

EPI BRIEFING PAPER

ECONOMIC POLICY INSTITUTE • REVISED: MARCH 16, 2011 • BRIEFING PAPER #300

DOES 'RIGHT-TO-WORK' CREATE JOBS?

Answers from Oklahoma

BY GORDON LAFER AND SYLVIA ALLEGRETTO

As the country strives to recover from the worst recession since the Great Depression, lawmakers in several states are being told that the key to solving their state's unemployment woes is adopting so-called "right-to-work" statutes.

Misleadingly named right-to-work (RTW) laws do not, as some unfamiliar with the term may assume, entail any guarantee of employment for those ready and willing to work. Rather, they make it illegal for a group of unionized workers to negotiate a contract that requires each employee who enjoys the benefit of the contract to pay his or her share of the costs of negotiating and policing it. By making it harder for workers' organizations to sustain themselves financially, RTW laws aim to restrict the share of state employees who are able to represent themselves through collective bargaining, and to limit the effectiveness of unions in negotiating higher wages and benefits for their members. Because it lowers wages and benefits, weakens workplace protections, and decreases the likelihood that employers will be required to negotiate with their employees, RTW is advanced as a strategy for attracting new businesses to locate in a state.

Right-to-work laws have been implemented in 22 states, predominantly in the South and Southwest, starting as far back as 1947. But what is their actual track record in spurring employment growth? And what is the likelihood that, in today's economy, a state deciding to adopt the 23rd right-to-work statute would see its job market improve?

This report examines the track record of right-to-work laws in boosting employment growth. In particular,

TABLE OF CONTENTS

Right-to-work claims and the problem with averages	2
The track record of right-to-work and job creation	2
Shrinking impact of right-to-work over time?	5
The adoption of right-to-work in Oklahoma	6
Did right-to-work help Oklahoma?	7
Oklahoma jobs outsourced to lower-wage countries	13
Listening to employers	14
Economic development officials do not treat right-to-work as a significant selling point	15
Does right-to-work harm job growth?	15
Conclusion: learning from Oklahoma	16

www.epi.org

we examine in depth the experience of Oklahoma, which in 2001 became the most recent state to adopt an RTW law. The majority of RTW states enacted their laws more than 30 years ago; the second-most recent statute adopted is that of Idaho, passed in 1985. Because economic conditions have changed greatly in the past decades, and because better data are available for more recent years, the case of Oklahoma is particularly illuminating regarding the potential impact of such laws on states considering them.

Despite ambitious claims by proponents, the evidence is overwhelming that:

- Right-to-work laws have not succeeded in boosting employment growth in the states that have adopted them.
- The case of Oklahoma – closest in time to the conditions facing those states now considering such legislation – is particularly discouraging regarding the law’s ability to spur job growth. Since the law passed in 2001, manufacturing employment and relocations into the state reversed their climb and began to fall, precisely the opposite of what right-to-work advocates promised.
- For those states looking beyond traditional or low-wage manufacturing jobs – whether to higher-tech manufacturing, to “knowledge” sector jobs, or to service industries dependent on consumer spending in the local economy – there is reason to believe that right-to-work laws may actually harm a state’s economic prospects.

Right-to-work claims and the problem with averages

In promoting new right-to-work laws as the answer to the jobs crisis, the National Right to Work Committee trumpets the fact that “in the past decade, non-agricultural employment in Right to Work states grew twice as fast compared to that in non-Right to Work states.”¹ This statement is statistically true, but only in the same way that it is true that if Bill Gates walks into a bar, everyone in the bar is suddenly, on average, a multimillionaire. The problem with averages, in the absence of standard deviations, is that they create the misleading impression

that all members of the group are more or less close to the average. In the case of RTW states, nothing could be further from the truth.² And the radical disjuncture between high- and low-performing right-to-work states makes it clear that it is not the law itself but rather other factors in the local economy that explain these states’ economic fortunes.

The past decade saw a huge discrepancy in the relative performance of states with and without right-to-work codes.³ For example, while right-to-work Arizona saw employment grow by almost 19% from 2000-09, RTW Alabama saw its employment shrink by more than 5%. Employment growth over the decade was 8.2% in non-RTW New Mexico, more than triple the rate of its RTW neighbor, Oklahoma.

When examining the variation among the individual states that make up the National Right to Work Committee’s average, it becomes clear that the statistic is highly misleading – driven by a handful of high-growth states such as Arizona, Nevada, and Texas, while much of the rest of the pack saw quite modest growth or even declines. Indeed, the non-RTW states of Washington, Alaska, and New Mexico each saw jobs grow faster than 15 of the 22 RTW states. By the end of 2010, both the highest and lowest state unemployment rates were found in right-to-work jurisdictions.⁴

If states with right-to-work laws can experience either dramatic growth or steep declines, and if both right-to-work and non-right-to-work states can foster booming job markets, then it is clear that something else in these states’ economies, demographics, or policies must be driving job growth, while right-to-work laws account for little if anything in these trends.

When one examines the facts underlying the averages, it appears that recommending right-to-work as a solution to unemployment is on par with suggesting that one’s personal wealth can increase by having a beer in Bill Gates’ favorite watering hole.

The track record of right-to-work and job creation

Proponents of so-called right-to-work make ambitious claims on behalf of the policy. The National Institute for Labor Relations Research, an anti-union advocacy

group, argues that the law in and of itself has profound and transformative effects on a state's economy, single-handedly determining where employment grows and where it stays flat or shrinks, where companies locate and where they don't, where manufacturing plants open and where they close, and where income growth stagnates and where it accelerates.⁵

Scholars have spent many years examining the validity of these claims. Right-to-work proponents assert that the policy has particularly strong effects in boosting employment in manufacturing.⁶

Unlike service-sector industries such as health care and education, which have no choice but to locate where their customers are, manufacturers often can locate plants wherever they choose and then ship to their customers around the country or across the globe. Thus, manufacturers constitute the primary target of economic development policies aiming to attract new firms into a given state. In addition, the lower value-added end of manufacturing requires relatively unskilled labor; for these employers, a modest reduction in labor costs may be sufficient to influence location decisions.

For all these reasons, analyses of right-to-work laws traditionally have focused on how the laws have affected manufacturing employment in particular, in addition to a state's overall employment level.

It is notoriously difficult to separate the impact of a single government policy from myriad competing economic factors, statutes, and regulations that help shape a state's economy. The fact that states that share a common attribute have stronger average growth rates cannot be taken as evidence that the attribute in question is the cause of that growth. To use an extreme example as illustration, in 2000-09 the states whose names started with the letters N-Z had an average employment growth rate almost nine times higher than states whose names start with A-M.⁷ Yet no one would suggest that Indiana and Kentucky could improve job growth by changing their names.

Anti-union advocates sometimes advance their cause by pointing to the fact that, since the inception of right-to-work laws in 1947, employment has grown dramatically faster in states with such statutes than in those without them. This argument is particularly unsound, even beyond the problem of averages.

Right-to-work states are concentrated in the South, and the decades since 1947 have brought a host of fundamental changes that have transformed the economies of these states.⁸ Among these are the revolution in agricultural productivity, which freed up large numbers of Southern agricultural workers to go into manufacturing; the construction of the interstate highway system and the use of standard containers in shipping, making it possible to locate manufacturing facilities away from the country's central railroad depots; the invention and popularization of air conditioning; the civil rights movement, which enabled a significant and previously disenfranchised segment of these states' populations to participate fully in all sectors of the economy; and massive federal investments in these states' education systems. Any one of these factors is more likely than right-to-work to account for the more rapid growth of manufacturing in Southern states.

Southern officials themselves generally point to education – not labor law – as the key to transforming their states' economies over the past few decades. A recent in-depth study of the economy in non-RTW Kentucky, for example, examined the root causes of that state's poor economic performance by comparing the state's policies with those of four Southern neighbors – Alabama, Georgia, North Carolina, and Tennessee, all RTW states.⁹ The authors found that by far the most important cause of Kentucky's plight was the shortage of skilled workers.

“Every site location expert we spoke with,” the study authors report, “indicated the primary limitation to firms locating or expanding in Kentucky is the lack of training and poor education of the workforce.”

By contrast, right-to-work laws were found to have no statistically significant impact in explaining Kentucky's fortunes compared to those of more prosperous Southern states. Indeed, the economic development officials of those states did not point to right-to-work as a determining factor. Rather, “every economic development official in the competing states with whom we spoke indicated the single most important reason for their economic growth over the previous three to four decades was an emphasis on education and workforce development.”

Thus, the mere fact of a state having a right-to-work law tells us nothing about the extent to which that law explains the state's economic trajectory. Clearly, what both

sides of this debate must aim to discover is how right-to-work impacts a state's job growth, all other things being equal. The methodological difficulty lies in defining what "all other things" means. Noticing, for instance, that a given right-to-work state has experienced faster growth than a given non-RTW state, one might wonder if the difference is due not to the discrepancy in labor laws but rather the difference in the educational level of the workforce, the proximity of transportation hubs, the cost of real estate, the state's inheritance tax, its natural resources, the quality of its school system, or the quality of its state universities. The list gets very long quickly.

The history of right-to-work scholarship entails successive efforts to account for more and more of these variables, and to separate out as completely as possible the impact of RTW laws from all the other factors that influence a state's employment growth. Over time, as scholars have developed more sophisticated and more comprehensive means of holding "all other things" equal, the measured impact of right-to-work laws has grown smaller and smaller, with recent studies finding it has no impact whatsoever.¹⁰

One of the most commonly cited studies is that of Thomas Holmes, who compared manufacturing employment on the borders of right-to-work and non-right-to-work states. Using county-level data, Holmes found that, when crossing into a right-to-work state from a non-right-to-work state, one was likely to find both an increased share of employment concentrated in manufacturing and a history of higher growth rates for manufacturing employment in the period from 1947 through the mid-1990s.

There are two caveats to Holmes' study, however: First, using the manufacturing share of overall employment to define the success of a law may be an unreliable measure. In states where service employment is growing, for instance, the manufacturing share of overall employment will decrease without reflecting any failing in the local economy or government. Second and even more importantly, Holmes made no claim whatsoever that right-to-work laws themselves accounted for the differences he noted. Instead, he explicitly used right-to-work laws as a proxy for a wide array of other policies.

"Right-to-Work states," Holmes explained, "historically have pursued a number of other smokestack-chasing

policies, such as low taxes, aggressive subsidies, and even, in some cases, lax environmental regulations. Thus, my results do not say that it is right-to-work laws that matter, but rather that the 'pro-business package' offered by right-to-work states seems to matter."¹¹

The experience of Idaho, the most recent state to adopt right-to-work prior to Oklahoma, is likewise often invoked as evidence of the policy's positive impact. The primary study of the Idaho law, which went into effect in 1987, compares the state's pre- and post-law economy with that of its neighboring states.¹² The comparison between Idaho and its neighbors was intended as a means of holding "all other things" equal, assuming that underlying economic trends should be similar in nearby states. Yet, as with Holmes, the authors failed to account for dynamics within the Idaho economy that seem more likely than right-to-work to account for the state's employment trends – and thus overstated the impact of the statute.

The authors report that the decade following passage saw dramatically lower unionization rates and significantly higher manufacturing employment than in the preceding decade, and that the state's post-adoption manufacturing sector grew significantly more rapidly than those of neighboring states.

Here too, however, the inability to separate the impact of this one specific law from the myriad other factors shaping the state's economy leave the authors unable to draw any definitive conclusion. Indeed, when one looks more closely at the Idaho case, the impact of right-to-work is much less plausible than its proponents claim. For one thing, both the dramatic decline in the state's unionization rate and the upsurge in employment growth *preceded* the adoption of right-to-work by several years. The state's unionization rate fell from 22% to 9% in 1981-84, *before* the right-to-work law was adopted, but coinciding with President Reagan's promotion of strike breaking in the PATCO showdown in 1981. It also coincided with a steep decline in the state's traditionally well-organized timber industry.

Similarly, the post-law boom in manufacturing employment primarily was driven by the high-tech industry, which in the 1990s became the single largest manufacturing sector in the state.¹³ Since this industry has never seen any significant percentage of unionization in any state,

it seems implausible that high-tech manufacturers chose Idaho in order to avoid collective bargaining. The ultimate disproof of the right-to-work thesis is that, while high-tech firms expanded employment in Idaho after 1987, they also did so in non-RTW states.¹⁴ Clearly, whatever led them to invest in Idaho had nothing to do with this recently adopted law.

One attempt to more fully separate the impact of RTW laws from other aspects of a state's economy is the 2006 analysis of Kalenkoski and Lacombe.¹⁵ Following Holmes' lead, they compared the manufacturing share of overall employment in states with and without right-to-work statutes. Rather than simply comparing neighboring jurisdictions, however, the authors controlled for county-level demographic data such as the age, gender, race, ethnicity, and education level of the local population. By comparing geographic areas with similar demographic profiles, they hoped to control for general features of both the local economy and political climate.

Their research finds that the impact of right-to-work on the manufacturing share of a locality's overall employment is only one-third as great as that estimated by Holmes, and they conclude that previous studies without such controls "dramatically overstate the positive relationship between RTW legislation and manufacturing employment."¹⁶

Yet even this study may misstate the impact of right-to-work, for several reasons. First, while it controls for some aspects of local economies, it still fails to control for many others – including, as in Holmes, the presence of other state policies that may influence location decisions. Second, as described in the Idaho case, using the manufacturing share of overall employment to define the impact of a law can be an unreliable measure. Indeed, Kalenkoski and Lacombe's methodology produced some curious and unexplained findings, suggesting that the measure they used is less than fully reliable.¹⁷

When scholars are most rigorous about separating the impact of right-to-work laws from other factors, the evidence suggests that right-to-work has no effect whatsoever on a state's employment. One of the most recent and ambitious studies estimates the impact of RTW laws while controlling for a wide range of variables, including general economic features of the state economy such as the share

of gross state product concentrated in manufacturing and the average wages and educational level of the workforce; state policies such as personal and corporate tax rates; and a range of labor-specific policies including state minimum wage, workers' compensation, and unemployment insurance rates. This study effectively answers the question posed by Holmes, who noted that it was impossible to tell if the differences he recorded reflected the impact of right-to-work itself or other policies and economic features of the states that had also adopted right-to-work laws. When these various strands of the question are separated out, the authors report that "right to work laws... seem to have no effect on economic activity."¹⁸

One of the most recent studies similarly aimed to control for the factors that Holmes left unexplored, and it, too, concludes that right-to-work has no impact on employment growth. Stevans (2009) compared states with and without RTW laws, but controlled for a broader array of economic variables.¹⁹ Most importantly, the author controls for a state's general business climate, in order to separate the impact of RTW laws from other economic policies of the state. When the question is thus refined, Stevans reports that right-to-work laws, in and of themselves, have no statistically significant impact whatsoever on either the rate of job growth or the number of new businesses opened in a state.

"An increase in the probability that a state is right-to-work," Stevans concludes, "has no influence on employment, is associated with a decrease in per-capita personal income and wages/salaries, is associated with an increase in proprietors' income, and has no effect on economic growth."²⁰

Thus, the history of right-to-work studies has a clear trajectory. The more scholars are able to hold "all other things" equal, the more it becomes clear that these laws have little or no positive impact on a state's job growth. The most recent and most methodologically rigorous studies conclude that the policy has no statistically significant impact whatsoever.

Shrinking impact of right-to-work over time?

It's not clear that right-to-work laws, in themselves, ever have had a significant impact on employment growth.

To the extent that they may have, however, there is good reason to believe that any such impact would be much smaller today than it would have been in the past.

In one part, this is the simple logic of competition. To the extent that right-to-work is a draw for manufacturers, its effect would be greatest on the first state to adopt such a statute. If 49 states protected union security and only one was right-to-work, employers to whom this policy mattered would all be drawn to that location. The prospect of becoming the 23rd right-to-work state in the country is much different. Any competitive advantage a state might realize, at this point, would have to be sufficiently powerful enough to draw footloose employers to that state not only over the non-RTW states but also over the other 22 states with identical labor laws.

In addition, to the extent that RTW laws helped draw northern unionized manufacturing firms into lower-wage and less-organized jurisdictions in the South, this dynamic has long since played itself out. Any measure of comparative job growth over the past several decades captures the de-industrialization of the Northeast and upper Midwest and the mass relocation of firms to the South starting in the 1960s, whether in search of cheaper wages, cheaper land, lower crime, or less regulation. That wave of relocation may show up in the long-term employment growth of Southern states, but at this point it's done.

There is no such ongoing wave of relocation from which states newly adopting RTW laws might hope to benefit. Thus, one in-depth examination of Southern economic development measured how the effect of RTW laws evolved over time, and concluded that the policy's impact reached its statistical peak in the 1950s and shrank to statistical insignificance by the 1970s.²¹ A state newly adopting right-to-work today, according to these findings, would receive absolutely no benefit in job growth.²²

Finally, the past 15 years have brought technological and legal changes that have made it much easier for manufacturers to relocate to lower-wage locales abroad. The same manufacturers that once fled the North for the South have now, in many cases, gone to Mexico or China.

For all these reasons, Oklahoma – the most recent state to enact a right-to-work law – provides the most instructive case for states newly considering adoption of right-to-work statutes. By focusing on the experience of a state that went

through the transition from one labor regime to another in economic times close to the present, and by drawing on a history sufficiently recent that there is a wealth of data readily available, Oklahoma provides the clearest possible lessons for states now engaged in legislative debates over the impacts of so-called “right-to-work.”

The adoption of right-to-work in Oklahoma

For the past 20 years, Oklahoma's unemployment rate has largely tracked that of the nation as a whole, rising when national unemployment increased and falling when it declined. While trending in the same directions, however, the state's actual unemployment rate has been consistently lower than the national average for at least the past 20 years. This may reflect Oklahoma's concentration of employment in the oil and gas industries and in government and military service.²³

To the extent that demand for energy and funding for military and other government functions are relatively inelastic, the prevalence of these sectors in the state's economy may provide a source of stability that helps sustain the job market in tough times.

To the extent that Oklahoma has attracted new companies over the past 20 years (including the past 10 under its right-to-work regime), it does not appear to reflect the impact of right-to-work. Noting that Oklahoma has attracted about 600 new companies over the past 20 years, *Newsweek* magazine reports that “the secret to the shift” was not labor law but something much simpler – cash. In the early 1990s, Oklahoma adopted a unique policy of rebating 5% of payroll costs – in cash, no strings attached – to employers who created new jobs. In 2009, the state established a double incentive – 10% cash back on payrolls for companies that create high-paying jobs. Boeing's decision to move 550 jobs from California to Oklahoma, for instance, was driven not by labor law but by these incentive payments.²⁴

Whatever the cause, Oklahoma's economic strength long preceded its adoption of right-to-work. As a non-RTW state, Oklahoma's employment grew by 22% in the 1990s, well ahead of the national average. The manufacturing sector was particularly impressive compared with national trends, growing by 11% during the

decade, compared with 4% growth for the country as a whole. By the year 2000, the state's unemployment rate stood at 3%, not only well below the national average but also lower than 18 of the then-21 right-to-work states.²⁵ It is clear, then, that whatever the sources of Oklahoma's economic success in the 1990s, they had nothing to do with right-to-work.

The state's turn to right-to-work policy was not based on expert opinion, nor on the experience of state government officials. The year before the referendum, the Oklahoma League of Economists reported that its members ranked education reform as the single most promising policy the state could pursue, and that a strong majority believed right-to-work would have no positive impact on the state's economy.²⁶

Similarly, while then-Governor Frank Keating was a staunch supporter of the initiative, his position stood in direct contradiction to the advice of his predecessor. Gov. David Walters, who served until 1995, entered office as a right-to-work supporter but became convinced that such a law would be ineffective in attracting new jobs. In discussions with scores of companies, he reported, not a single one ever mentioned the lack of right-to-work as a significant consideration on whether or not to locate in Oklahoma.²⁷

Nevertheless, in the lead-up to Oklahoma's 2001 vote, corporate lobbyists and supportive officials made repeated and dramatic claims regarding the necessity of adopting a right-to-work statute in order to safeguard the state's economic future. Passage of the law "will lay the foundation for Oklahoma's golden age," promised Rep. Hopper Smith in the legislative debate.²⁸

"Oklahomans understand that right to work is one of the single most important reforms our state can make," asserted House Republican Leader Rep. Fred Morgan. "Right to work will bring prosperity and promise to our state."²⁹

Many advocates voiced arguments based on the same type of misleading averages discussed earlier in this report. The editor of the *Tulsa World*, for instance, called on readers to vote in favor of the initiative because "right-to-work states are doing better in terms of growth and development than Oklahoma."³⁰

As in other states, Oklahoma's law primarily was promoted as a strategy for attracting more manufacturing firms to the state.

"If state economic expansion includes targeting manufacturing growth," argued one widely circulated policy brief, "addressing the problem of Right-to-Work is a prerequisite."³¹

Above all, proponents insisted that right-to-work would vastly expand the number of firms considering Oklahoma as a location for their facilities. One prominent supporter, invited to testify before the Oklahoma State Senate, insisted that the state would see "eight to 10 times as many prospects if right to work passes."

"When companies start looking for a relocation site," explained consultant Elizabeth Morris, "the second most important criteria they list is whether a state is a right-to-work state....If the answer is 'no,' then they won't even consider that state. This means that you are cut off from 90 percent of the relocating companies."³²

Though Morris did not present statistical survey data to back up this assertion, her claims were repeated in the press, in think-tank policy briefs, and by elected officials on the floor of the state legislature. Representative Mike Wilt repeated Morris' claim in legislative debate, concluding that with the state's existing labor laws, "we're not even being considered" by out-of-state companies.³³

"If we don't pursue right to work," Governor Keating agreed, "we are redlined."³⁴

Did right-to-work help Oklahoma?

Unfortunately for Oklahomans, so-called "right-to-work" never delivered on its promise. The law was promoted, above all, as a strategy for boosting manufacturing employment by convincing out-of-state production facilities to locate in Oklahoma.

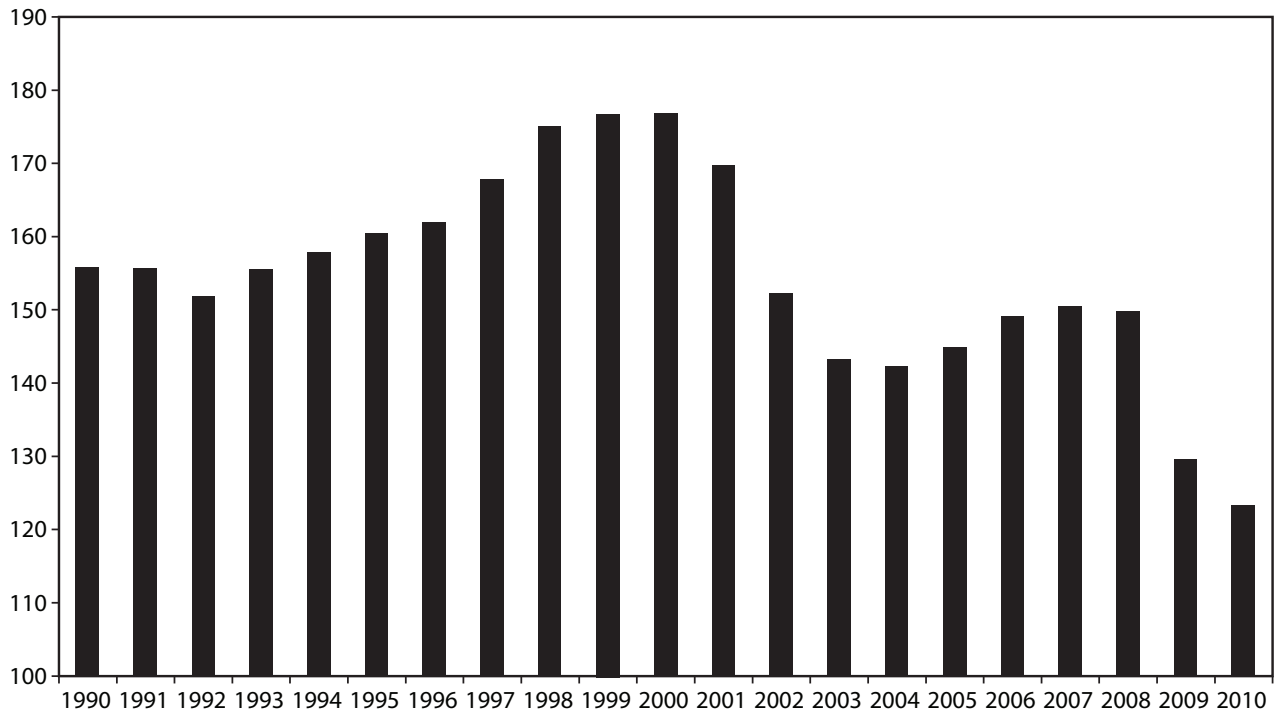
"If state economic expansion includes targeting manufacturing growth," argued one conservative think-tank policy brief widely circulated in the lead-up to the state's vote, "addressing the problem of Right-to-Work is a prerequisite."³⁵

Yet the facts show the exact opposite of what right-to-work supporters predicted. Not only has manufacturing employment failed to rise in Oklahoma, but, after increasing steadily the previous 10 years, it has fallen steadily in every year since right-to-work was adopted.

The state's manufacturing sector grew from 155,000 jobs in 1990 to a peak of nearly 177,000 in 2000

FIGURE A

Oklahoma manufacturing employment (thousands), 1990-2010



SOURCE: Bureau of Labor Statistics, current employment statistics: employment and hourly earnings of state and metro areas (seasonally adjusted).

(Figure A). In the decade following adoption of the new law, however, manufacturing employment declined sharply and has never regained its pre-right-to-work level. Oklahoma ended the decade with 123,000 residents employed in manufacturing, nearly 50,000 less than when the law was voted in.³⁶ This does not mean that right-to-work in itself caused a decline in the state's manufacturing employment. Rather, it suggests that right-to-work had no positive impact on the manufacturing sector and, in the face of broader forces undermining the sector, right-to-work was simply impotent.

Nor did right-to-work lead to lower unemployment rates for Oklahoma residents. In 2000, the year before the law was adopted, Oklahoma's unemployment rate was just above 3%; by the end of 2010 it stood at 6.86% (Figure B).

Oklahoma's decline was part of the country's overall employment crisis in 2001-03 and again in the past two

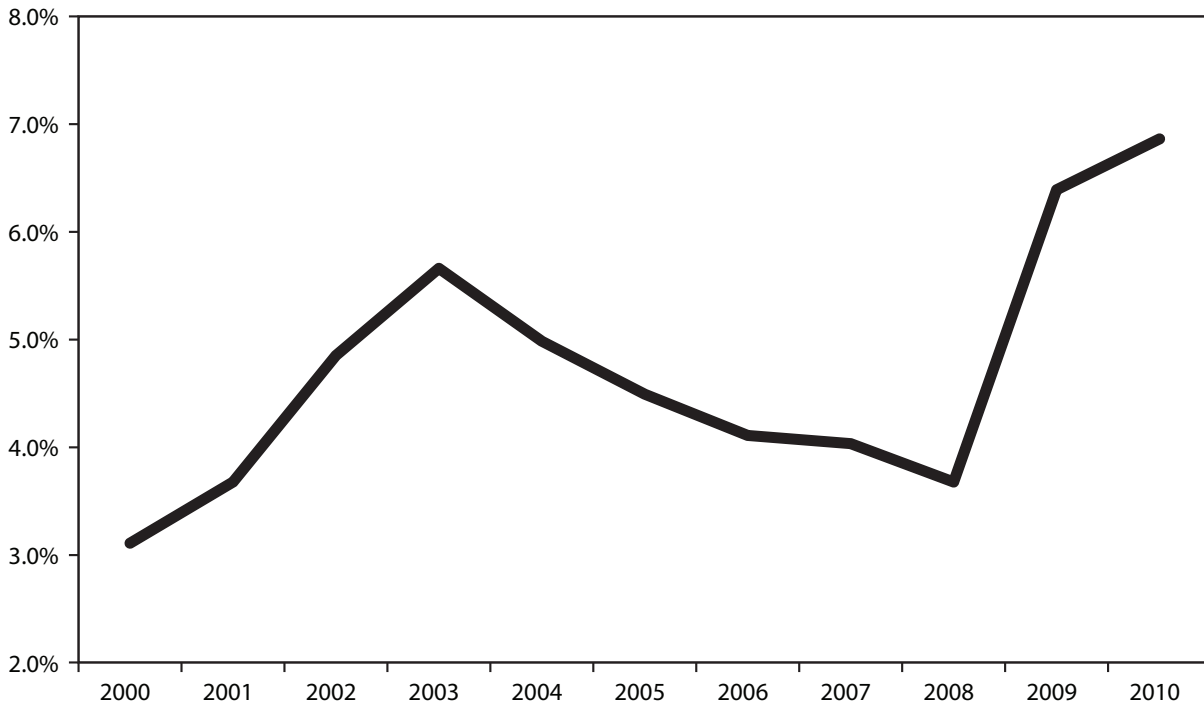
years, and so the more relevant question is how the state's economic performance compared to others.

A rough means of measuring the state's relative performance is to compare its track record to those of neighboring states (Figure C). As discussed above, a comparison with neighboring states does not control for all the variables that affect economic development, but it does provide a reasonable first glimpse at a state's comparative performance.

Oklahoma is bordered by six states – three right-to-work and three union security states – and it started off the decade with an unemployment rate lower than any of them. If right-to-work had a positive impact, then Oklahoma's advantage over its neighbors should have grown even more pronounced. But this is not the case. When the right-to-work initiative was adopted, Oklahoma's unemployment rate was nearly nine-tenths of

FIGURE B

Oklahoma unemployment rate, 2000-10



SOURCE: Authors' analysis of data from Moody's Analytics.

a point better than the average of its six neighbors. The size of this gap narrowed and then widened during the rest of the decade, but was mostly smaller than where it started.

Taken together, Oklahoma's advantage over its neighbors averaged just under eight-tenths of a point during the years 2002-10 – slightly less than at the decade's start.³⁷ Thus, neither the state's actual unemployment rate nor its comparative performance relative to neighboring states provides any evidence of right-to-work having effectively boosted the state's employment.

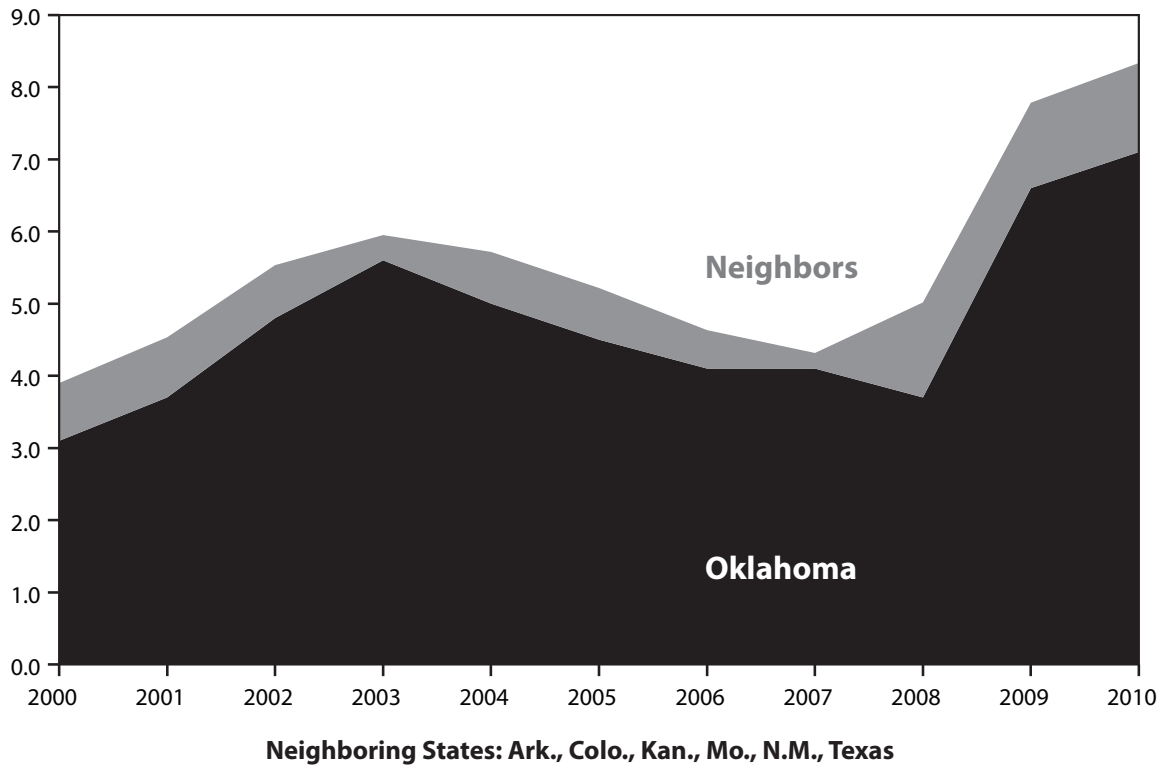
Nor did Oklahoma's experience accelerate employment growth compared with its neighbors. As illustrated in **Figure D**, in the years following adoption of right-to-work, Oklahoma's rate of job growth was unremarkable compared with nearby states – at times near the bottom of the pack and at other times closer to the top; it performed significantly worse than both non-right-to-work New Mexico and right-to-work Texas.³⁸

To test the extent to which right-to-work may have given Oklahoma some advantage not captured in the simple trends of job growth or unemployment, we constructed a new statistical model to measure how Oklahoma's adoption of right-to-work impacted its economic performance relative to that of its neighbors. Our analysis follows Holmes' work in focusing on job growth in counties and is based on employment data that is directly reported (as opposed to projected or estimated) for 98% of the workforce.³⁹

From 1996 to 2006 – a period covering five years before and five years after Oklahoma's adoption of right-to-work – we measured employment trends in manufacturing and in the economy as a whole. Holmes' assumption in comparing RTW and non-RTW counties that bordered each other was that the proximity of the counties would generally mean that the two counties were broadly similar in the demographics of their populations, price of land, extent of urbanization, and other core features of the local

FIGURE C

Unemployment rate, Oklahoma and average of neighboring states



SOURCE: Authors' analysis of data from Moody's Analytics.

economy. By comparing neighboring counties, Holmes aimed to isolate the impact of public policy as distinct from underlying economic dynamics.

Our analysis builds on Holmes' instinct, but contains additional controls aimed at more narrowly isolating the impact of right-to-work. In the course of a series of regression analyses, we controlled for population, unemployment rates, and both time and county fixed effects. In addition, while Holmes' study compared the average performance of all RTW border counties with that of all non-RTW border counties, we examined the relative performance of each individual pair of counties that straddle Oklahoma's border with its neighbors.⁴⁰ This more-focused analysis should provide a more exact measure of the impact of Oklahoma's policy shift.

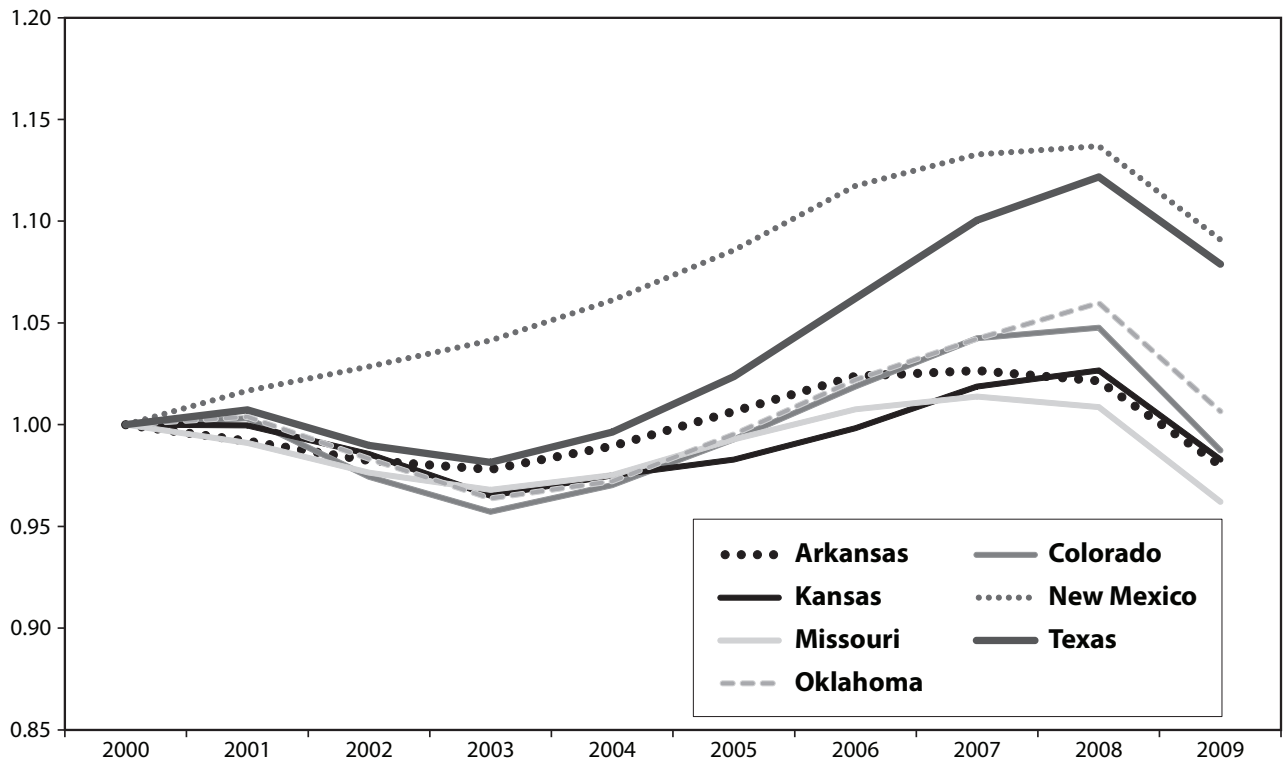
If right-to-work proponents are right about the employment benefits of the policy, then employment in the

state should have improved relative to its neighbors (both the three RTW states and the three non-RTW states) and to the country as a whole. We tested for this impact in nearly every way imaginable.⁴¹ We compared all the counties in Oklahoma with all counties in neighboring states and with all counties in the United States. We compared only the Oklahoma border counties, paired with the exactly adjacent county in a neighboring state. We compared average employment levels for the period before Oklahoma's adoption of right-to-work with those in the period following it. We tracked the shift in Oklahoma's relative performance for each individual year leading up to and following the adoption of right-to-work.

No matter how we analyzed the data, the result was always the same: The adoption of right-to-work in Oklahoma had no significant positive impact whatsoever on employment.⁴² In every instance, the effect of the law

FIGURE D

Employment growth, Oklahoma and neighboring states



SOURCE: Authors' analysis of data from Moody's Analytics.

was either insignificant or, more often, significant and negative. When we tracked year-by-year changes, the data show Oklahoma improving relative to its neighbors in the years leading up to adoption of right-to-work—strongly suggesting that factors other than right-to-work are driving the state's employment trends.

The years following the law's adoption are overwhelmingly associated with negative employment effects. The sample that compares all counties in Oklahoma with all counties in its neighboring states gives the most robust estimates due to the larger sample size.⁴³ Here too, the data suggest that Oklahoma's employment declined by 1-3%, relative to its neighbors, in the years following adoption of right-to-work.

Finally, the failure of right-to-work to produce job growth is confirmed by a pair of scholars who in 2010 employed a newly developed technique to compare

Oklahoma's track record with that of a statistical control group; this method enables the authors to control for a wide range of variables.⁴⁴ Rather than rely on Oklahoma's neighbors, the authors constructed a composite comparison by drawing on a variety of states whose profiles most closely mirror that of Oklahoma prior to 2001.

In the case of Oklahoma, the comparison was made up of weighted averages of New Mexico, Colorado and Vermont, states which each matched certain aspects of Oklahoma's economic and demographic profile prior to its adoption of right-to-work. Oklahoma's experience following adoption was then measured against that of this imaginary control group. This novel methodology creates a statistically sound measure of what Oklahoma would have been like had it not adopted right-to-work but had otherwise retained its most salient economic and political characteristics. Comparing these two scenarios,

the authors measure the impact of right-to-work. They find that, while the law did decrease the share of Oklahomans represented in collective bargaining, it had no impact whatsoever on the state's manufacturing employment share.

The single most important evidence of the impotence of right-to-work laws may be exactly what advocates focused on during the 2001 debate: the number of out-of-state firms choosing to open plants in Oklahoma.

Recall that one of the law's backers predicted to the legislature that the number of outside companies considering locating in Oklahoma would increase by "eight to 10 times" if the right-to-work law passed.⁴⁵ While the Oklahoma Department of Commerce does not report data on the number of companies that express potential interest in relocating, it does compile annual reports on the number of companies who actually open new facilities in the state.⁴⁶ Assuming that there's been no change in

TABLE 1

Announced openings of new manufacturing and service facilities Oklahoma, 1990-2010

Year	Manufacturers		Service industries		Total, mfg & services	
	Plants	Jobs	Facilities	Jobs	Facilities	Jobs
1990	62	2,461	15	795	77	3,256
1991	45	2,424	17	2,563	62	4,987
1992	50	3,066	11	1,717	61	4,783
1993	38	1,899	8	1,160	46	3,059
1994	45	4,211	21	4,917	66	9,128
1995	20	2,353	12	5,940	32	8,293
1996	37	1,926	23	5,612	60	7,538
1997	23	2,207	15	3,233	38	5,440
1998	24	1,399	19	3,797	43	5,196
1999	30	3,347	15	5,267	45	8,614
2000	13	1,806	18	6,055	31	7,861
2001	19	1,612	9	1,200	28	2,812
2002	23	1,865	8	1,510	31	3,375
2003	32	2,506	7	1,454	39	3,960
2004	24	2,629	12	3,841	36	6,470
2005	26	2,722	15	3,641	41	6,363
2006	30	5,106	12	2,251	42	7,357
2007	21	2,253	14	2,665	35	4,918
2008	9	388	7	1,855	16	2,243
2009	10	861	6	640	16	1,501
2010	16	1,657	19	1,780	35	3,437
Annual average, various periods						
1991-2000	33	2,464	16	4,026	48	6,490
2001-10	21	2,160	11	2,084	32	4,244
2001-05	25	2,267	10	2,329	35	4,596
2006-10	17	2,053	12	1,838	29	3,891

SOURCE: Source: Oklahoma Department of Commerce, "Announced New and Expanded Manufacturers and Services," 2010 Annual Report, January 2011, accessed Jan. 22, 2011 at http://www.okcommerce.gov/Libraries/Documents/2010-Annual-Report-Announced-N_3224.pdf.

the success rate of Oklahoma economic development staff in converting potentially interested firms into actual new openings, an eight- or ten-fold increase in the number of firms considering Oklahoma should translate into an equally large increase in the number of new facilities opened per year.

As shown in **Table 1**, however, the state’s data do not bear this prediction out. Not only was there no dramatic increase in the number of new firms moving into the state, but the rate of new arrivals actually *decreased* following the adoption of right-to-work. In the decade preceding right-to-work, Oklahoma welcomed an average of 48 new firms per year, creating a total of nearly 6,500 new jobs each year during the 1990s. In the 10 years that the state has operated under its right-to-work law, however, the average number of firms and jobs brought into the state has been one-third lower (averaging 4,244 from 2001 to 2010) than when Oklahoma was a non-RTW state. This drop does not simply reflect the recession of the past few years. While the numbers were worse in the latter part of the decade, even in the early 2000s they remained well below the average rate of the non-right-to-work years.

Two years after passage of Oklahoma’s right-to-work law, the National Institute for Labor Relations Research – a business-backed think tank advocating right-to-work laws around the country – insisted that the law had already turned around the state’s fortunes.

“The numbers don’t lie,” said institute director Stan Greer, pointing to higher job growth in 2002 as evidence of the law’s impact.⁴⁷ The alleged improvement in

Oklahoma’s economy eluded the state’s residents, however. One year after the adoption of right-to-work, more than 60% of Oklahomans told pollsters that they thought the law had no impact on the state economy.⁴⁸

With a full decade of experience under the new law, it is now clear that the everyday experience of residents reflected more truth than did the calculations of advocates. Having sought to gauge the impact of right-to-work by a wide diversity of methods, none of the measures examined – the state’s unemployment rate, the number of manufacturing jobs, relative job growth and unemployment compared to neighboring states, relative growth compared with a statistical control group, the change in employment at the state’s borders, the number of firms relocating into the state – provides any evidence whatsoever that right-to-work has increased job growth in Oklahoma (see **Table 2**).

Oklahoma jobs outsourced to lower-wage countries

As described above, whatever advantage manufacturers may have once sought by locating in a right-to-work state has been undercut by the increasing ease of locating facilities in even-cheaper jurisdictions abroad. On the eve of Oklahoma’s referendum, one scholar of location decisions warned that “right-to-work laws are a welcome mat for companies who care most about low-wage, unskilled labor and who are committed to a region only until they are able to relocate someplace where the laws protecting workers are even weaker.”⁴⁹ Not only did right-to-work

TABLE 2

Measuring the success of right-to-work in boosting Oklahoma employment

<i>Change in unemployment rate</i>	Negative
<i>Change in manufacturing employment</i>	Negative
<i>Number of new firms choosing to locate in Oklahoma</i>	Negative
<i>Change in unemployment rate, compared with neighbors</i>	No impact
<i>Employment growth, compared with neighbors</i>	No impact
<i>Economic growth compared with non-right-to-work neighbors, comparing counties on the border</i>	No impact
<i>Job growth compared with statistical control group</i>	No impact

fail to bring manufacturers into the state, it also failed to keep them there.

In the years since right-to-work was adopted, more than 160 Oklahoma employers announced mass layoffs, and more than 100 facilities have closed their doors in the face of lower-wage competition abroad.⁵⁰ It is estimated that, from 2001 to 2008, trade with China alone reduced the number of Oklahoma jobs by more than 20,000.⁵¹

When the Imation Corporation announced in late 2002 that it planned to construct a data storage manufacturing plant in Oklahoma, the move was hailed as early evidence of the impact of right-to-work.⁵² Four years later, however, the company eliminated a significant share of its local workforce in order to shift production to Mexico.⁵³ As the decade progressed, the lure of right-to-work proved no competition for the attraction of much-lower-paid workers abroad. Over the course of a few months in 2006, the state lost 4,500 manufacturing jobs. Bridgestone/Firestone, citing “fierce competition from low-cost producing countries,” laid off 1,400 employees, closed its Oklahoma City factory, and moved production to Costa Rica.⁵⁴

During the same year, General Motors laid off 2,400 workers in Oklahoma City; in addition to the direct job losses, the closure eliminated an estimated 5,000 additional jobs in local suppliers and related industries.⁵⁵ Neither a union proposal to cut labor costs by 20% nor the state’s offer of \$200 million to upgrade the plant swayed the company.⁵⁶ The Oklahoma City shutdown was part of a national trend that saw GM shutter multiple plants in the United States while simultaneously investing billions of dollars in new facilities in Mexico, where auto worker wages are less than one-tenth of even their non union counterparts’ wages north of the border.⁵⁷

“We’re getting hit in the manufacturing sector over and over again,” complained Oklahoma City Mayor Mick Cornett in mid-2006.⁵⁸

Indeed, by 2006 the Oklahoma Department of Commerce began working on economic development strategies that are more traditionally associated with unionized Rust Belt states: not bold plans to attract new employers, but financial incentives to prevent the closure of those already in town.⁵⁹ The state’s renewed efforts to retain local firms continued to prove insufficient, however.

In 2008, the Nautilus Corporation, a company with deep roots in Oklahoma, announced it was closing shop and laying off 150 Tulsa employees in favor of producing its fitness equipment in China.⁶⁰

Thus, as skeptics predicted, the core strategy of right-to-work – lowering wages and workplace regulations in order to attract out-of-state manufacturers – appears to be increasingly impotent in the face of the global economy.

Listening to employers

The failure of so-called “right-to-work” to attract more employers to Oklahoma is unsurprising when one listens to what employers themselves actually say regarding location decisions. While there are no comprehensive data on the factors determining location choice for the economy as a whole, the survey data that are available (as opposed to anecdotal accounts offered by advocates) strongly suggest that right-to-work has little if any impact on the decision making of most corporations.

Site Selection magazine reports that the best locations for the type of high-tech industries that are now a priority of most states’ recruitment efforts are uniformly found in non-RTW states. The 2010 State New Economy Index – measuring each state’s economic dynamism, technological innovation, digital transformation, knowledge jobs, and integration into global trade – ranked non-right-to-work Massachusetts, Washington, Maryland, New Jersey, and Connecticut as the most desirable and best positioned locations for the globally competitive industries of the 21st century.⁶¹

Similarly, a Brookings Institution study of large corporations’ location decisions, based in part on interviews with prominent corporate location consultants, found that RTW laws figured nowhere in the typical decision process.⁶² A host of factors related to particular business functions – the cost of real estate, availability of certain skill sets, proximity to transportation and markets – shaped corporate decisions for each of their specific functions. Even where labor cost is an important consideration in location decisions, such as for call centers and some back-office operations, right-to-work is not looked to as either a key predictor of or controller for labor costs.

Even small manufacturers – those thought most likely to base location decisions on low wages and the absence of unions – don't identify right-to-work as an important criterion in deciding where to locate plants. *Area Development* magazine conducts an annual survey, asking primarily small manufacturers to rank the factors that most influence their decisions about where to locate facilities. Not only is right-to-work not the controlling factor in their decisions, it's not even close. In 2009, it was ranked 14th in importance, below such factors as highway accessibility, available land, and construction costs. Indeed, in the years for which *Area Development* reports data, right-to-work has never made it into the top 10 most important factors shaping location decisions.⁶³

Even many of the executives who may in principle wish they could enforce right-to-work laws for their companies do not ultimately make location decisions based on this sentiment. In the 2009 survey, for instance, nearly three quarters of executives stated that right-to-work is either "important" or "very important" for location decisions; yet it appears that a majority of the new plants actually opened by these companies were located outside of right-to-work states. Thus it appears that, while right-to-work may represent a heartfelt ideological desire for some members of the business community, when it comes time to actually pick a winning business strategy, more fundamental factors shape the choice of location.

Economic development officials do not treat right-to-work as a significant selling point

The views of employers, as described above, are clearly reflected in the actions of state economic development officials, who bear direct responsibility for recruiting new companies to their states. If right-to-work were a powerful draw for out-of-state firms, it would figure prominently in the promotional material of every right-to-work state's commerce department. This is not the case, however.

In Oklahoma, 10 years after having adopted right-to-work, the state government does not promote the policy as a key attraction for out-of-state companies. Indeed, the state's marketing materials never mention right-to-work, focusing instead on "Oklahoma's central location and easy, affordable access to domestic and international

markets, low business costs and taxes, comprehensive transportation system...cutting-edge incentives, and a technologically skilled workforce...."⁶⁴ This is what one would expect: a focus on the core business needs that actually drive companies' location choices. It offers stark confirmation that even those states that have instituted a right-to-work law don't regard it as a significant draw for employers.

A similar dynamic has recently been highlighted in Iowa, a state often promoted as a model for other Midwestern states currently being encouraged to adopt right-to-work laws. In January 2011, Republican members of the state legislature introduced HF3, a bill that would require the phrase "Iowa Is a Right to Work State" to be placed on the state's promotional, tourism, and business recruitment materials. Presumably, the Iowa Department of Economic Development, whose staff bear front-line responsibility for recruiting business, have a finely tuned understanding of what factors are most likely to draw employers to their state. And clearly, they have concluded that right-to-work does not figure in that list. In recruiting materials for out-of-state firms, the department lists Iowa's "key economic advantages" as low corporate and property taxes, low rates for workers' compensation and unemployment insurance, and a generous research and development tax credit.⁶⁵

It's possible that next year's brochure will add right-to-work to the current list, if HF3 is voted into law. But it doesn't speak well of the policy's market appeal if its promotion has to be mandated by legislative fiat. Here again, right-to-work appears to have greater support as an ideological principle than as a realistic strategy for economic development.

Does right-to-work harm job growth?

The evidence presented thus far suggests that right-to-work is ineffective as a strategy for increasing a state's employment. But can right-to-work actually harm a state's prospects for job growth?

There is no clear statistical data with which to answer this question. But there are at least two reasons to worry about the potential negative impacts of the policy on state job growth.

First, to the extent that right-to-work succeeds in weakening unions and thus lowering wages and benefits, it also results in lower tax revenues for local and state government, forcing concomitant cuts in public services. Economists have long recognized that spending on public services, particularly education and infrastructure, are important components of an economic development strategy.⁶⁶ These services, however, are put at risk when states adopt a development strategy based on attracting low-wage employers; the approach produces lower revenues at a time when many states are already confronting fiscal crises.

Secondly, while the right-to-work strategy of economic development aims at attracting lower-wage manufacturers whose location is mobile, the sectors that promise the greatest growth in most state's economies are increasingly concentrated in construction and service industries that are rooted in local communities and dependent on local demand.

As noted in a recent Indiana Chamber of Commerce report, the central purpose of right-to-work laws is to lower wages by undercutting union bargaining strength. By lowering wages and benefits, right-to-work is trumpeted as a strategy for attracting new businesses to locate in one's state.⁶⁷ Recent evidence does show, in fact, that RTW laws result in lower wages – for both unionized and nonunion employees.⁶⁸ In a competitive labor market, stronger wages and benefits for union members create pressure on employers to improve compensation for nonunion workers as well. Similarly, when RTW laws lower union wages, they also result in reduced compensation for nonunion workers.

Throughout the unemployment crisis of 2009-10, as economists looked to ignite job growth, both policy makers and business leaders pointed to consumer demand as the key prerequisite for companies to start creating more jobs. Business Roundtable Chairman Terry McGraw explained in 2009 that “behind all these diverse and depressing numbers is one central driving fact: demand has collapsed....To find a path out of today's economic quagmire, [we] must jump start that demand.”⁶⁹

As we look to support growing sectors of the economy, it is clear that the future depends largely on an economy driven by consumption. Nationally, the top 10 occupa-

tions projected to add the greatest number of jobs in the coming decade are almost entirely dependent on either government revenue or consumer spending, including jobs in food service, retail sales, health care, and education.⁷⁰

If states rely on wage-cutting right-to-work laws as a strategy for attracting outside manufacturers, there is a danger that, by undermining wage standards in both manufacturing and other industries, they will inadvertently hamstring job growth by restricting aggregate demand in their local economies.⁷¹

For every \$1 million in wage cuts to workers, \$850,000 less is spent in the economy.⁷² Assuming that most of this would have been spent on rent, food, clothing, and other family needs in local retail and services industries, this is a significant loss of spending at exactly the time when state economies need it most. A loss of \$850,000 in local spending translates, on average, into a loss of six jobs in the local community. In this way, weakening union wage standards in order to attract mobile manufacturers raises a concern that job growth might be undermined in the much larger industries that have come to dominate most states' economic growth plans.

Conclusion: Learning from Oklahoma

The data presented in this report are neither secret nor confidential. Given that multiple sources make clear that the misleadingly named “right-to-work” offers little if any encouragement to states now struggling through the recession, why do advocates continue to devote such extensive energy and resources to promoting it?

In some cases, supporters may be motivated by political goals unrelated to labor law per se. One conservative pundit, for instance, recently celebrated the 25th anniversary of Idaho's right-to-work law by trumpeting the statute's impact in “diminishing of the Democratic Party's power” by eliminating union political action funds.⁷³

In other cases, anti-union zealots may promote such policies out of a commitment to the principle of restricting collective bargaining, independent of the law's economic impacts. Right-to-work proponents often emphasize the moral importance of allowing employees to earn union-

scale wages and benefits without paying for the costs of contract negotiation and enforcement.

“This is about freedom to choose for employees,” asserted one Oklahoma state representative in that state’s 2001 debate.⁷⁴

But the most steadfast and generous backers of right-to-work policies are corporate employers, not individuals who typically spend their waking hours devoted to the defense of employee rights.⁷⁵ Moreover, even those advocates who articulate a libertarian insistence that one should be able to work where one wants without any dues requirement seem to limit this principle to the case of unions. Right-to-work devotees are not engaged in parallel projects to declare a “right to live” where one wants – insisting on the freedom to live in a gated community without having to pay homeowner association dues – or a “right to practice law” – demanding that, as long as one passes the bar exam, lawyers should not be required to be dues-paying members of the bar association in order to represent clients in court. But if the principle of freedom from dues is only about the workplace, it seems likely to be driven primarily by anti-union animus rather than any broader principle or economic strategy.

It is, of course, perfectly legitimate for advocacy organizations to promote anti-union policies simply out of hostility to collective bargaining. But for state legislators, it is important to distinguish between passionate advocacy and economic reality.

Hailing the “Oklahoma Model” as a prescription for depressed job markets, the National Right to Work Committee insists that “the experience of Oklahoma... furnish[es] strong evidence that economically troubled states could greatly accelerate their job and income growth by passing Right to Work legislation.”⁷⁶

It is unclear what evidence the Right to Work Committee believes establishes this fact. The volume of evidence examined in this report, both from previous scholarly research and from direct analysis of the data from Oklahoma, all points to the opposite conclusion: No matter what measure one uses, there is simply no evidence that right-to-work has increased job opportunities for Oklahomans. With declining manufacturing, a slowdown in firms coming into the state, and an acceleration of those abandoning the state for Mexico

or China, Oklahoma provides no evidence-based model for economic regeneration.

The right-to-work strategy seems particularly ill-suited to the type of higher-skill, higher-wage industries that Oklahoma and others are now aiming to recruit. As it has become more difficult to keep low-wage manufacturers in the United States, policymakers have focused greater attention on developing “high road” industries that are less susceptible to offshoring. Such industries, however, are the least likely to be influenced by laws aimed at undermining union bargaining power.

Both the *State New Economy Index* and the Kentucky study finding education to be the single most important factor in Southern economic development point to the fact that if right-to-work has an impact at all, it will be in attracting lower-wage employers, whose business model relies on narrow profit margins and less-skilled labor. The better employers – offering jobs with higher pay and benefits – look for educated employees with advanced skills. They are operating on a different business model, which assumes they will pay employees relatively well in return for a workforce that produces much higher value.

As economist Robert Lynch noted, “Firms are more willing to pay \$20 per hour to an employee who generates \$30 worth of output than \$6 per hour to an employee who generates \$7 worth of output.”⁷⁷

Of course, every employer would like to hire staff at the lowest possible wage, but the business model of higher-end employers does not depend on low wages as essential to their profit strategy.

That right-to-work is particularly irrelevant to such higher-wage employers is evident in the fact that Oklahoma recently found it necessary to double its cash-back incentive – now offering a refund equal to 10% of payroll costs – in order to attract higher-wage employers to the state.⁷⁸

As states look to attract and retain employers, and particularly to expand the opportunities for state residents to land middle-class jobs, the hard statistical evidence suggests that so-called “right-to-work” laws have no role to play in this revival. Where states with such laws have done well, all signs – including the data, in-depth analyses of state economies, and the statements of economic development officials themselves – point to other causes for this

success. It is understandable that, in times of trouble, state legislators would look to any possible avenue in hope of finding a way out of the current crisis. But having reviewed the track record of the state with the most recent and best-documented experience, it seems clear that legislators would do better to focus their energy in other, more productive, policy directions.

—**Gordon Lafer** is an Associate Professor at the Labor Education and Research Center at the University of Oregon. His work concentrates on strategic planning, strategic research, and labor and employment policy issues.

—**Sylvia Allegretto** is an economist at the Institute for Research on Labor and Employment at the University of California, Berkeley. She co-authored two editions of *The State of Working America* while working as an economist at the Economic Policy Institute.

—The authors would like to thank **Mary Gable, Jennifer Smith, Jaxon Love, and Arin Dube** for research assistance and helpful comments on this research. We are particularly grateful to Ozkan Eren and I. Serkan Ozbeklik for permission to cite their forthcoming work prior to its formal publication.

Revised: March 16, 2011

page 2, second column

Data have been revised to reflect updates by the Bureau of Labor Statistics on Feb. 25, 2011.

These data can be found at:

[http://www.bls.gov/lau/rdscnp16.htm#data.](http://www.bls.gov/lau/rdscnp16.htm#data)

Endnotes

1. National Right to Work Committee, *Indiana Right to Work Law*, accessed 1/28/11 at <http://capwiz.com/nrtwc/issues/alert/?alertid=21261536&ctype=ST>.
2. Data are from "States and Selected Areas: Employment Status of the Civilian Noninstitutional Population, 1976 to 2009 Annual Averages," U.S. Bureau of Labor Statistics, www.bls.gov.
3. Data are from "States and Selected Areas: Employment Status of the Civilian Noninstitutional Population, 1976 to 2009 Annual Averages," U.S. Bureau of Labor Statistics, www.bls.gov.
4. In November 2010, the highest state unemployment rate was Nevada's, at 14.3%, while the lowest was North Dakota's, at 3.8%. Reported in "Oklahoma Economic Indicators, December 2010," Oklahoma Employment Security Commission, <http://osec.ok.gov>, accessed 1/21/11.
5. National Institute for Labor Relations Research, "Right to Work Laws Keep Good Jobs in U.S.," May 20, 2005; NILRR, "Since 2001, Right to Work States Lead in Job Growth, Five-to-One," April 10, 2007; NILRR, "Right to Work Law Is Helping Oklahoma Turn Into an Economic Leader," May 30, 2007; NILRR, "Right to Work States Benefit From Faster Growth, Higher Real Purchasing Power – 2006 Update," October 2006.
6. See, for example, William T. Wilson, *The Effect of Right-to-Work Laws on Economic Development*, Mackinac Center, 2002, accessed 1/23/11 at www.mackinac.org/archives/2002/s2002-02.pdf.
7. U.S. Bureau of Labor Statistics, "States and Selected Areas: Employment Status of the Civilian Noninstitutional Population, 1976 to 2009 Annual Averages."
8. This point is made by Raymond Holger, among others, in Holger, "The Historical Misconception of Right-to-Work Laws in the United States," *Hofstra Labor and Employment Law Journal* 23(101), Fall 2005.
9. Christopher Jepsen, Kenneth Roth, and Kenneth Troske, *Economic Growth in Kentucky: Why Does Kentucky Lag Behind the Rest of the South?* Center for Business and Economic Research, University of Kentucky, 2008. Accessed 1/21/11 at <http://www.docstoc.com/docs/53467586/Economic-Growth-in-Kentucky-Why-Does-Kentucky-Lag-Behind>.
10. A review of earlier studies is provided by Boston Federal Reserve Bank analyst Robert Tannenwald, "State Regulatory Policy and Economic Development," *New England Economic Review*, March/April 1997, pp. 83-107. Tannenwald examined eight studies that each reported positive correlations between right-to-work laws and economic growth, but reported that methodological problems in these studies made it difficult to draw any firm conclusions from their analyses. At times, Tannenwald's work has been mischaracterized as an endorsement of anti-union policy. Right-to-work proponent W. Robert Reed, for instance, cited Tannenwald in an influential policy report issued by the Oklahoma Council for Public Affairs in early 2001. (W. Robert Reed, *Does Right to Work Boost Economic Development?* Oklahoma Council for Public Affairs, February 21, 2001). Where Reed cites the existence of these eight studies as Tannenwald's "conclusion," however, Tannenwald's actual article questions both the methodology and findings of these studies.
11. Thomas J. Holmes, "The Location of Industry: Do States' Policies Matter?" *23 Regulation* 47, 50, 2000.
12. Emin M. Dinlersoz and Ruben Hernandez-Murillo, "Did 'Right to Work' Work for Idaho?" Federal Reserve Bank of St. Louis, *Review*, May/June 2002. Idaho's law was adopted in November 1986 and went into effect in 1987.
13. Office of the Governor, Division of Financial Management, *Idaho Economic Forecast* 26(3), July 2004, accessed 1/27/11 at <http://dfm.idaho.gov/Publications/EAB/Forecast/2004/July/COVER0704.pdf>. Dinlersoz and Hernandez-Murillo (2002) report that the state's unionization rate fell from 22% to 9% in 1981-84, before the right-to-work law was adopted, but coinciding with President Reagan's encouragement of anti-unionism and with a steep decline in the traditionally unionized Idaho timber industry.
14. For instance, Hewlett-Packard is one of the companies cited by the state of Idaho as having increased employment in the state after right-to-work was passed. But HP also kept hiring employees in California, Colorado, and other non-right-to-work jurisdictions.
15. Charlene M. Kalenkoski and Donald J. Lacombe, "Right-to-Work Laws and Manufacturing Employment: The Importance of Spatial Dependence," *Southern Economic Journal* 73(2): 402-18, October 2006.
16. Kalenkoski and Lacombe 2006, p. 402. Holmes reported that, when crossing from a non-RTW to a RTW county, the average manufacturing share increased by 6.6%. Kalenkoski and Lacombe, p. 418, report an increase of only 2.12%.
17. For instance, Kalenkoski and Lacombe find that right-to-work laws have a negative impact on the employment shares of the agriculture, forestry, mining, fishing and hunting, and some service industries, but a positive impact on the employment share for professional, scientific, and management services. Since agricultural employees and most professional and managerial employees have no right to organize under federal labor law, it's not possible that right-to-work statutes could directly impact their fortunes. This suggests that industrial shares of employment are being impacted by something other than the statute measured here.
18. Dale Belman, Richard Block, and Karen Roberts, "Economic Impact of State Differences in Labor Standards in the United States, 1998-2000," www.employmentpolicy.org/topic/15/blodgeconomic-impact-state-differences-labor-standards-united-states-1998-2000, accessed 1/23/11.
19. Lonnie K. Stevans, "The Effect of Endogenous Right-to-Work Laws on Business and Economic Conditions in the United States: A Multivariate Approach," *Review of Law and Economics* 5(1), 595-612, 2009.
20. Stevans 2009, p. 610.
21. Robert J. Newman, *Growth in the American South*, New York: New York University Press, 1984. Robert Ady, a prominent location consultant, similarly suggested that the impact of right-to-work as an attraction in business location decisions had dramatically declined over time, dropping to as low as 10% of firms by the 1980s (cited in James Warren, "High Noon for Antiunion Law: Idaho Referendum on Right-to-Work Pits Labor, Right," *Chicago Tribune*, September 25, 1986).
22. See for example Jefferson Cowie's account of RCA's move from the North to the South and ultimately to Mexico, in his *Capital Moves*, Cornell University Press, 1999.

23. Oklahoma is a large producer and refiner of crude oil, as well as supplier of almost one-tenth of the country's natural gas; the share of Oklahomans employed in these industries is significantly above the national average. *Oklahoma Economic Indicators, December 2010*, Oklahoma Employment Security Commission, p. 16, <http://osec.ok.gov>, accessed 1/21/11.
24. McKay Coppins, "A Smarter Way to Attract Jobs in Oklahoma," *Newsweek*, September 11, 2010. Accessed 1/19/11 at www.newsweek.com/2010/09/11/oklahoma-s-smart-job-creation-strategy.print.html.
25. Data reported in Lawrence Mishel, "Right-to-Work' Laws and Economic Development in Oklahoma," Briefing Paper, Economic Policy Institute, August 2001.
26. "Survey: Economists Support 7 of 10 of Keating's Initiatives," *Journal Record* (Oklahoma City), May 11, 2000, accessed 1/27/11 at http://findarticles.com/p/articles/mi_qn4182/is_20000511/ai_n10137692.
27. Ron Jenkins, "Right to Work Moves to Front Burner," *Journal Record*, January 17, 1995, accessed 1/19/11 at http://findarticles.com/p/articles/mi_qn4182/is_19950117/ai_n10072056.
28. Marie Price, "House Passes Right to Work; Special Election Call Fails," *Journal Record*, April 19, 2001. Accessed 1/21/11 at http://findarticles.com/p/articles/mi_qn4182/is_20010419/ai_n10145597.
29. Marie Price, "GOP Platform Missing Right-to-Work Plank," *Journal Record*, January 4, 2001. Accessed 1/21/11 at www.highbeam.com.
30. David Averill, "For Right to Work: A Matter of Fairness and Economic Progress," *Tulsa World*, September 23, 2001. Accessed 1/22/11 at www.tulsaworld.com/opinion/article.aspx?subjectid=61&articleid=010922_Op_averi23&archive=yes.
31. W. Robert Reed, "Does Right to Work Boost Economic Development?" Oklahoma Council of Public Affairs, February 2001, accessed 1/20/11 at www.ocpathink.org/publications/policy-papers/?module=news&id=1566.
32. Quoted in Bill May, "Proponents Foretell Benefits of Right to Work," *Journal Record*, September 19, 2001, accessed 1/21/11 at www.highbeam.com.
33. Quoted in Marie Price, "House Passes Right to Work; Special Election Call Fails," *Journal Record*, April 19, 2001, accessed 1/21/11 at http://findarticles.com/p/articles/mi_qn4182/is_20010419/ai_n10145597. The 80-90% claim seems to have come originally from Morris, an anti-union location consultant who testified before the Oklahoma State Senate Committee on Business and Labor, February 21, 2000. Morris' claim was repeated in a pro-RTW policy brief published by the Oklahoma Council of Public Affairs in the lead-up to the legislative debate (Reed 2001, op cit.) A similar statement by Morris – this time insisting that "90% of companies use forced collective bargaining as a first 'kickout' criteria and choose to locate only in right-to-work states when their overall operating requirements give them any latitude" – was promoted by the group Californians for Freedom to Work in that state's 1998 legislative debate over right-to-work.
34. Quoted in Larry Levy, "Oklahoma Needs Right to Work, Governor Says," *Daily Oklahoman*, June 21, 2001, accessed 1/21/11 at www.highbeam.com. Similarly, the *Tulsa World's* editor explained that "the sad fact is that all too often companies looking to move or expand automatically rule out Oklahoma as a prospective location because we do not have right to work" (David Averill, "For Right to Work: A Matter of Fairness and Economic Progress," *Tulsa World*, September 23, 2001, accessed 1/22/11 at www.tulsaworld.com/opinion/article.aspx?subjectid=61&articleid=010922_Op_averi23&archive=yes).
35. Reed 2001.
36. Oklahoma manufacturing employment, seasonally adjusted, U.S. Bureau of Labor Statistics.
37. Authors' calculations based on quarterly unemployment data from U.S. Bureau of Labor Statistics and Moody's Analytics.
38. Author's calculations based on quarterly unemployment data from U.S. Bureau of Labor Statistics and Moody's Analytics.
39. Data are from the Quarterly Census of Employment and Wages (QCEW). These quarterly payroll data, broken down by industry, are based on the ES-202 filings required by establishments to determine payroll taxes related to unemployment insurance (UI). Therefore, the QCEW closely represents a near-census accounting, as approximately 98% of workers are covered by UI.
40. Our research design is similar to that used to study minimum wage effects in Arindrajit Dube, William Lester, and Michael Reich, "Minimum Wage Effects Across State Borders: Estimates Using Contiguous Counties," *Review of Economics and Statistics* 92(4): 945-64, November 2010. Dube et al. used the QCEW to analyze contiguous border county-pairs that had differing minimum wages.
41. We constructed two samples from the QCEW for this analysis. The first sample comprises all counties in Oklahoma and the adjacent states. This regional "all county" sample was chosen to mitigate unobserved influences that affect employment growth that are not easily measured. In a second parallel analysis, we employed a sample of contiguous border county-pairs. In this instance border counties in Oklahoma are paired with adjacent counties in neighboring states. This method allows for a more localized comparison as it assumes that a county is more similar to its cross-state counterpart than to a randomly chosen county and comes closer to isolating the impact of right-to-work itself. For both the all-county and border-county-pair analysis the outcome variables of interest are total private sector employment and manufacturing employment. Two approaches are used to measure the effect of Oklahoma's policy change. First, a dichotomous or dummy variable is constructed that indicates when Oklahoma implemented the policy change and continues thereafter. Second, we model Oklahoma specific year effects leading up to and following the 2001 policy change. Here, an indicator variable on Oklahoma is interacted with leads three years prior to the policy change and lags three years after the policy change along with the year the change was implemented.
42. The results for manufacturing for the contiguous county border pairs were imprecise due to sparse data. Regression results provided upon request.
43. These specifications were clustered at the county level.
44. Ozkan Eren and I. Serkan Ozbeklik, "Right-to-Work Laws and State-Level Economic Outcomes: Evidence Using Synthetic Control Method," forthcoming 2011. The authors thank Eren and Ozbeklik for permission to cite their work prior to its formal publication.
45. As quoted in Bill May 2001, above.
46. Oklahoma Department of Commerce, "Announced New and Expanded Manufacturers and Services, 2010 Annual Report, January 2011, accessed 1/22/11 at www.okcommerce.gov/Libraries/Documents/2010-Annual-Report-Announced-N_3224.pdf.

47. Quoted in Paul Monies, "Impact of Oklahoma's Right-to-Work Law Draws Mixed Assessments," *Daily Oklahoman*, October 21, 2003, accessed 1/21/11 at www.highbeam.com.
48. "Poll Reveals Doubts Behind Right to Work," *Journal Record*, September 4, 2002, accessed 1/21/11 at www.highbeam.com.
49. Ann Markusen, author of *High Tech America*, in Mishel 2001.
50. Mass layoffs are reported in notices issued pursuant to the WARN (Worker Adjustment and Retraining Notification) Act, which covers workplaces that have 100 or more employees. Facilities closed due to offshoring or foreign trade are reported by the U.S. Department of Labor under the Trade Adjustment Assistance Act.
51. Robert E. Scott, "Unfair China Trade Costs Local Jobs," EPI Briefing Paper No. 260, March 2010.
52. Adam Wilmoth, "Oklahoma Production Investment Jumps 400 Percent," *Daily Oklahoman*, October 29, 2002, accessed 1/21/11 at www.highbeam.com.
53. U.S. Department of Labor, Employment and Training Administration, "Imation Corporation, Certification Regarding Eligibility to Apply for Worker Adjustment Assistance and Alternative Trade Adjustment Assistance," accessed 1/19/11 at www.doleta.gov/tradeact/taa/taadecisions/62104.txt.
54. Steve Brooks, vice president of manufacturing operations for Bridgestone/Firestone, quoted in "Bridgestone Firestone to Close Oklahoma City Tire Plant," Company Press Release, July 13, 2006, accessed 1/19/11 at www.bridgestone-firestone.com/news; U.S. Department of Labor, Employment and Training Administration, "Bridgestone/Firestone Certification Regarding Eligibility to Apply for Worker Adjustment Assistance and Alternative Trade Adjustment Assistance," accessed 1/20/11 at www.doleta.gov/tradeact/taa/taadecisions/59982.txt. See also Bruce Meyer, "Opposing Perspectives; BFS, USW View Closing Differently," *Rubber and Plastics News*, January 8, 2007, accessed 1/21/11 at www.highbeam.com.
55. "A Final Farewell for GM Oklahoma Plant," *Los Angeles Times*, February 21, 2006, accessed 1/19/11 at <http://articles.latimes.com/2006/feb/21/business/fi-gm21>.
56. Janice Francis-Smith, "Oklahoma State Officials Continue Effort to Keep GM Plant Open," *Journal Record*, January 19, 2006, accessed 1/21/11 at www.highbeam.com.
57. Mexican auto workers were paid wages and benefits totaling \$26/day in 2010, compared with \$400-440/day for American auto-workers (Thomas Black, "GM, Ford Accelerate Shift to Mexico Workers Making \$26 a Day," *Bloomberg*, June 9, 2010, accessed 1/19/11 at www.bloomberg.com/news/print/2010-06-09/gm-ford-to-accelerate-growth-at-mexico-plants-where-workers-get-26-a-day.html).
58. Quoted in Brian Brus and Janice Francis-Smith, "Oklahoma Mayor Mick Cornett Questions National Unions' Role in Firestone Tire Plant Closure," *Journal Record*, July 14, 2006, accessed 1/21/11 at www.highbeam.com.
59. Janice Francis-Smith, "Oklahoma State Officials Continue Effort to Keep GM Plant Open," *Journal Record*, January 19, 2006, accessed 1/21/11 at www.highbeam.com.
60. "Nautilus to Close Tulsa Plant," *Sporting Good News*, July 24, 2008, accessed 1/19/11 at www.topix.com/forum/business/sporting-goods/TMQN; Department of Labor, Employment and Training Administration, "Nautilus, Inc., Certification Regarding Eligibility to Apply for Worker Adjustment Assistance and Alternative Trade Adjustment Assistance," accessed 1/19/11 at www.doleta.gov/tradeact/taa/taadecisions/64244.txt. Stairmaster, one of Nautilus' primary product lines, was founded in Tulsa in the early 1980s (Laurie Winslow, "Nautilus to Close Tulsa Sites," *Tulsa World*, July 25, 2008, accessed 2/1/11 at <http://www.allbusiness.com/labor-employment/human-resources-personnel-management/12163314-1.html>).
61. Adam Bruns, "State of the States," *Site Selection* magazine, January 2011, accessed 1/19/11 at <http://www.siteselection.com/portal>; Robert D. Atkinson and Scott Andes, *The 2010 State New Economy Index*, Information Technology and Innovation Foundation, November 2010, accessed 1/27/11 at http://www.kauffman.org/uploadedfiles/snei_2010_report.pdf.
62. Natalie Cohen, "Business Location Decision-Making and the Cities: Bringing Companies Back In," Brookings Institution Working Paper, April 2000, accessed 1/21/11 at http://www.brookings.edu/-/media/Files/rc/reports/2000/05metropolitanpolicy_cohen/cohen.pdf.
63. Geraldine Gambale, editor, *The 24th Annual Corporate Survey*, 2009; and *The 23rd Annual Corporate Survey*, 2008; accessed 1/21/11 at www.areadevelopment-digital.com/CorporateConsultsSurvey/24thAnnualCorporateSurvey#pg1 and <http://www.areadevelopment-digital.com/CorporateConsultsSurvey/23rdAnnualCorporateSurvey#pg1>. While both labor quality and cost are included in the top 10, these are treated as separate issues from right-to-work per se.
64. *Invest Oklahoma*, accessed 1/20/11 at www.okcommerce.gov/fdi-and-trade.
65. "Business Advantages: Business Factors for a Brighter Forecast," Iowa Department of Economic Development, accessed 1/19/11 at www.iowalifechanging.com.
66. See for example Ronald Fisher, "The Effect of State and Local Public Services on Economic Development," *New England Economic Review*, Federal Reserve Bank of Boston, March/April 1997; Timothy J. Bartik, "Growing State Economies: How Taxes and Public Services Affect Private Sector Performance," Economic Policy Institute, 1996; Robert G. Lynch, "The Effectiveness of State and Local Tax Cuts and Incentives: A Review of the Literature," *State Tax Notes*, September 1996.
67. Richard Vedder et al., *Right-to-Work and Indiana's Economic Future*, Indiana Chamber of Commerce Foundation, January 2011, pp. 6-7.
68. Elise Gould and Heidi Shierholz, *The compensation penalty of 'right-to-work' laws*, Economic Policy Institute, February 2011.
69. "Harold McGraw III's Remarks at the National Press Club Newsmaker Event," Business Roundtable, February 11, 2009, accessed 1/27/11 at <http://businessroundtable.org/news-center/harold-mcgraw-iiis-remarks-at-the-national-press-club-newsmaker-event>.
70. U.S. Bureau of Labor Statistics, "Employment Projections – 2008-18," USDL-09-1503, released December 11, 2009. The 10 occupations with greatest job growth projected, in order, are: registered nurses; home health aides; customer service representatives; food preparation and service workers, including fast food; home care aides; retail sales; office clerks; accountants; nursing aides and orderlies; and postsecondary teachers.

-
71. Belman et al. find that higher wage rates have a significant positive impact on a state's overall economic activity, which the authors suggest reflects increased aggregate demand (Dale Belman, Richard Block, and Karen Roberts, "Economic Impact of State Differences in Labor Standards in the United States, 1998-2000," www.employmentpolicy.org/topic/15/blogeconomic-impact-state-differences-labor-standards-united-states-1998-2000, accessed 1/23/11.
 72. Calculation by EPI staff economists based on standard multiplier ratios.
 73. Dennis Mansfield, "Did Idaho's Right to Work Law Accomplish Its Goals?" August 4, 2010, accessed 1/29/11 at <http://www.dennismansfield.com/business/2010/08/did-idahos-right-to-work-law-accomplish-its-goals.html>.
 74. Marie Price, "House Passes Right to Work; Special election Call Fails," *Journal Record*, April 19, 2001, accessed 1/21/11 at http://findarticles.com/p/articles/mi_qn4182/is_20010419/ai_n10145597.
 75. Stevans, p. 598, notes that right-to-work legislation has historically been the product of extensive and expensive lobbying by employer associations and anti-union advocacy groups.
 76. NRTWC Vice President Matthew Leen, quoted in "Right to Work: Rx for Job-Losing States; Legislators Look at 'Oklahoma Model' for Stronger Economic Growth," *National Right to Work Newsletter* 56(1): 7, November/December 2010, accessed 1/19/11 at www.nrtwc.org.
 77. Robert Lynch, quoted in Larry Mishel, ed., *'Right to Work' Laws and Economic Development in Oklahoma*, Economic Policy Institute, August 2001.
 78. McKay Coppins, "A Smarter Way to Attract Jobs in Oklahoma," *Newsweek*, September 11, 2010. Accessed 1/19/11 at www.newsweek.com/2010/09/11/oklahoma-s-smart-job-creation-strategy.print.html