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Right-to-Work Laws: The Economic Evidence

Executive Summary

State Right to Work (RTW) laws prevent unions from forcing employees that choose not to join the union from paying an “agency fee” in lieu of union dues, a practice which is otherwise permitted under the 1947 federal Taft-Hartley Act. As a direct reaction to Taft-Hartley, ten states passed RTW laws in the 1940s; since then, 18 more have joined, the most recent being Missouri, which passed its RTW law on February 6, 2017.

There is a large body of rigorous economic research on the effects of RTW laws on economic performance. Overall, that research suggests that RTW laws have a positive impact on economic growth, employment, investment and innovation, both directly and indirectly. Specifically:

- RTW laws directly affect economic performance through their impact on business location decisions, especially in heavily unionized industries such as manufacturing. Other things equal, businesses are more likely to locate in states with RTW laws. There is also evidence that RTW laws have a direct, positive effect on employment, output and personal income.
- RTW laws do not lead to lower average wages in either unionized or non-unionized industries. There is some evidence that the long-run effect of RTW laws is to raise wage rates as a result of increased productivity.
- RTW laws also affect economic performance indirectly through lower rates of union density. The weight of the evidence indicates that lower union density is associated with higher levels of employment, increased investment and R&D spending and increased innovation.

This study presents comparative data on economic performance in RTW and non-RTW states. While such comparisons cannot in and of themselves demonstrate a causal relationship between RTW laws and economic performance, the data is consistent with, and thus supportive of, the results of more than four decades of rigorous economic research. Specifically, comparing RTW states with non-RTW states shows:

- Private sector employment grew by 27 percent in RTW states between 2001 and 2016, compared to 15 percent in non-RTW states.
- On average, the annual unemployment rate in RTW states was 0.4 percentage points lower than in non-RTW states. In concrete terms, if non-RTW states had had the same unemployment rate as RTW states in 2017, approximately 249,000 more people would have been employed.
- Output has also grown faster in RTW than in non-RTW states, rising by 38 percent between 2001 and 2016, compared to 29 percent in non-RTW states. Four of the top five states with the largest growth in real per capita output over this period are RTW states.
- The gap in manufacturing output is also substantial: Real manufacturing output rose by over 30 percent in RTW states between 2001 and 2016 compared with 21 percent in non-RTW states.
- Higher growth rates translated into higher personal incomes: Personal income in RTW states rose over ten percentage points more than in non-RTW states between 2001 and 2016, 39 percent versus 26 percent.
- Businesses tend to locate in RTW states, as evidenced by the more rapid growth of firms and establishments.
- As of 2017, about four percent of private sector workers in RTW states belonged to unions, compared with about nine percent in non-RTW states.

Although these observations do not in and of themselves demonstrate a causal relationship between state performance and RTW status, they are consistent with and support the findings in the existing empirical literature, which suggest that RTW laws are beneficial to a state’s overall economic performance.
Introduction

Employment regulations have significant impacts on employers, workers and consumers. They affect the costs employers bear in hiring, managing and compensating their workforces, the costs and benefits workers face in the labor market and the prices consumers pay for goods and services. Employment regulations at the federal level address a variety of issues, including compensation, benefits, equal opportunity and labor relations. State laws and regulations address many of the same issues as well as additional ones, such as the enforceability of non-competition clauses in employment contracts.¹

One type of state-specific employment laws are those governing the conditions under which workers can be required to pay union dues. These “right-to-work” (“RTW”) laws grew out of the passage of the Taft-Hartley Act of 1947 (“Taft-Hartley”).² Under Taft-Hartley, workers in a “union shop” who elect not to join a union can be required to pay “agency fees” to the union in exchange for being represented by the union’s collective bargaining activities.³ However, the Act also explicitly allows states to pass RTW laws, which forbid unions from charging these agency fees to non-union member workers.⁴

Since the passage of Taft-Hartley, 28 states have passed RTW laws, including most recently Missouri, where RTW legislation was signed into law in February 2017.⁵ Missouri has yet to enact its RTW legislation, as a petition drive coordinated by a coalition of unions forced a referendum on the legislation, which is currently scheduled for November 2018.⁶

Additionally, the U.S. Supreme Court is expected to rule on Janus v. American Federation of State, County and Municipal Employees in 2018, an ongoing case that concerns the legality of forcing a public employee to pay a union fee, even if the employee declined to join the union.⁷ Many observers expect the court to rule in favor of employees, and several states have begun working to pass laws that would make it more difficult for employees to opt out of paying union fees in order to counteract the anticipated ruling.⁸ Washington passed such a law in March 2018, and New York and New Jersey are also considering similar measures.⁹

Much of the debate over RTW laws has focused on their potential economic impact. Journalists have noted, for example, that Indiana and Michigan (which passed RTW laws in 2012) have experienced accelerated economic growth since the laws were passed. As the Wall Street Journal reported, in the wake of the enactment of Indiana’s RTW law in early 2012, “from March 2012 to November 2014 factory payroll employment grew 9.4% compared to 1.2% average growth for states without right-to-work laws.”¹⁰ Similarly, “[f]rom March 2013 when [Michigan’s] law took effect through November 2014, the state saw 4% payroll manufacturing job growth, beating an average of 2.8% in right-to-work states and 0.9% in non-right-to-work states.”¹¹ More recently, a 2017 study found that the unemployment rates in Indiana, Michigan, and Wisconsin had fallen by between 0.5 and 2.2 percent following the passage of RTW legislation, with Michigan’s unemployment rate falling by 4.8 percent after passage.¹² Proponents of RTW laws similarly cited economic performance as rationale for passing RTW legislation in Kentucky and Missouri.¹³

While the economic results in these states do not by themselves demonstrate causality, they are broadly consistent with a substantial body of economic literature suggesting that, on balance, RTW laws lead to higher levels of economic performance. The first section below presents a review of the existing evidence.
First, the empirical literature suggests that RTW laws affect the location decisions of businesses and employees alike, with manufacturers choosing to locate in RTW states and workers migrating to these states. It is reasonable to conclude, on the basis of these results, that there is a positive relationship between RTW laws and better economic performance. Second, the empirical literature has also studied the effect of RTW laws on wages. Opponents have argued that – whatever their effects on economic growth – RTW laws could result in lower wages and thus harm workers. As explained below, despite the evidence that RTW laws lead to lower union density, the empirical literature on their effects on wages is inconclusive, and some studies indicate that wages are significantly higher in RTW than in non-RTW states.

Third, there is a broad consensus in the academic literature that RTW laws are associated with lower union density; numerous studies show that higher union density is associated with higher labor costs to businesses and reduced economic performance.

The second section below provides further evidence on the impact of RTW laws based on state-level economic data from the U.S. Census Bureau, the Bureau of Economic Analysis and the Bureau of Labor Statistics. The variables examined include data on employment, gross domestic product, personal income, business growth and union density. Comparing these metrics across RTW and non-RTW states, the data show that:

- Employment has grown at a higher rate in RTW states than in non-RTW states.
- Four of the five states with the highest per-capita GDP growth rates are RTW states.
- Personal income has grown more rapidly in RTW states than non-RTW states.
- Growth in manufacturing GDP and in the number of both firms and establishments has been higher in RTW states than in non-RTW states.
- Union density has been trending down over time throughout the U.S. but is lower in RTW states.

These data are broadly consistent with the weight of the academic literature and empirical studies of the impact of RTW laws and thus tend to support the proposition that RTW statutes and lower union density are associated with higher rates of economic activity.

**Existing Research on the Effects of RTW Laws**

The economic effects of RTW laws have been examined in dozens of economic studies over a period of more than four decades. This section provides a brief review of existing empirical results in three main areas.

- First, there is a large body of economic literature on the relationship between RTW laws and economic performance, which provides broad support for the conclusion that RTW laws improve economic performance along several dimensions, both directly (e.g., by affecting plant location decisions) and indirectly (i.e., by lowering union density).
- Second, economists have examined the relationship between RTW laws and wages, finding no evidence of significant negative effects on wages and some evidence that they ultimately translate into higher wages as a result of improved overall economic performance.
- Third, the impact of RTW laws on union density has been studied extensively. The results strongly suggest that, holding other factors constant, the adoption of RTW laws leads to lower union density.

Untangling the effects of a particular policy on economic activity is a complex and inexact science; some results are stronger than others, and conflicting results can be found regarding all of these issues. In
the face of such results, it is easy to see how an incomplete reading of the evidence could lead to the conclusion that existing research is too ambiguous to support firm conclusions. Looking more carefully, however, and recognizing that social science research is always fraught with a certain degree of uncertainty, it is clear that, on balance, the existing empirical evidence suggests RTW laws have a positive effect on economic performance.14

**Effects on Economic Performance**

In principle, RTW laws might affect economic performance either directly (e.g., through their effects on firms’ location decisions) or indirectly (e.g., through lower union density, which in turn affects economic performance). The empirical research provides support for both hypotheses.

While the early research on the direct effects of RTW laws yielded mixed results, more recent results suggest that RTW laws have a positive impact on growth and development. As Moore explained in his 1998 review:

> Professor Newman and I ended our [1985] review of the RTW literature with the conclusion that the better studies ‘suggest that the effects of RTW laws are more symbolic than real.’ More recent evidence indicates that this conclusion was premature…. Although inconclusive, the accumulating evidence indicates that RTW laws reduce the long-run extent of unionization by 5 to 8 percent. **RTW laws are also positively correlated with long-run industrial development.**

Indeed, Moore found that, by 1998:

> Anecdotal and survey evidence indicate that a “favorable business climate,” as proxied by RTW laws, has a positive impact on state industrial development. The econometric evidence, although mixed, tends to support this conclusion. **The stronger methodological studies …, which cover a wide array of industries, find that RTW laws have a significant, positive influence on industrial growth and economic development.**

One important result that led Moore and others to revise their conclusions was Holmes’ 1996 study for the Federal Reserve on the effects of state policy on business locations.17 Holmes compared bordering counties in RTW and non-RTW states. These counties had very similar characteristics, differing primarily in whether or not they were affected by RTW laws at the time firms were making their investment decisions. He found a statistically significant tendency for both new and existing manufacturing employment to be located in the state with the RTW law.

Subsequent research has found further support for a direct effect of RTW laws on measures of economic performance, including employment, investment, personal income and growth. Specifically:

- Kalenkoski and Lacombe (2006) use 2000 decennial census data to estimate the relationships between RTW and manufacturing employment, finding that RTW laws lead to a shift in employment in favor of manufacturing and information industries. They also find that RTW laws are associated with an increase in the manufacturing industry’s share of private wage.18
- Hicks and LaFaive (2013) find direct effects of RTW laws on employment and output over a 64 year period using average annual employment growth rates, real personal income, and population data from the Bureau of Economic Analysis.19 They find positive, statistically significant impact of RTW laws on all three economic performance indicators.20
• Vedder and Robe (2014) examine the effect of RTW laws on state economies and the per capita income loss from not having a RTW law in the state. They find a statistically significant positive relationship between RTW status and growth in real per capita income. 21

• Hicks et al (2016) measure the effects of RTW laws on productivity and population growth. Their derivation of the Solow model suggests lower manufacturing productivity in non-RTW states than in states with RTW laws, and a firm-level analysis also found higher productivity as measured in sales per employee in RTW firms. They also find that RTW laws appeared to increase state population growth in recent years. 22

• Bausman et al (2017) measure the impact of RTW laws on roughly 60 state-level socioeconomic measures. They find nine statistically significant differences in the following measures: income growth, underemployment and long-run unemployment, quality-of-life related to infrastructure and public services, union membership and the costs to doing business. Each difference suggests performance is superior in RTW states. 23

• Chava et al (2017) analyzes the impact of RTW laws across the U.S. on wages, unionization, investment and employment using difference-in-difference analysis. They find that RTW laws lead to higher rates of both investment and employment growth at the firm level and a decline in union bargaining power after the passage of RTW laws. 24

In addition to the studies showing a direct effect of RTW laws on economic performance, there is also a substantial body of research suggesting that increased union density reduces economic performance and leads to higher levels of unemployment. 25 This research, taken together with the results (discussed below) suggests that RTW laws indirectly improve economic performance by reducing union density.

Recent research has focused on the effects of unions on investment, productivity and innovation. For example, Black and Lynch examine the effects of a variety of workplace characteristics and management practices on productivity and find that, holding other factors constant, unionized firms have lower labor productivity. 27

Other academic studies have found unionization reduces firms’ profitability, potentially leading to lower investment and slowing innovation. 28 Lee and Mas estimate the effect of unionization on private-sector equity using an event study to assess the impact of unionization votes. 29 The results found that unionization decreased the equity value of the unionized firm by an average of $40,500 per unionized worker, with the effect taking place 15 to 18 months after unionization. 30 By thus lowering the return on long-term investment, unionization may cause firms to under-invest. Indeed, empirical evidence across a number of studies shows that unions are correlated with lower capital investment levels and reductions in R&D. 31 As Hirsch explains:

Union rent seeking reduces investment not only in physical capital but also in R&D and other forms of innovative activity. The stock of knowledge and improvements in processes and products emanating from R&D are likely to be relatively long-lived and firm specific. To the extent that returns from innovative activity are appropriable, firms will respond to union power by reducing these investments. 32
These findings are consistent with still more recent research which finds that unionization has a negative effect on innovation. Specifically, Bradley, Kim and Tian find that passing a union election vote within a firm results in less innovation, as measured by the number and quality of new patents, but that the effect “is statistically insignificant in firms located in states with right-to-work legislation where unions have less power to expropriate rents.” Another study by Xing et al further supports this finding and reports that, controlling for industry and firm characteristics, venture-backed firms in highly unionized industries are less likely to survive, suggesting that unions adversely affect innovation, economic growth and employment. Bradley et al suggest that “a cut in R&D spending, reduced productivity of current and newly hired inventors, and the departure of innovative inventors are possible underlying mechanisms through which unionization impedes firm innovation.”

Taken together, the evidence cited above, and the weight of the existing empirical literature overall, strongly support the conclusion that RTW laws have a positive effect on economic performance, both directly and indirectly.

**Effects on Wages**

Another focus of empirical research has been the impact of RTW laws on wages. Opponents argue that by reducing union density, RTW laws lead to lower wages. The empirical literature does not support this contention. To the contrary, while the results of individual studies vary, the weight of the evidence suggests RTW laws do not significantly affect wages one way or the other. As Moore concludes in his 1998 review:

> Theory does not indicate how RTW laws affect wages. The empirical evidence accumulated in the 1970s and 1980s indicates that RTW laws do not have strong lasting effects on wages. Most researchers find that RTW laws have no impact on union wages, nonunion wages, or average wages in either the private or public-sector.

Recent research provides additional support for these findings.

- Eren and Ozbeklik (2016) examine the impact of Oklahoma’s RTW law in Oklahoma from 1983 to 2007 using data from the Bureau of Labor Statistics, the Bureau of Economic Analysis and the U.S. Department of Commerce. They find no impact on either private sector average wages or total employment. They also conclude that Oklahoma’s RTW law in Oklahoma decreased private sector unionization.
- Jordan et al (2016) use a range of inequality measures for Idaho, Louisiana, Oklahoma and Texas to examine the impact of a state’s passage of a RTW law. They find that these states’ RTW laws did not affect wages, salaries or income distribution.

Other research suggests that the long-run beneficial effects of RTW laws on economic activity may ultimately lead to higher wages. Specifically, a 2003 study by W. Robert Reed estimated the effect of RTW laws on wages taking into account initial economic conditions at the time RTW legislation was passed. He found a positive and significant effect on overall wages from RTW laws, with wages 6.7 percent higher in RTW states than in non-RTW states in 2000, holding other factors constant.
Effects on Union Density

Because right-to-work laws directly affect the relationship between unions and employees, much of the economic literature on the impact of RTW laws focuses on measuring their direct effects on union density.

Economic theory offers several explanations for a negative relationship between RTW laws and union density. The most obvious thesis is that RTW laws allow workers who prefer not to join unions (and pay union dues) to avoid paying the agency fees that are required (in lieu of dues) in non-RTW states, effectively lowering the price of choosing not to join. A second theory centers on the possibility of reverse causality: States in which citizens have a lower preference for unions (and thus lower union density) may be more likely to enact RTW laws, rather than passage of RTW laws leading to declines in union density.41

In any case, the empirical research on the impact of RTW laws on union density clearly demonstrates an inverse relationship: RTW laws are associated with lower union density. Table 1 below replicates the summary of the then-existing literature surveyed by Moore and Newman in 1985. As the table shows, all 11 statistically significant results showed an inverse relationship between RTW laws and union density; there were no statistically significant results indicating a positive relationship.

Table 1. The Effects of RTW Laws on Union Density

<table>
<thead>
<tr>
<th>Source</th>
<th>Year</th>
<th>RTW Coefficient Sign (-/+</th>
<th>Significant Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lumsden &amp; Peterson (1975)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 1939</td>
<td>-</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>b. 1953</td>
<td>-</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>c. 1968</td>
<td>-</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>a. 1950</td>
<td>-</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>b. 1960</td>
<td>-</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>c. 1970</td>
<td>-</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>5. Warren &amp; Strauss (1979)*</td>
<td>1972</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>10. Farber (1983)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>a. 1977</td>
<td>-</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>b. 1977</td>
<td>-</td>
<td></td>
<td>Yes</td>
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<tr>
<td>a. 1964-78</td>
<td>-</td>
<td></td>
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</tr>
<tr>
<td>b. 1964-78</td>
<td>-</td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: Moore and Newman (1985) at Table 1. Note: An asterisk indicates the results for a different model specification within a study.
Moore’s 1998 extension of the earlier survey reaches similar results, concluding that “the available evidence suggests that RTW laws may reduce the extent of unionization in the long run by 3 to 8 percent.” More recent studies support these findings; Eren and Ozbeklik find that RTW laws in Oklahoma decreased private sector rates of unionization, and Bausman et al find that RTW states tend to have lower levels of union membership.

Other research has examined the “reverse causation” hypothesis. Hogler, Shulman and Weiler test the hypothesis that low preferences for unions cause both low union density and the adoption of RTW laws, such that RTW laws have no independent causal effect on union density. Using control variables designed to capture public opinion with respect to unions, they find that RTW laws do have an independent effect, reducing union density by 8.8 percent, even after controlling for the social-political context.

In summary, the relationship between RTW laws and union density has been examined in depth by numerous empirical studies over the course of more than 40 years. The results strongly suggest that RTW laws lead to lower union density.

Comparing Economic Performance in RTW and Non-RTW States

The empirical research summarized above strongly suggests that RTW laws improve state-level economic performance. It is reasonable to ask, however, whether this evidence is consistent with a straightforward comparison of the economic performance of RTW and non-RTW states. This section compares the recent economic performance of RTW states with that of non-RTW states based on publicly available data from the Bureau of Economic Analysis, the U.S. Census Bureau and the Bureau of Labor Statistics.
As shown in Figure 1, 28 states had adopted RTW laws as of April 2018. Traditionally, RTW states have been located in the South and West, with West Virginia (2016) and Kentucky (2017) becoming RTW states in recent years. However, RTW legislation has also spread to the Midwest, and Indiana (2012), Michigan (2012), Wisconsin (2015) and Missouri (2017) have all passed RTW laws in the last six years.\textsuperscript{46}

Figure 1. States that Have Enacted Right-to-Work Legislation (2018)

Table 2 shows the years in which RTW laws were adopted in each state. Unless otherwise indicated, the data presented below compare economic performance in states with RTW laws with performance in states without RTW laws at a particular point in time. Thus, for example, Wisconsin, West Virginia and Kentucky are counted as “non-RTW” states for comparison purposes because they did not have RTW laws in place for the period for which the data is reported.

<table>
<thead>
<tr>
<th>State</th>
<th>Year Enacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkansas</td>
<td>1944</td>
</tr>
<tr>
<td>Arizona</td>
<td>1946</td>
</tr>
<tr>
<td>Nebraska</td>
<td>1946</td>
</tr>
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<td>South Dakota</td>
<td>1946</td>
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<tr>
<td>Georgia</td>
<td>1947</td>
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<td>Iowa</td>
<td>1947</td>
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<td>North Carolina</td>
<td>1947</td>
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<td>Tennessee</td>
<td>1947</td>
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<tr>
<td>Virginia</td>
<td>1947</td>
</tr>
<tr>
<td>North Dakota</td>
<td>1948</td>
</tr>
<tr>
<td>Nevada</td>
<td>1952</td>
</tr>
<tr>
<td>Alabama</td>
<td>1953</td>
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<tr>
<td>South Carolina</td>
<td>1954</td>
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<tr>
<td>Utah</td>
<td>1955</td>
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<td>Kansas</td>
<td>1958</td>
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<tr>
<td>Mississippi</td>
<td>1960</td>
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<tr>
<td>Wyoming</td>
<td>1963</td>
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<tr>
<td>Florida</td>
<td>1968</td>
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<tr>
<td>Louisiana</td>
<td>1976</td>
</tr>
<tr>
<td>Idaho</td>
<td>1986</td>
</tr>
<tr>
<td>Texas</td>
<td>1993</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>2001</td>
</tr>
<tr>
<td>Indiana</td>
<td>2012</td>
</tr>
<tr>
<td>Michigan</td>
<td>2012</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>2015</td>
</tr>
<tr>
<td>West Virginia</td>
<td>2016</td>
</tr>
<tr>
<td>Kentucky</td>
<td>2017</td>
</tr>
<tr>
<td>Missouri</td>
<td>2017*</td>
</tr>
</tbody>
</table>

Source: See Figure 1 source. Notes: Missouri is not included in analyses because the law has not gone into effect, though it was passed on February 6, 2017. The law is currently scheduled on the ballot as a veto referendum for November 6, 2018.
The sections that follow present data on various measures of economic and labor market performance associated with RTW laws, including employment and job creation, economic output, personal income and union density. All of the data presented is consistent with the findings of the empirical literature cited above, lending further support to the evidence showing that RTW laws have an overall positive impact on economic performance.

**Employment and Job Creation**

It has been widely noted that employment growth in RTW states has exceeded employment growth in non-RTW states by a wide margin, an observation which is broadly supported by the empirical studies summarized above and is confirmed by recent performance. As shown in Figure 2, private sector employment grew by 27 percent in RTW states between 2001 and 2016, over ten percentage points more than non-RTW states.

**Figure 2. Private Sector Employment Growth (2001-2016)**

The academic literature also notes that the effects of RTW laws are most significant in heavily unionized industries such as manufacturing and construction. Figures 3 and 4 compare changes in employment in these industries in RTW and non-RTW states from 2001 through 2016.

Figure 3 shows that manufacturing employment has declined in the U.S. during this period in both RTW and non-RTW states. However, the decline has been smaller in RTW states. As shown in Figure 3, manufacturing employment declined by less than 20 percent in RTW states compared with 25 percent in non-RTW states from 2001 to 2016. Figure 4 shows that construction jobs grew by approximately six percent in RTW states, while non-RTW states grew by only 0.2 percent during the same period.

**Figure 3. Change in Manufacturing Employment (2001-2016)**

- Non-RTW: -24.5%
- U.S.: -22.6%
- RTW: -19.2%


**Figure 4. Change in Construction Employment Growth (2001-2016)**

- Non-RTW: 0.2%
- U.S.: 2.8%
- RTW: 6.3%

The data also show that RTW states have experienced lower unemployment than non-RTW states. As shown in Figure 5, RTW states have had lower average annual unemployment in every year from 2001 to 2017. On average, the annual unemployment rate in RTW states was 0.4 percentage points lower than in non-RTW states. In concrete terms, if non-RTW states had had the same unemployment rate as RTW states in 2017, approximately 249,000 more people would have been employed. Again, these observations are in line with the academic literature.

Figure 5. **Average Annual Unemployment (2001-2017)**

Source: Bureau of Labor Statistics. Notes: [1] Data excludes the District of Columbia and U.S. territories. [2] Data is seasonally adjusted. [3] States that passed RTW legislation during the time period, such as Indiana, which became a RTW state in 2012, are counted as non-RTW states before the passage of RTW laws and as RTW states after the passage of RTW laws.
Growth in GDP and Personal Income

As noted above, the economic literature suggests that RTW laws have positive direct and indirect effects on economic output. The data presented below supports these findings, showing that RTW states have exhibited more rapid growth in GDP and manufacturing output than non-RTW states in recent years. Further, the data also show that higher growth in output has translated into higher growth in personal income.

Figure 6 compares growth in private sector GDP in RTW and non-RTW states from 2001 through 2016. As the figure shows, output has grown faster in RTW states, rising by 38 percent compared to 29 percent in non-RTW states.

Figure 6. Change in Real Private Sector Output (2001-2016)


The gap between growth in output in RTW and non-RTW states is especially evident with respect to manufacturing. As seen in Figure 7, from 2001 through 2016, manufacturing GDP increased by over 30 percent in RTW states, compared to 21 percent in non-RTW states.

Figure 7. Change in Real Manufacturing Output (2001-2016)

Figure 8 shows the top ten states in terms of growth of real GDP per capita from 2001 to 2016. Four of the top five states are RTW states.

The data also demonstrate that the higher growth rates in RTW states translate into more rapid growth in personal income. Figure 9 compares the change in real personal income from 2001 to 2016 in RTW and non-RTW states. As the figure shows, personal income in RTW states rose by a higher margin than non-RTW states over this period—39 percent vs. 26 percent.
Business Migration to Right-to-Work States

The economic literature suggests that businesses are more inclined to open plants in RTW states than in non-RTW states, ultimately resulting in increased employment. The evidence in this section provides further support for these findings.

First, Figure 10 compares growth in the number of firms in RTW states and non-RTW states from 2001 to 2015 (the most recent data available); Figure 11 compares growth in the number of establishments during the same period. The number of firms in RTW states increased by over ten percent during this period, compared to less than two percent in non-RTW states.

The data on the number of business establishments shows a similar pattern. As shown in Figure 11, between 2001 and 2015, the number of establishments in RTW states increased by 13 percent, compared with just four percent in non-RTW states.

Figure 10. Change in Number of Firms (2001-2015)

![Figure 10](image)


The data on the number of business establishments shows a similar pattern. As shown in Figure 11, between 2001 and 2015, the number of establishments in RTW states increased by 13 percent, compared with just four percent in non-RTW states.

Figure 11. Change in Number of Establishments (2001-2015)

![Figure 11](image)

Union Density

Private sector union density in the U.S. has experienced a secular decline since peaking in the 1950s. Data from the Current Population Survey tracks private sector union density from 1983 through 2017, showing that the proportion of private sector jobs accounted for by union members fell from over 16 percent in 1983 to approximately seven percent in 2017. As of 2017, approximately four percent of private sector employees in RTW states were members of unions compared with nearly nine percent in non-RTW states.

Figure 12. Private Union Density (1983-2017)

Source: Current Population Survey (available at http://www.unionstats.com/). Notes: [1] Data excludes the District of Columbia and U.S. territories. [2] States that passed RTW legislation during the time period, such as Indiana, which became a RTW state in 2012, are counted as non-RTW states before the passage of RTW laws and as RTW states after the passage of RTW laws.

Conclusion

Economists have been studying the economic effects of RTW laws for more than four decades, and while it is inherently difficult to isolate the effects of a single policy on economic performance, the weight of the evidence strongly and increasingly suggests that RTW laws improve economic performance overall. The evidence on recent economic performance in RTW and non-RTW states presented in this study provides further support for this finding. Twenty-eight states have already passed RTW laws, with the two of the most recent, Kentucky and Missouri, citing the desire for increased performance as the impetus for doing so. The evidence reported here suggests that adoption of RTW laws would also enhance economic performance in other states such as Colorado, Maine and Washington, where such laws have recently been considered.
Notes


2 Labor Management Relations Act, Title 29 Chapter 7 United States Codes §§ 141-197 (available at http://www.nlrb.gov/resources/national-labor-relations-act).

3 Agency fees are the portion of union dues used to fund representation of workers, e.g., in contract negotiations or employer disputes, but do not include the portion of dues used for lobbying.

4 See 29 USC §164.


8 As of the time of writing, the U.S. Supreme Court had not yet released its decision.


11 Ibid.


14 For example, a study published by the Congressional Research Service bases its finding that "research that compares outcomes in RTW and union security states is inconclusive" on an assessment of only nine academic studies. See Benjamin Collins, Right to Work Laws: Legislative Background and Empirical Research, Congressional Research Service (January 2014) at i. See also at 7 (acknowledging that its brief literature review "does not attempt to be exhaustive.")


16 Moore (1998) at 463 (emphasis added).


19 Hicks and LaFaive (2013) at 5-7.


For example, Eisenach *et al* report the results of a cross-state regression model which indicate that higher unionization rates are associated with higher levels of unemployment. See Eisenach *et al* at 107.


Lee and Mas (2012) at 333.

See Hirsch (2004) at 436 (“[T]he typical unionized firm has 6 percent lower capital investment than its observationally equivalent nonunion counterpart. Allowing for the profit effect increases the estimate to about 13 percent…. [T]he average unionized firm has 15 percent lower R&D, holding constant profitability and the other determinants.”)


Bradley *et al* at 4.

Moore (1998) at 460. For an in-depth analysis of literature concerning the wage effects of RTW laws, see Moore (1998) at 458-460.


Reed (2003) at 723.

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