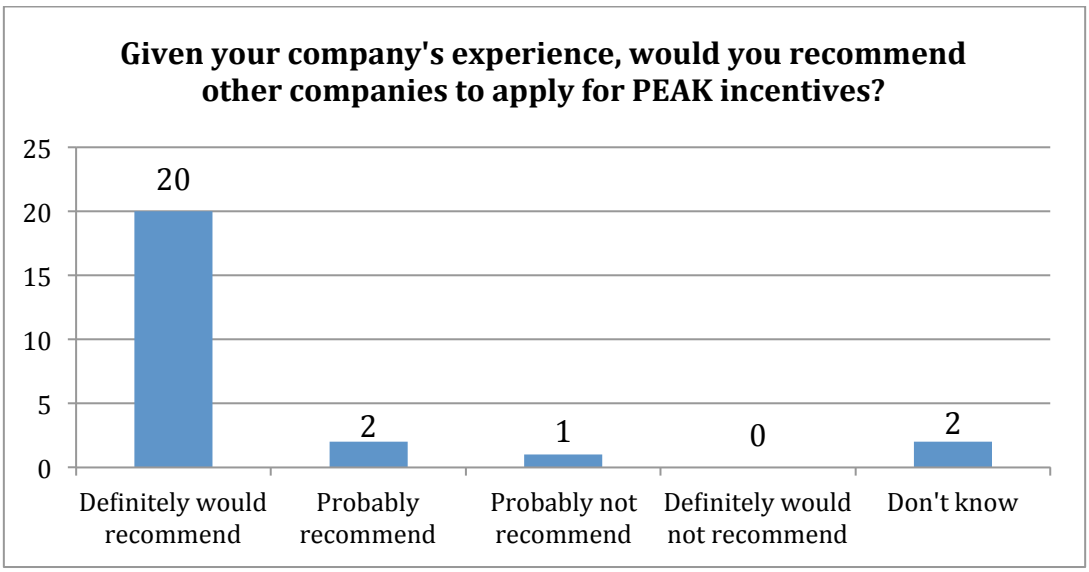


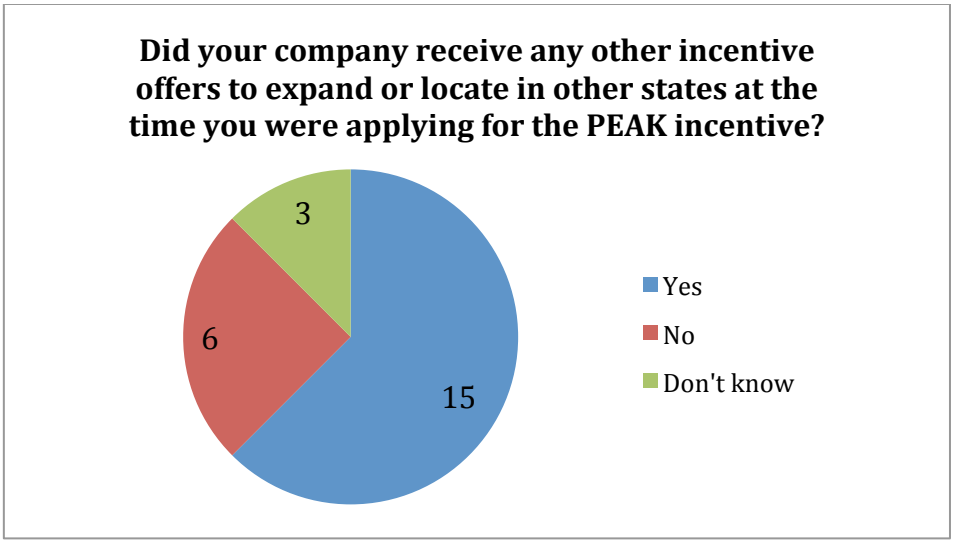

How many full-time employees does your company employ in Kansas?
7
6
5
4
3
2
1
0
5
5
5
6
0
3
0–20
21–50
51–100
101–300
301–500
More than 501

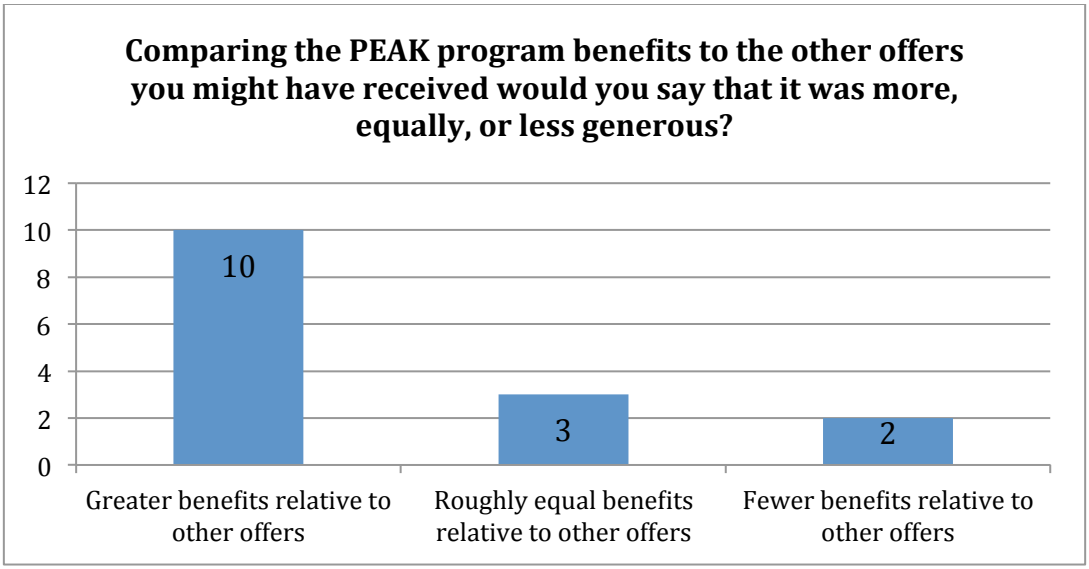

What was the purpose of the PEAK incentive? (Check all that apply)
14
10
6
1
Expansion
Relocation
Retention
Other

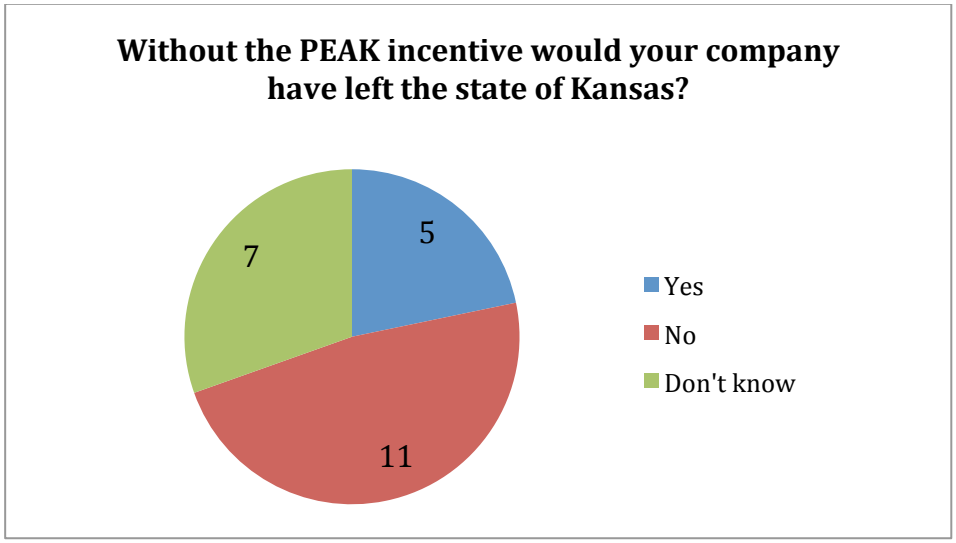

How would you rate the process of applying for the PEAK grant?
14
12
10
8
6
4
2
0
5
12
5
2
0
Very efficient
Somewhat efficient
Neither efficient nor inefficient
Somewhat inefficient
Very inefficient

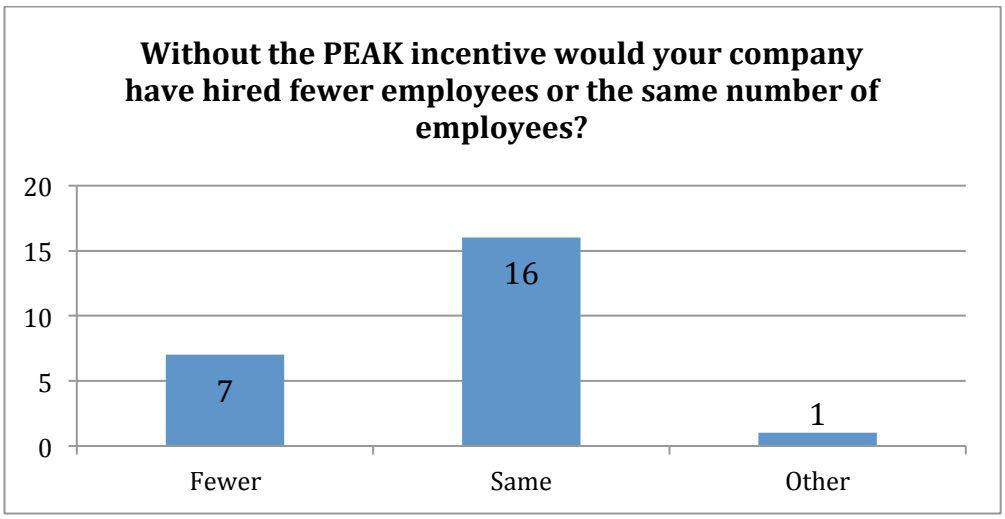

Did your company receive the incentive or was it terminated or never granted?
0
2
1
21
Received incentive
Received incentive, but was terminated
Never granted
Other

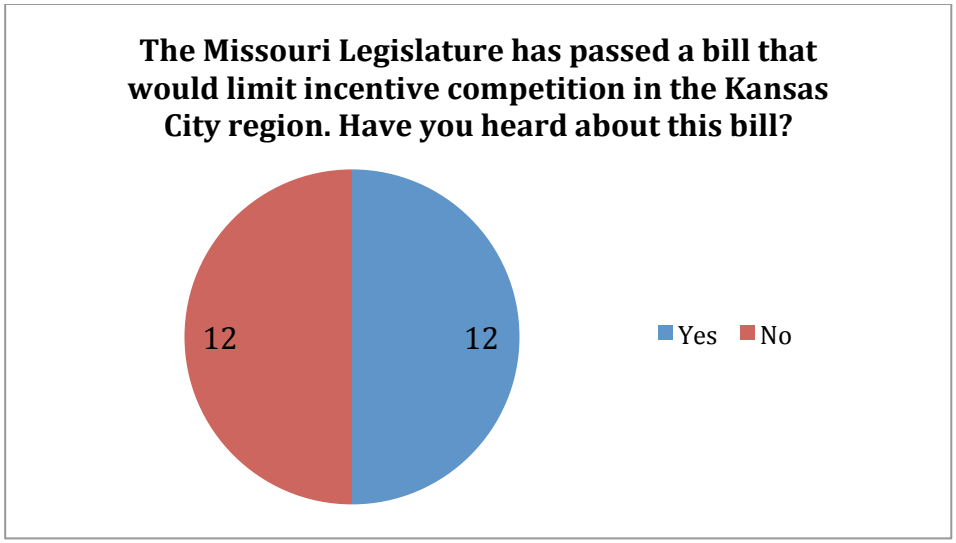

Given your company's experience, would you recommend other companies to apply for PEAK incentives?
25
20
15
10
5
0
20
2
1
0
2
Definitely would recommend
Probably recommend
Probably not recommend
Definitely would not recommend
Don't know

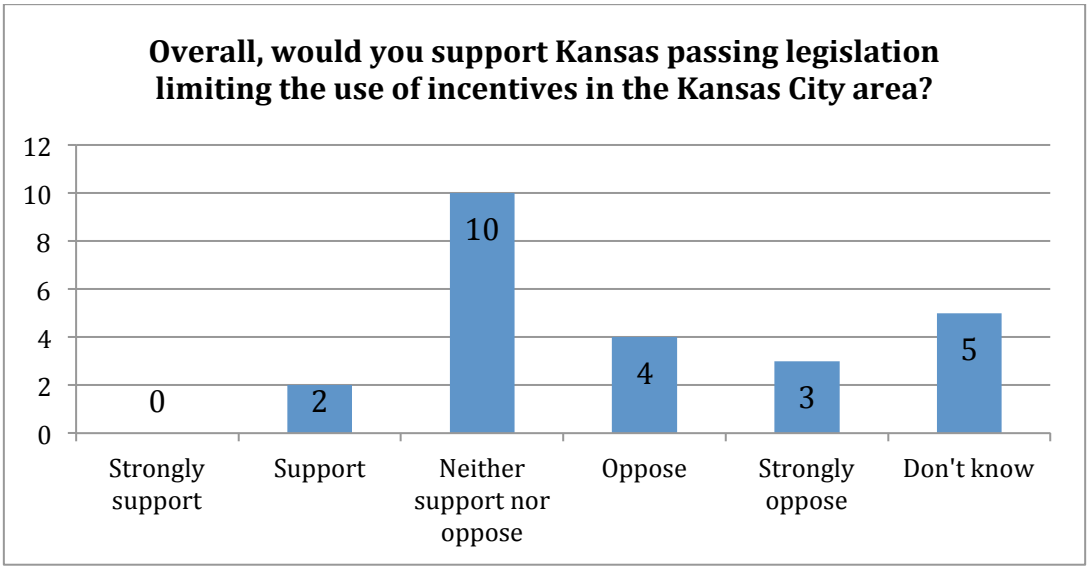

Did your company receive any other incentive offers to expand or locate in other states at the time you were applying for the PEAK incentive?
3
6
15
Yes
No
Don't know


Comparing the PEAK program benefits to the other offers you might have received would you say that it was more, equally, or less generous?
12
10
8
6
4
2
0
10
3
2
Greater benefits relative to other offers
Roughly equal benefits relative to other offers
Fewer benefits relative to other offers


Without the PEAK incentive would your company have left the state of Kansas?
5
11
7
Yes
No
Don't know


Without the PEAK incentive would your company have hired fewer employees or the same number of employees?
20
15
10
5
0
7
16
1
Fewer
Same
Other


The Missouri Legislature has passed a bill that would limit incentive competition in the Kansas City region. Have you heard about this bill?
12
12
Yes
No


Overall, would you support Kansas passing legislation limiting the use of incentives in the Kansas City area?
12
10
8
6
4
2
0
0
2
10
4
3
5
Strongly support
Support
Neither support nor oppose
Oppose
Strongly oppose
Don't know