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POLICY BRIEF

Impact of Right-to-Work on the State of Washington

by Eric Fruits, Ph.D.
Introduction by Erin Shannon, Director, Center for Small Business

June 2015

Key Findings

1. *This new, comprehensive analysis uses one of the largest dataset ever employed to study the impacts of right-to-work laws.*
2. *The findings reject the widely-held notion that extending right-to-work protections to workers is immaterial, a confusion of cause and effect or unproven because of the influence of other factors.*
3. *In contrast to the claim that a right-to-work law means right to work for less, the analysis shows that the average employee would see a boost in wage and salary income from passage of right-to-work legislation.*
4. *The analysis shows that under right-to-work, Washington state after five years would have almost 120,000 more people working, with more than 13,100 in increased manufacturing employment.*
5. *Under right-to-work the state's wage and salary incomes would be $11.1 billion higher and average annual wage and salary would be more than $560 higher than otherwise.*
6. *Under right-to-work the state after 10 years would have almost 235,000 more people working. Wage and salary income would be $27.1 billion higher and the average annual wage and salary income per employee would be $1,280 higher.*
7. *Under right-to-work more people would be working, and those working would earn more than without a right-to-work law.*
8. *The increased employment and increased incomes would provide a boost to the state's economy, reduce burdens on state and local safety net programs and increase state and local tax revenues.*
9. *This study shows a right-to-work law can be viewed as part of a pro-business, pro-jobs package to encourage firms to locate and expand in the state. In turn, the improved opportunities would likely increase migration into the state and slow migration out of the state.*

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Washington Policy Center's Introduction to "Impact of Right-to-Work on the State of Washington"

by Erin Shannon, Director, Center for Small Business

The issue of right-to-work, the legal right of a person to hold a job without having to pay dues to a union, is gaining prominence across the country as state leaders strive to improve job creation, promote economic development and attract new businesses. Three states, Indiana, Michigan and Wisconsin, recently passed right-to-work (RTW) laws, also called workplace freedom or workplace choice, with more states introducing legislation and debating the issue every year. Washington, along with 24 other states, does not currently have a right-to-work law.

A right-to-work law does not prohibit employees from joining a labor union, nor does it prohibit them from paying voluntary union dues. Labor unions still operate in right-to-work states, but the law protects each person's freedom of association by prohibiting the payment of union dues as a condition of employment. The fairness principle right-to-work laws seek to protect is that no one should be forced to choose between paying money to a cause he or she might oppose and making a living.

Right-to-work laws do not ban unions or prevent them from serving the interests of their members. Right-to-work laws do not force unions to represent non-paying "free riders" who take advantage of a union's representation but do not pay their share. Rather, right-to-work laws require unions to give workers a choice about financially supporting those efforts.

Studies show that states with right-to-work laws attract more new business than states without such laws. Right-to-work states typically have a better business climate than non-right-to-work states, and employers value the labor-management predictability inherent in stable right-to-work states.[1]

Right-to-work status is considered a major factor in a business owner's decision about where to locate. Recently, Washington was passed over for construction of a major manufacturing plant for electric car components because the state does not have a right-to-work law. Instead, the "giga-factory," and its 6,500 jobs and billions of dollars in direct investment went to the right-to-work state of Nevada.

The Congressional Research Service found that in the past decade, "aggregate employment in RTW states has increased modestly while

1 "Right-to-Work: What it is and how it works," Erin Shannon, Director, Center for Small Business, Washington Policy Center, December 2014, at http://www.washingtonpolicy.org/publications/brief/right-work-what-it-and-how-it-works-0.

employment in union security states has declined." Other studies echo these findings. Both employment growth and manufacturing employment growth have consistently been higher in right-to-work states compared to non-right-to-work states over the past two decades. Another study found that,

> *"...incomes rise following the passage of right-to-work laws, even after adjusting for substantial population growth that those laws also induce. Right-to-work states tend to be vibrant and growing; non-right-to-work states tend to be stagnant and aging…the overall effect of a right-to-work law is to increase economic growth rates by 11.5%."* [2]

Yet another study found right-to-work states outperformed non-right-to-work states in employment growth, population growth, in-migration and personal income growth.[3] Adjusted for cost-of-living, workers in right-to-work states enjoy higher real, spendable income than workers in non-right-to-work states.[4]

Washington Policy Center has asked economist and Portland State University Professor Eric Fruits, Ph.D. to measure the economic and employment impacts if Washington were to become a right-to-work state. The findings are dramatic. Like other right-to-work states, Washington would benefit from better economic growth, higher wages and more employment under a right-to-law. What is more, all of these benefits would come with no cost to the state. In fact, the state would enjoy greater tax revenue from the increased economic growth.

The fairness inherent in right-to-work laws is clear—workers should have the freedom to decide whether they want to support a union financially. If workers find sufficient value in the representation and services provided by a union, they will voluntarily pay union dues to ensure the continuation of those services. If they do not believe they are receiving sufficient value, or if they oppose the political activities of the union, they should not be forced to support the union.

Similarly, the economic arguments supporting a right-to-work law in Washington are simple—as more states increase their competitiveness by adopting right-to-work laws, Washington's non-right-to-work status is

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2 "The High Cost of Big Labor: An Interstate Analysis of Right to Work Laws," Richard K. Vedder, Ohio University Department of Economics, and Jonathan Robe, Competitive Enterprise Institute, July 2014 at, http://cei.org/sites/default/files/Richard%20Vedder%20and%20Jonathan%20Robe%20-%20An%20Interstate%20Analysis%20of%20Right%20to%20Work%20Laws.pdf.

3 "Economic Growth and Right-to-Work Laws," Michael Hicks, Ph.D., Ball State University, and Michael LaFaive, Mackinac Center for Public Policy, 2013, at www.mackinac.org/archives/2013/s2013-05.pdf.

4 "Real Earnings Higher in Right to Work States," Stan Greer, Senior Research Associate, National Institute for Labor Relations, January 1, 2001, at www.nilrr.org/2001/01/01/real-earnings-higher-right-work-states/.

increasingly hampering our state's competitiveness. When comparing state business climates, Washington enjoys high marks for the state's absence of an income tax. Adding a right-to-work law would do even more to enhance Washington state's economic competitiveness, and it would promote fairness and social justice for workers.

Impact of Right-to-Work on the State of Washington

by Eric Fruits, Ph.D.

Executive Summary

This new, comprehensive analysis presented uses what appears to be the largest dataset ever employed to study the impacts of right-to-work laws. The innovation in analysis of this policy is important, because income and employment growth trends are influenced by many factors. Taken as a whole, the findings in this paper reject the widely held notion that extending right-to-work protections to workers is immaterial, a confusion of cause and effect, or unproven because of the amount of noise and influence of other factors.

This study finds that, if the State of Washington were to enact right-to-work legislation going into effect in 2016, the empirical results indicate that the state would see a permanent boost in employment and income growth. Indeed, not only would there be more people working, those working would earn more than without right-to-work.

Major Findings:

- **Increased employment.** After five years, the state would have almost 120,000 more people working as a right-to-work state, with more than 13,100 in increased manufacturing employment, than it would have without a right-to-work law.

- **Increased incomes.** After five years, the state's wage and salary incomes would be $11.1 billion higher and average annual wage and salary would be more than $560 higher, than otherwise.

There are undoubtedly segments of the labor force that benefit from imposing legal restrictions on the right to work, and have used the disproportionate political influence conferred by those restrictions to preserve the policy. Officials in Washington and other non-right-to-work states should review restrictions they place on labor and the workplace environment, especially as it struggles to restore its economy, employment opportunities, and public sector revenues.

Introduction and Background

This study examines the impacts of right-to-work laws using evidence from the 50 states and the District of Columbia over long periods of time. We find that adoption of right-to-work in Washington would boost employment and incomes.

Labor unions portray collective bargaining as a basic civil liberty, like the freedoms of speech and assembly. In fact, however, mandatory collective bargaining is a form of anticompetitive collusion. For example, collective bargaining through a teachers' union means that teachers in a school district can collude with each other regarding wages, benefits, and working conditions. An analogy for business would be for all gas station owners to get together to agree on gas prices, hours of operation, whether to offer self-service and full-service fueling, and so on. From this perspective, collective bargaining resembles an anticompetitive collusion more than an individual civil liberty.

In fact, labor unions were at one time subject to U.S. antitrust laws and one of the first antitrust cases was against a railway union. After that, organized labor managed to obtain an exemption from antitrust laws and to gain the ability to collude on numerous labor related issues. Specifically, in 1935, at the depths of the Great Depression job losses, Congress passed the National Labor Relations Act (also known as the Wagner Act). This act permitted closed union shops. It also sharply limited the ability of employers in the private sector to influence workers regarding their formation of labor unions, engagement in collective bargaining, and taking part in strikes and other forms of coordinated activity to achieve labor's demands.

The widespread impact of coal miner strikes up to the post World War II period led some to conclude that the Wagner Act had conferred too much power on organized labor. The Taft-Hartley Act, enacted in 1947 over President Truman's veto, modified the impact of the Wagner Act by affirming the right of states to prohibit certain union shop restrictions enabled by the Wagner Act. Specifically, states (but not counties or localities) can pass laws that prohibit collective bargaining and agreements between labor unions and employers that make membership, payment of union dues, or fees a condition of employment, either before or after hiring. These statutes are referred to as "right-to-work" laws.

Proponents of right-to-work legislation argue that individuals should have the choice of whether or not to join a union and that the choice of whether to join a union should not be a condition of employment. Indeed, the individual right to work without being forced to join a union or pay dues is more closely aligned to civil liberties principles than is collective bargaining.

On the other hand, opponents of right-to-work legislation argue that union collective bargaining benefits all employees. Without compulsory union membership, employees have incentives to "free ride" on the benefits of collective bargaining without contributing to the costs associated with such bargaining. This free rider argument is fallacious because Federal law does not obligate unions to represent non-members. The National Labor Relations Act allows unions to sign "members' only" contracts that apply only

to dues-paying members and the Supreme Court upheld the ability of unions to negotiate only on behalf of members.[5]

Although much of the debate over right-to-work legislation focuses on the rights of individuals versus the rights of a union, another debate involves whether right-to-work laws help stimulate economic growth, slow economic growth, or have no impact. A review of the literature indicates that right-to-work laws are associated with greater in-state employment growth. At the same time, the literature provides mixed results regarding the relationship between right-to-work laws and income growth.

An association between right-to-work status and employment growth is obvious from even casual analysis. For example, Figure 1 shows that since 1990, right-to-work states experienced employment growth that was more than double the rate of growth in states without right-to-work freedoms. Indeed, PolitiFact has rated as true the claim "right-to-work states are creating a lot more jobs today than the heavily unionized states."[6]

Although the U.S. has seen a decline in manufacturing employment, Figure 2 shows that manufacturing job losses in right-to-work states was 24 percent since 1990—while states without right-to-work experienced a 35 percent decline in manufacturing employment.

Right-to-Work

Alabama (1953)	Nebraska (1946)
Arizona (1946)	Nevada (1951)
Arkansas (1944)	North Carolina (1947)
Florida (1954)	North Dakota (1947)
Georgia (1947)	Oklahoma (2001)
Idaho (1985)	South Carolina (1954)
Indiana (2012)	South Dakota (1946)
Iowa (1947)	Tennessee (1947)
Kansas (1958)	Texas (1947)
Louisiana (1976)	Utah (1955)
Michigan (2012)	Virginia (1947)
Mississippi (1954)	Wisconsin (2015)
	Wyoming (1963)

Non-Right-to-Work

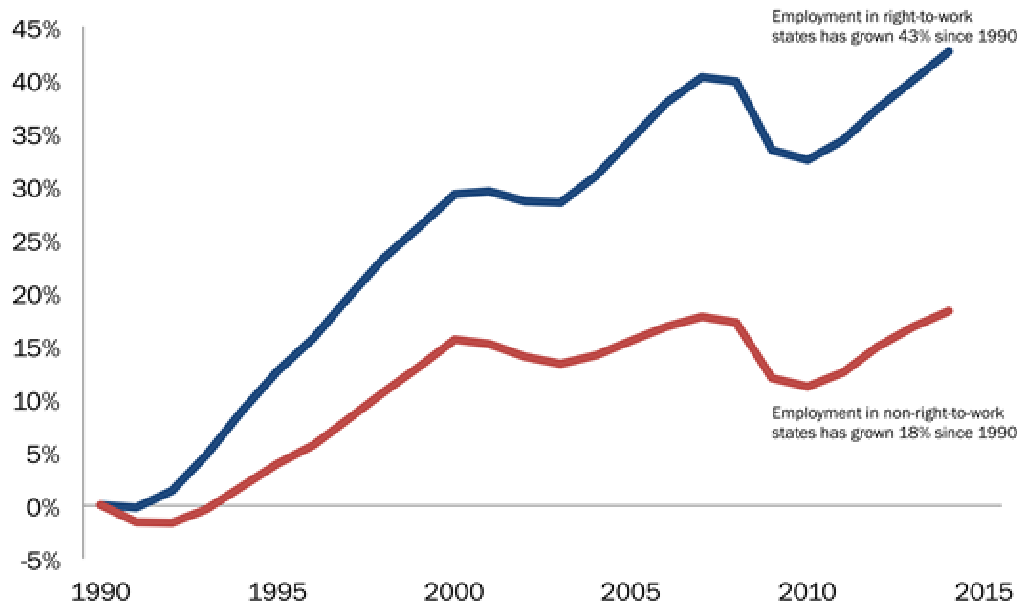
Alaska	Missouri
California	Montana
Colorado	New Hampshire
Connecticut	New Jersey
Delaware	New Mexico
District of Columbia	New York
Hawaii	Ohio
Illinois	Oregon
Kentucky	Pennsylvania
Maine	Rhode Island
Maryland	Vermont
Massachusetts	Washington
Minnesota	West Virginia
	Wisconsin

5 *Consolidated Edison Co. v. National Labor Relations Bd.*, 305 U.S. 197 (1938).

6 Stirgus, E. (2011). Gingrich on target about union states, jobs. *Atlanta Journal-Constitution.* June 21, p. 1B.

Figure 1

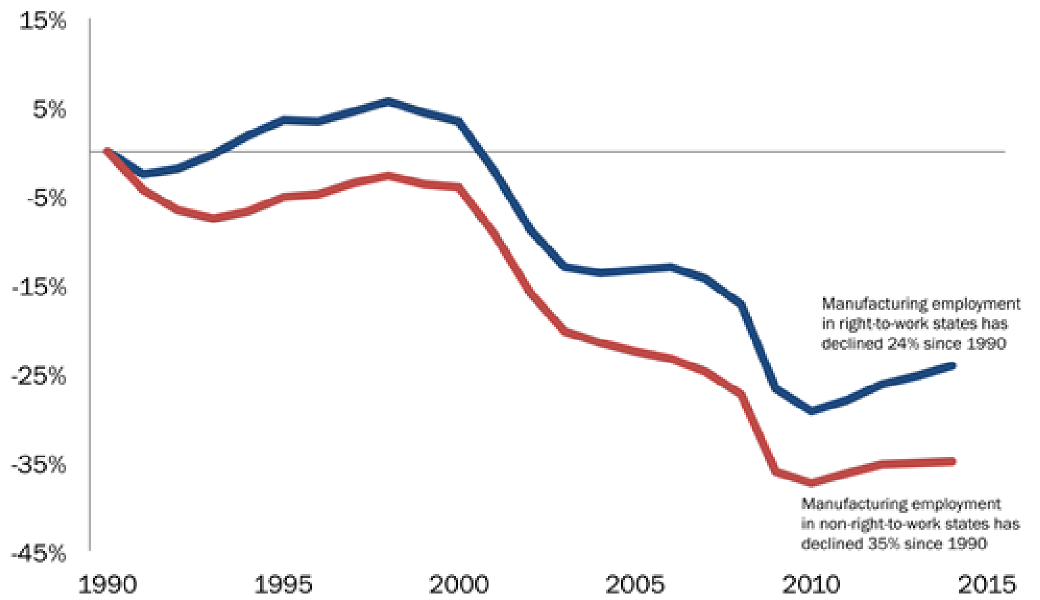
Total employment growth, right-to-work vs. non-right-to-work states



Source: U.S. Bureau of Labor Statistics

Figure 2

Manufacturing employment growth, right-to-work vs. non-right-to-work states



Source: U.S. Bureau of Labor Statistics

The Economic Effects of Right-to-Work Laws: A Review of the Research

Moore and Newman (1985) review numerous studies that have evaluated the impact of right-to-work laws on union membership, wages, and industry location. Because their article comprehensively reviews the older literature, our literature review will focus on more recent research.

Tannenwald (1997) notes that the impact of right-to-work laws has been more widely studied than any other labor market law or regulation. He suggests this is because the existence of right-to-work laws is a simple "either/or" variable: Either a state has a right-to-work law or does not have such a law. He identifies eleven studies that estimate the impact of right-to-work laws on either business location, the rate of business formation, employment, or some other manifestation of economic development.[7] Eight of the eleven studies find that right-to-work laws are associated with a positive, statistically significant impact on economic activity.

Research by Holmes (1998, 2000) has been held up as some of the most important empirical studies of the affect of right-to-work legislation on economic performance. For example, Holmes (1998) has more than 90 citations by other peer-reviewed articles.

Holmes argues that if state policies are an important determinant of the location of manufacturing, one should find an abrupt change in manufacturing activity when one crosses a state border, where the policy environment changes from right-to-work to non-right-to-work, because state characteristics unrelated to policy are the same on both sides of the border.

Holmes (1998) uses data on manufacturing employment levels for counties occupying the borders of right-to-work states and non-right-to-work states. His regression results find that manufacturing employment in a county as a percentage of total employment in the county increases, on average, by approximately one-third when one crosses the border from a non-right-to-work state to a right-to-work state.

Holmes (2000) compares counties close to the border between states with and without right-to-work laws (thereby holding constant many factors related to geography and climate). He found that the cumulative growth of employment in manufacturing (the traditional area of union strength prior to the rise of public-employee unions) in the right-to-work states was 26 percentage points greater than that in the non-right-to-work states. However, the author cautions that the impact may not be entirely due to right-to-work

7 Carlton (1979); Coughlin, et al. (1991); Friedman, et al. (1992); Garofalo and Malhotra (1992); Newman (1983, 1984); Plaut and Pluta (1983); Schmenner, et al. (1987); Soffer and Korenich (1961); Wheat (1986); and a working paper that was published as Holmes (1998).

legislation, but may be part of what he calls a "pro-business package" offered by right-to-work states.

Abraham and Voos (2000) examine the impact of enacting right-to-work legislation on the stock market returns of firms whose primary operating location was in a state that recently enacted right-to-work legislation. Their regression results indicate a two percent to four percent increase in shareholder wealth associated with enacting right-to-work legislation.

At the time Idaho enacted its right-to-work legislation, it was bordered by three right-to-work states and three non-right-to-work states. Dinlersoz and Hernández-Murillo (2002) and Wilbanks and Reed (2001) investigate the manufacturing sector's performance before and after the right-to-work legislation went into effect. They find that after Idaho became a right-to-work state, the state experienced a significant and persistent annual growth in manufacturing employment and in the number of establishments.

In contrast, Idaho saw almost no growth in each of these variables in the years leading up to the adoption of right-to-work legislation. In addition, the difference between "before right-to-work" and "after right-to-work" growth rates in the state was significantly larger compared with other states in the region. Moreover, they find that the fraction of total manufacturing employment in large manufacturing establishments increased significantly in Idaho after the law was passed. Dinlersoz and Hernández-Murillo (2002) conclude that Idaho became more attractive for large plants after the passage of right-to-work legislation.

Regressions performed by Reed (2003) find that after accounting for the influence of economic conditions that were present when states adopted right-to-work legislation, those states have significantly higher wages than would otherwise be expected.

Kalenkoski and Lacombe (2006) find that right-to-work legislation may positively affect manufacturing employment. However, Lafer and Allegretto (2011) suggest that Kalenkoski and Lacombe's (2006) study produces "some curious and unexplained findings," and suggest that Kalenkoski and Lacombe's (2006) approach or data may be unreliable.

In particular, Kalenkoski and Lacombe (2006) find that right-to-work laws have a negative impact on the employment shares of the agriculture, forestry, mining, fishing and hunting industries, and some service industries.

Lafer and Allegretto (2011) point out that agricultural employees and most professional and managerial employees have no right to organize under federal labor law, thus they argue that there is no clear reason why right-to-work statutes would directly impact employment shares in these sectors. This criticism, however, seems to point to a misunderstanding of basic arithmetic—as the employment in one sector of the economy increases relative to other sectors, by definition, the shares of other sectors must decrease.

Regressions performed by Krol and Svorny (2007) indicate that the level of employment in right-to-work states recovers faster from periods of recession than employment levels in non-right-to-work states.

Stevans (2009) argues that several factors that explain economic performance may also affect a state's decision to adopt right-to-work legislation. These factors include:

1. the size of agricultural employment relative to non-agricultural employment,

2. the size of service sector employment relative to manufacturing sector employment,

3. population growth, especially in "Sun Belt" states, and,

4. educational attainment.

Where other studies treat right-to-work as an exogenous variable (meaning a state's right-to-work status is taken as given), Stevans (2009) argues it is an endogenous choice (meaning a state's right-to-work status is a choice that is determined by the same factors that affect things like employment and population growth).[8]

In contrast, Krol and Svorny (2007) note that right-to-work laws can be considered exogenous with respect to current economic conditions because in most cases the laws have been in place since the 1950s. Regressions in which Stevans (2009) treats right-to-work legislation as exogenous find that right-to-work states are associated with higher rates of employment and proprietors' income.[9] When treated endogenously, Stevans (2009) finds that the employment impacts become statistically insignificant.

Regression results provided by Belman et al. (2009) indicate that right-to-work states have a higher share of their populations employed. Their regressions show that the employment-to-population ratio of states with right-to-work legislation is 2.8 percentage points higher than non-right-to-work states.

Besley et al. (2010) assume that right-to-work legislation is one of many "pro-business and growth promoting" policies that a state can adopt. They find that states with greater political competition—meaning states in which neither major political party has significant electoral advantage—are more likely to adopt right-to-work legislation as well as other growth promoting policies such as lower taxes.

8 See also Jacobs and Dixon (2006), who use economic, demographic, and political variable to evaluate the probability that a state adopts right-to-work legislation.

9 Proprietors' income is the payments to those who own non-corporate businesses, including sole proprietors and partners.

Vedder et al. (2011) extends earlier work (Vedder, 2010) to examine the potential impacts of right-to-work legislation on Indiana's potential income growth. Their regression results suggest that, had Indiana adopted right-to-work legislation in 1977, annual per capita income growth would have been 0.3 percentage points higher than actual income growth. Indiana enacted right-to-work legislation in 2012.

A briefing paper by Gould and Shierholz (2011) published by the Economic Policy Institute examines a single year of data to conclude that compensation and benefits in right-to-work states are lower than in states without right-to-work laws. Gould and Shierholz claim to account for demographic and job characteristics of workers, in addition to state-level economic conditions and cost-of-living differences across states. However, Gould and Shierholz do not account for the union dues, initiation fees, and retiree dues that reduce take-home pay for individuals subject to the union charges.

In another briefing paper published by the Economic Policy Institute, Lafer and Allegretto (2011) argue that although much of the previous research finds a relationship between right-to-work legislation and economic development, the research may not establish a cause-and-effect relationship between right-to-work legislation and economic development.

In addition, Lafer and Allegretto (2011) criticize Holmes' (2000) focus on manufacturing employment as a share of total employment. They point out that, for example, in states where service employment is growing, all other things being held equal, the manufacturing share of overall employment will decrease without reflecting any failing in the local economy or government.

Idaho, Oklahoma, Indiana, Michigan and Wisconsin are the most recent states to enact right-to-work legislation. Idaho's legislation was enacted in 1985, Oklahoma's in 2001, Indiana and Michigan's in 2012 and Wisconsin's in 2015. Eren and Ozbeklik (2011) use a recently developed econometric technique to examine the effectiveness of right-to-work laws on different measures of state-level economic development.

Their results indicate that the passage of right-to-work legislation in Oklahoma is associated with a 24 percent increase in foreign direct investment and no significant impact on manufacturing employment. Even so, passage of right-to-work legislation in Idaho is associated with a 14 percent increase in manufacturing as a share of the labor force.

Effects on Employment and Income Growth

This section of the report measures the likely effects of right-to-work laws on state economic growth. It is a comprehensive study that covers all 50 states and the District of Columbia and spans a period of time from before any state

enacted right-to-work legislation through 2013. It examines the effects of these policies on employment and income growth.

The data and methodology employed for this study can be applied to any state considering a change in its right-to-work status. In this report, our focus is on the effect of right-to-work legislation on projected employment growth and income growth in Washington state.

Data Employed

The data used in this section of the study consist of employment, income, tax, and regional economic and demographic characteristics of the states. The sources of the data are as follows:

- Employment information is from the U.S. Bureau of Labor Statistics. Nonfarm employment information is available from 1939 to the present. Manufacturing employment information is available from 1990 to the present.
- Personal income, wage and salary income, and proprietors' income information is from the U.S. Bureau of Economic Analysis and is available from 1929 to the present.
- Population, education, state tax revenue, and land area information is from the U.S. Census Bureau. Annual population information is available from 1900 to the present. Education information (percent of population over age 25 with a high school diploma or higher and percent of population over age 25 with a bachelor's degree or higher) and is available every 10 years from 1940 to 2000, and annually from 2006 through 2009. State tax revenue information is available every other year from 1942 to 1952 and annually from 1952 through 2013.
- Tax rate information is from the National Bureau of Economic Research and the Tax Foundation and is available from 1976 through 2014.
- Corporate bond information is from the Board of Governors of the U.S. Federal Reserve System and is available from 1919 to the present.

Methodology: Modeling Employment and Growth

The study employs regression analysis, a widely used econometric technique. It measures the relationship between employment growth and income growth for a given state at a given point in time, and the explanatory variables—including right-to-work status—in each of the various states. The study examines the relationship between right-to-work laws on growth in

employment, manufacturing employment, , wage and salary income, and proprietors' income.

The study uses a panel of the 50 states and the District of Columbia pooled for the years 1940 through 2013. Cornell and Trumbull (1994) and Levitt (2001) describe the benefits and other considerations related to panel data. In particular, a panel allows for variation across states and for variation over time within each state. As a result, it is possible to measure coefficients that more accurately demonstrate causation.

Ordinary least squares (OLS) regressions are performed for five different specifications. The dependent variable is the year-over-year percent change in employment or income for each state. The first specification regresses the dependent variable against the right-to-work indicator (i.e., dummy variable), population, the sum of employment in other states, and the sum of personal income in other states.[10]

Corporate bond rates are included as a variable to control for changes in the national business environment that are unlikely to be associated with whether a state enacts right-to-work legislation. In addition, land area is included to control for variations in population density.

While this specification omits several variables that research has suggested may be important factors, this approach has the advantage of covering a long period time—more than 70 years—that includes all the years in which right-to-work states enacted right-to-work legislation.

Each succeeding specification adds one or more independent variables such as state tax revenues, marginal tax rates, and educational attainment. Because of the limited availability of some independent variables, as each variable is added, the time period covered by the regressions shrinks. Thus, the specification with the most explanatory variables also has the fewest time series observations (7 years).

A number of researchers have suggested that a state's choice to enact right-to-work legislation may be an endogenous choice. That is, some of the factors that contribute to employment and income growth may also contribute to the states' choice to enact right-to-work legislation. If this is the case, then ordinary least squares estimates may not be statistically consistent. To account for this possibility, we employed five instrumental variable (IV) regressions using two-stage least squares (2SLS).

10 Variables such as population, employment, and personal income are measured as year-over-year percent changes.

Results: The Impacts of Right-to-Work Policy on Economic Growth

The regressions provide the expected signs on the impacts of right-to-work laws on growth: right-to-work states experience higher employment and income growth. While various specifications provide different coefficient estimates, the regressions are robust across the various specifications. The table below summarizes the range of estimated statistically significant coefficients across the specifications used, and the dependent variable studied for an impact of right-to-work. The coefficients in the table can be interpreted as the increment to the various dependent variables' annual growth rates that is associated with adoption of right-to-work legislation.

Dependent Variable	OLS	IV
Employment growth	+0.005 to +0.007	+0.012 to +0.026
Manufacturing employment growth	+0.004 to +0.008	+0.038 to +0.075
Wage and salary income growth	+0.006 to +0.008	not significant

Across all ten specifications, right-to-work legislation has a positive impact on employment growth. The coefficients are statistically significant in all of the OLS regressions and in three of the five IV regressions. Right-to-work legislation has a positive impact on manufacturing employment growth in all 10 of the specifications used. The coefficients are statistically significant in three of the five OLS regressions and in three of the five IV regressions.

Across each of the OLS specifications, right-to-work legislation has a statistically significant positive impact on wage and salary income growth. Four of the five IV regressions also report a positive relationship between right-to-work laws and wage and salary income growth; however, none of the estimated coefficients in the IV regressions are statistically significant.

None of the ten specifications find any statistically significant relationship between right-to-work laws and proprietors' income.[11]

The estimated coefficients are interpreted as additions to the growth rate associated with right-to-work laws. For example, the "high" OLS estimated coefficient is +0.007, thus in this specification, right-to-work states experience, on average, an annual employment growth rate that is 0.7 percentage points higher than states that do not have right-to-work laws.

While such a difference may seem small, Barro (1996) points out that "increases in growth rates by a few tenths of a percentage point matter a lot in the long run and are surely worth the trouble."

This report projects state employment and income growth if Washington state enacted right-to-work legislation effective at the beginning of 2016. For the forecasts, we use the OLS estimators from the OLS model that has the advantage

11 This may be because there is no relationship or because of the well-known difficulties with accurately measuring proprietors' income.

of a large number of observations covering a relatively long time period (more than 60 years, with the exception of manufacturing employment), and a favorable mean squared error relative to other specifications.

Projected future impacts are based on forecasts produced by the Washington state Office of Financial Management. OFM produces forecasts through 2019. After that, we assume rate of employment and income growth equal to the rate in the last year of the forecast. If Washington enacted right-to-work legislation that would go into effect in 2016, the empirical results indicate the state would see a permanent boost in employment and income growth.

After five years, the state would have almost 120,000 more people working. Wage and salary income would be $11.1 billion higher and the average annual wage and salary income per employee would be more than $560 higher.

After 10 years, the state would have almost 235,000 more people working. Wage and salary income would be $27.1 billion higher and the average annual wage and salary income per employee would be $1,280 higher.

The increased employment and increased incomes would provide a boost to the state's economy, reduce burdens on state and local safety net programs, and increase state and local tax revenues.

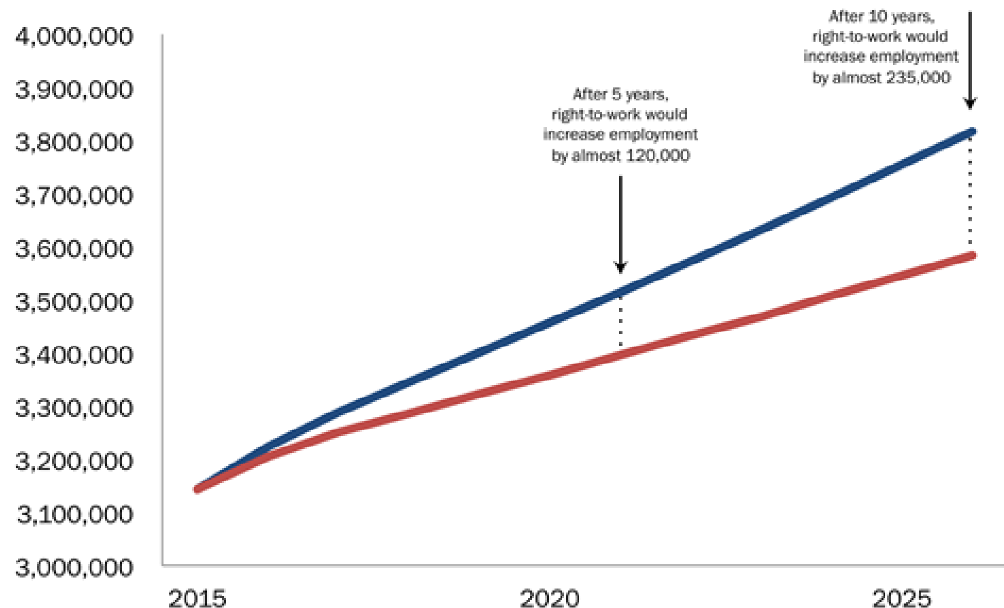
Enacting right-to-work legislation has an added, and unquantifiable, signaling benefit. Glaeser (2011) concludes:

> *"Indeed, one can quite plausibly argue that the South had far worse institutions for economic growth before the Civil Rights Era, but that today, fewer regulations and lower taxes makes the Sunbelt more pro-growth."*

Holmes (2000) points out that right-to-work laws can be viewed as part of a "pro-business package" that encourages firms to locate and expand in pro-business, pro-job growth states.

Figure 3

Impact of right-to-work on Washington total employment



Conclusion

The new, comprehensive analysis presented here relies on what appear to be the largest datasets ever employed to study the impacts of right-to-work laws. The innovation in analysis of this policy is important, because income and employment growth trends are influenced by many factors. Policymakers are often misled by staff and lobbyists, who often provide only anecdotal evidence, or who hide behind the difficulty of accurately describing the effects of one policy separate from the wide range of other policies and factors.

Taken as a whole, the findings in this paper disproves the widely-held notion that extending right-to-work protections to workers is immaterial, a confusion of cause and effect, or unproven because of the amount of noise and influence of other economic factors.

The findings here indicate that, to the contrary, the effect of restrictions on right-to-work have an effect that is significant in scale and statistical importance to employment and incomes. In contrast to the allegation that a right-to-work law amounts to a right to work for less, the analysis presented here shows that the average employee would see a boost in wage and salary income from passage of right-to-work legislation in Washington.

Based on the assumption of a right-to-work law going into effect in 2016, the empirical results indicate that Washington state would see a permanent boost in employment and income growth. Indeed, not only would there be more people working, those working would earn more than they would have without a right-to-work law.

- **Increased employment.** After five years, the state would have almost 120,000 more people working as a right-to-work state, with more than 13,100 in increased manufacturing employment.

- **Increased incomes.** After five years, the state's wage and salary incomes would be $11.1 billion higher and average annual wage and salary would be more than $560 higher.

A right-to-work law can be viewed as part of a pro-business, pro-jobs package that encourages firms to locate and expand in the state. In turn, the improved opportunities likely would have the effect of increasing migration into the state and slowing migration out of the state.

There are undoubtedly segments of the labor force that benefit from imposing restrictions on people's right to work, and these have used the disproportionate political influence conferred by those restrictions to preserve a restrictive labor policy that benefits them. Policymakers in Washington and other non-right-to-work states, however, should consider the consequences of the policies they impose on the labor and the workplace environment, especially as states struggle to restore their economy, employment opportunities, and public sector revenues.

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His statistical analysis has been published in top-tier economics journals and his testimony regarding statistical analysis has been accepted by international criminal courts.

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