



**MICHIGAN
CHAMBER**

Foundation

2015 Michigan Economic **COMPETITIVENESS STUDY**



An analysis of issues to advance Michigan in a complex global economy

2015 Michigan Economic Competitiveness Study:

An Analysis of Issues to Advance Michigan in a
Complex Global Economy

Executive Brief

About the Michigan Chamber Foundation

The Michigan Chamber Foundation was established as a non-profit supporting organization to the Michigan Chamber of Commerce in 1985 for the following purposes:

- To plan and conduct nonpartisan public education programs regarding free enterprise, productivity and basic economic issues affecting the state of Michigan;
- To establish and operate a leadership institute designed to provide promising future leaders assessment of Michigan's assets, challenges and opportunities to give participants the background and network of contacts necessary to make a positive impact on Michigan's future;
- To conduct nonpartisan research and distribute policy studies on issues facing Michigan including, but not limited to, taxation, government regulation, government spending, health care and transportation.

Michigan Chamber Foundation Board of Directors

Chair:	Kelly Rossman-McKinney, Truscott Rossman
President:	Rich Studley, Michigan Chamber of Commerce
At-Large:	Stacie Behler, Meijer Steve Mitchell, Mitchell Research & Communications Dan Ponder, Franco Public Relations Group Jon Sorber, TWO MEN AND A TRUCK/INTERNATIONAL, Inc. Bill Woodbury, Auto-Owners Insurance
Executive Director:	Bob Thomas

About Northwood University

Northwood University is committed to the most personal attention to prepare students for success in their careers and in their communities; it promotes critical thinking skills, personal effectiveness and the importance of ethics, individual freedom and responsibility.

Private, nonprofit and accredited, Northwood University specializes in managerial and entrepreneurial education at one full-service, residential campuses located in mid-Michigan. Adult Degree Programs are available in seven states with many course delivery options, including online. The DeVos Graduate School offers accelerated, evening and weekend programming in Michigan and Texas. The Alden B. Dow Center for Creativity and Enterprise provides system-wide expertise in family enterprise, entrepreneurship, creativity and innovation and new business development. International education is offered through study abroad and in Program Centers in Switzerland, China (Changchun and Wuxi), Malaysia and Sri Lanka.

Acknowledgements

The Michigan Chamber Foundation would like to thank Northwood University and its McNair Center for the Advancement of Free Enterprise and Entrepreneurship, for agreeing to conduct this study and assembling a first-class team of researchers to bring it to fruition.

In particular, the Michigan Chamber Foundation would like to thank Northwood University President and CEO Dr. Keith A. Pretty, Study Director, and Dr. Timothy G. Nash, Senior Vice President for Strategic and Corporate Alliances and the David E. Fry Endowed Chair in Free Market Economics for shepherding the project from inception to completion.

The Chamber would also like to thank the research team led by Dr. Nash, which is a diverse and talented group of economists and public policy thinkers from across Michigan and nationally:

Dr. Debasish Chakraborty, Professor of Economics, Central Michigan University

Dr. Richard Ebeling, Professor of Economics, The Citadel

Dr. John Grether, Associate Professor of Economics and Public Policy, Northwood University

Dr. Adam Guerrero, Associate Professor of Economics, Northwood University

Dr. Adam Okulicz-Kozaryn, Associate Professor of Public Policy, Rutgers University

Mr. Adam N. Matzke, Economics and Finance graduate, Northwood University

Mr. Adam Pretty, Law Student, University of Notre Dame

Finally, we would like to thank Joy Feeney, Ralph Wirtz, Susan Woodcock, Bill Gagliardi and Rochelle Zimmerman for their assistance with the chart construction, editing, typing and researching of this project.

Introduction

The purpose of the study is to conduct a comprehensive analysis of the Michigan economy that builds upon research completed for 2012, 2013 and 2014 economic competitiveness studies and that provides benchmarks for measuring the state's economy against national and regional competitors.

The focus is on Michigan's economy as it compares to regional and national data over the last decade, as well as the trends that help forecast its future. Now in its fourth edition, Michigan is evaluated against over 200 metrics including Gross State Product (GSP) growth, tax policy, regulatory policy, employment growth and the cost of doing business. Researchers examined state tax structures, regulations and rules that govern business, education attainment, workforce composition and the most current economic statistics available to give the most complete picture of the state's business climate.

The study also breaks out data comparing Right-To-Work states to Non-Right-To-Work states, Michigan to Great Lakes region states (Illinois, Indiana, Michigan, Ohio, and Wisconsin) and looks at some of the largest cities in the Great Lakes region as contributors to the state's economic success. **New with the 2015 study** is an analysis of the largest cities/GSP region within the state of Michigan (see Exhibit 126).

The Michigan economy began its sixth year of economic recovery in the summer of 2015. Job growth has slowed a bit, but still averaged a healthy 2.89% growth in the first half of 2015. The University of Michigan projects good job growth for the second half of 2015 and solid job growth of 1.4% continuing for the first half of 2016. From December of 2010 to December of 2014, Michigan lead the country in the creation of manufacturing jobs and was number six in the creation of private sector jobs with more than 420,000 jobs created. Michigan's unemployment rate has dropped roughly 50% since late 2010, making it the top performing state in this category, by the end of 2015. Michigan remains the automotive management capital of the U.S. as well as its design and R&D center. In 2015, the U.S. automobile industry reached an all-time record for automobiles, SUVs and light trucks sold at just over 17,470,000 vehicles. Record breaking sales in 2015 were up 5.7%, with impressive gains by the Detroit three and a promising 2016 on the horizon.

Methodology

Using statistical techniques called factor analysis, a process in which the values of observed economic data are expressed as functions of a number of possible causes or factors to find which are the most important to overall economic competitiveness, researchers studied the following factor categories: 1) General Macroeconomic Environment, 2) State Debt and Taxation, 3) Workforce Composition and Cost, 4) Labor and Capital Taxation 5) Regulatory Environment. These are the same five factor categories used in each year's installment of the study.

Factor 1 (General Macroeconomic Environment) - considers general measures of statewide economic health such as unemployment rates, labor force participation rates, per-capita income and life-satisfaction (another measure of well-being in addition to per-capita income).

Factor 2 (State Debt and Taxation) - considers state debt per capita, cost of living and tax burden per capita (tax burden considers state sales taxes, selective taxes, license taxes, corporate income taxes and state income taxes).

Factor 3 (Workforce Compensation and Cost) –considers percentage of the working population that is part of a union, percentage of the private working population that is a member of a union, percentage of the public working population that is a member of a union and cash payments to beneficiaries (including withdrawals of retirement contributions) of employee retirement, unemployment compensation, workers' compensation and disability benefit social insurance programs.

Factor 4 (Labor and Capital Formation) - considers employment growth, population growth, migration and organizational birth and death data.

Factor 5 (Regulatory Environment) - is a composite of other indices that consider the business friendliness of a state's regulatory framework/environment.

The Northwood University Competitiveness Index

The Northwood University Competitiveness Index was developed for this study and is comprised of five factor categories measuring various areas of economic performance for all 50 states (1 is the most favorable and 50 is the least favorable). Unlike many other indices where the data and/or categories are assigned weights by the researchers, the Northwood Index assigns weights based on factor analysis which initially involved 200 variables. The weights are market sensitive and are susceptible to fluctuate with changes in economic conditions and data from year to year. Thus, the indices are based on these weights and are snapshots of current market conditions and key factors over said period. Therefore, the model delivers an overall ranking for a state, provides evidence of strengths and weaknesses relative to other states by category and the weights assigned in each category derived by the model may be useful in prioritizing efforts to improve a state’s relative competitiveness (see Exhibits 107 and 108).

Exhibit 107: Northwood's State Competitiveness Index Rank (2000 - 2015)			
Alabama	32	Montana	21
Alaska	27	Nebraska	6
Arizona	11	Nevada	17
Arkansas	19	New Hampshire	26
California	35	New Jersey	48
Colorado	4	New Mexico	38
Connecticut	49	New York	45
Delaware	40	North Carolina	18
Florida	33	North Dakota	3
Georgia	12	Ohio	30
Hawaii	47	Oklahoma	7
Idaho	9	Oregon	20
Illinois	39	Pennsylvania	42
Indiana	24	Rhode Island	50
Iowa	14	South Carolina	28
Kansas	23	South Dakota	16
Kentucky	43	Tennessee	13
Louisiana	25	Texas	1
Maine	44	Utah	2
Maryland	41	Vermont	37
Massachusetts	46	Virginia	8
Michigan	29	Washington	15
Minnesota	34	West Virginia	10
Mississippi	31	Wisconsin	36
Missouri	22	Wyoming	5

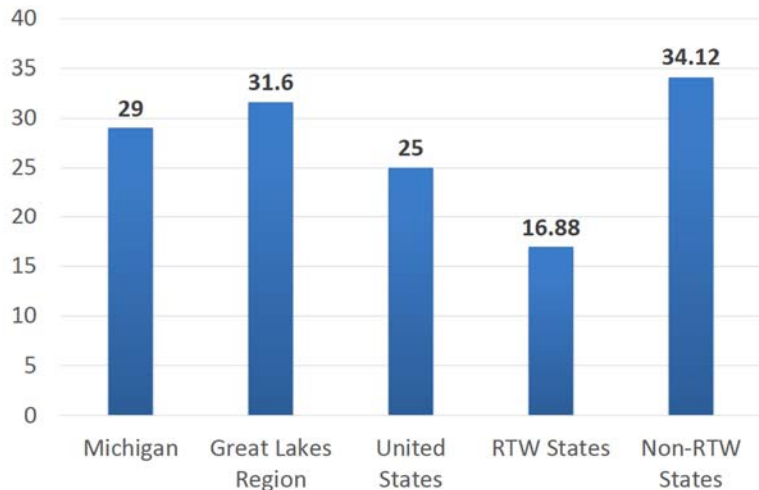
The research concluded and the analysis shows that Michigan’s economy improved similarly to the U.S. economy and, while making gains in its overall competitiveness, still has strides to make relative to other states. **The overall factor analysis making up the Northwood University State Competitiveness Index shows Michigan moving from 47th in 2012 to 29th in 2015.**

Overall, Michigan ranks 29th out of the 50 states in the Index.

Consequently, the state’s relatively strong performance in terms of Debt and Taxation and Regulatory Environment is outweighed by its relatively weak performance in the factor categories of Workforce composition and Cost and Labor and Capital Formation. The key

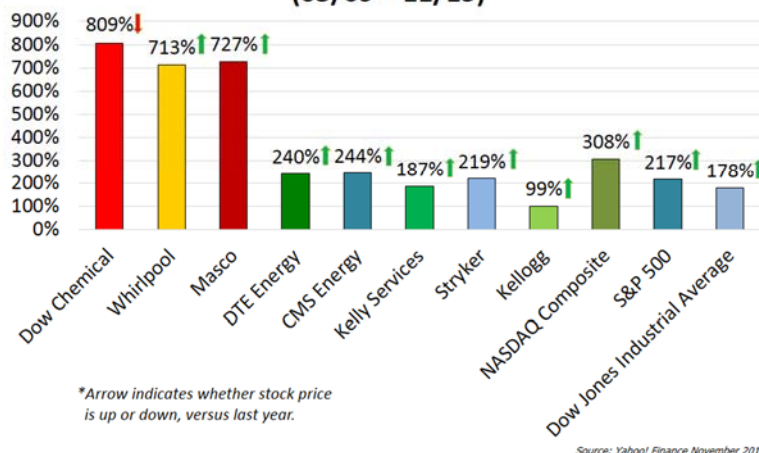
reason for Michigan’s overall rank improvement in 2015 had more to do with a stronger Macroeconomic Environment and a competitive tax and regulatory environment.

Exhibit 108: Northwood's State Competitiveness Index (2000 - 2015)



GDP growth in Michigan over the last few years has been led by a resurgence in the automobile, agriculture, tourism sectors and manufacturing in general. In fact, Michigan-based Fortune 500 Company Stock Prices (Non-Automotive) on average have outperformed the three major stock

Exhibit 123: Percent Increase in Michigan Based Fortune 500 Company Stock Price (Non-Automotive) (03/09 – 11/15)



indices since the trough of the “Great Recession” at 405% growth compared to 234% growth for the stock market (see Exhibit 123). A careful analysis of factor categories 3 and 4 coupled

with sound public policies designed to address said issues with workforce development and labor costs will enhance Michigan’s competitiveness.

Michigan’s economic performance in the five categories ranked as follows:

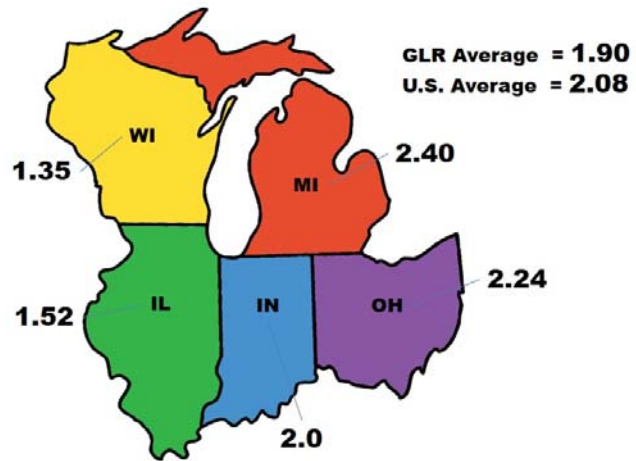
Exhibit 119: Michigan’s Economic Performance Ranking
(2012-2015)

	2015	2014	2013	2012
NU State Competitiveness Index: Michigan	29	30	39	47
Factor 1 – General Macroeconomic Environment	11	20	31	48
Factor 2 – State Debt and Taxation	13	12	14	10
Factor 3 – Workforce Composition and Cost	39	38	43	45
Factor 4 – Labor and Capital Formation	36	38	44	45
Factor 5 – Regulatory Environment	25	23	26	24

The factor analysis again shows Michigan improving in the General Macroeconomic Environment factor. This is largely due to relative improvements in Gross State Product growth and reductions in unemployment. Job growth in Michigan was positive in 2011, 2012, 2013, and 2014, with almost 400,000 jobs created since the end of 2010. Researchers believe much of this growth can be attributed to Michigan’s state business tax environment and regulatory structure. Michigan’s labor cost still remains among the highest in some sectors while net population migration and new business startups are improving in Michigan since 2000, yet remain among the worst nationally. The 2015 Kauffman Foundation Index shows Michigan lower than the national average, yet leading the Great Lakes Region. Michigan shows general promise in entrepreneurial activity, which can significantly improve rankings given continued development in economic attractiveness.

Michigan led the Great Lakes Region states in economic growth and was a strong performing state nationally over the last four years. It is also of note that the Great Lakes Region was the fifth best performing region in the country (out of eight regions) over the same period with strong performance coming from Michigan, Indiana and Ohio. The

Exhibit 26: Gross State Product Growth (2011 - 2014)



region showed average growth in the Gross State Product (GSP) of 1.90% and Michigan GSP growth of 2.40%. The region did not outperform the U.S. national average in personal income growth per capita as it did in previous studies. The Great Lakes region realized only 1.9% growth compared to the national average of 2.0% over the last four years. Michigan's recovery outpaced the national average and was more broad-based, as many non-automotive Michigan Fortune 500 companies have dramatically improved in the stock market since the "Great Recession" trough of March 2009.

The 2015 study includes a feature analyzing eight of the Great Lake states' largest economic areas and capital cities. The Detroit and Grand Rapids economic areas, after facing challenging economic times in the first decade of the 21st century, show signs of strong economic improvement since 2009 and outperformed Chicago, Cleveland, Indianapolis and Milwaukee. Grand Rapids was the top performing major Great Lakes Region city at 4.06% economic growth with Columbus, OH next at 3.6% growth, while Lansing exhibited good growth at 2.1% from 2009-2014, signaling economic recovery for the city.

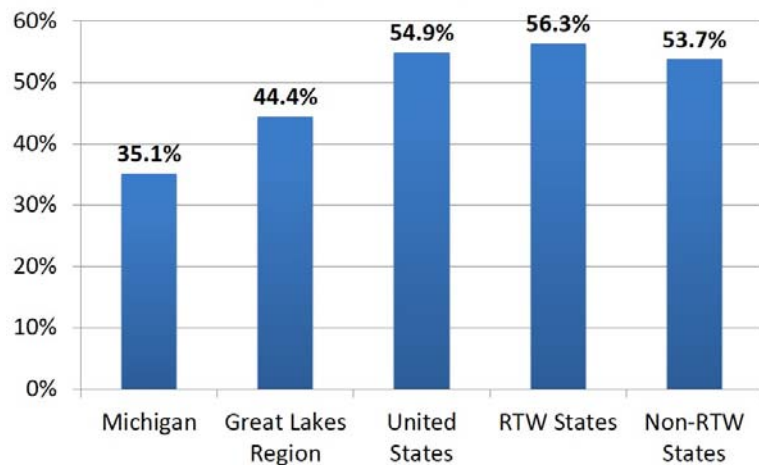
Key Findings

The following are examples of the many factors used in this study to evaluate the competitiveness of the Michigan economy relative to the U.S. as a whole, the Great Lakes Region, as well as Right-To-Work (RTW) states and Non-Right-To-Work (NRTW) states:

1. Growth in Personal Income

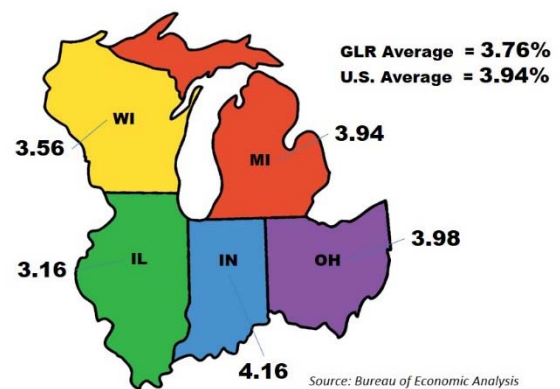
Personal income per capita growth in Michigan grew 35.1% from 2000-2014 while the U.S. average income grew at 54.9% over the same period. Personal income growth over the period grew at just over 56% in RTW states, at 53.7% in NRTW states and 44.4% in the Great Lakes region. Also of note, Michigan did not lead the Great Lakes region from 2010 – 2014 or the national average for per capita personal income growth (see Exhibits 36 and 37). However, increasing per capita income growth in Michigan over the last few years is still a leading indicator of a strengthening economy and job market.

Exhibit 36: Personal Income Per Capita Growth (2000-2014)



Source: Computed with data from Bureau of Economic Analysis (2000 - 2014)

Exhibit 37: Great Lakes Average Personal Income Per Capita Growth (2010-2014)



Source: Bureau of Economic Analysis

2. Real Gross State Product (GSP)

Growth

From 1998-2014, Michigan Real Gross State Product (GSP) lagged behind the national average significantly. While the U.S. economy grew from an overall real Gross Domestic Product (GDP) level of more than \$8 trillion in 1998 to just over \$16.3 trillion in 2014 or roughly 84%, the Michigan economy grew by only 48.3%. Gross State Product grew at an average rate of roughly 105.06% over the same period in RTW states while realizing a slower growth rate in NRTW states of just 93.67% and 68% in the Great Lakes Region.

Michigan’s gross state product growth was impressive from 2011-2014. The Michigan average of 2.4, leads the Great Lakes Region and was above the U.S. average of 2.08 for the same period. The Great Lakes Region average was just below the average of the U.S. over the same time period. If Michigan were its own economic region, it would have ranked third in economic growth trailing only the Southwest and Rocky Mountain regions of the U.S., signaling recent improvement in the Michigan economy (see Exhibits 19, 27, and 28).

Exhibit 19: Gross State Product Growth (1998-2014)

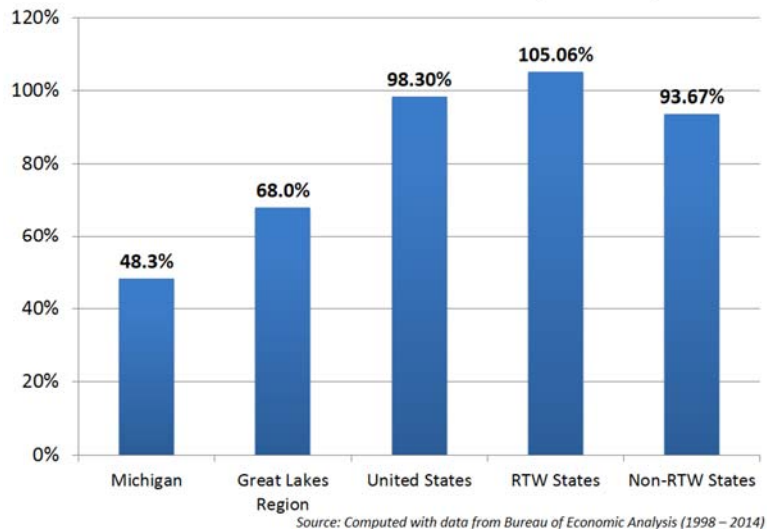


Exhibit 27: U.S. GSP Growth in Great Lakes Region (2011 - 2014)

State	2011	2012	2013	2014	Average Rank
Illinois	2.07	1.91	0.9	1.2	1.52
Indiana	2.19	3.30	2.1	0.4	2.0
Michigan	3.45	2.25	2.0	1.9	2.4
Ohio	2.88	2.16	1.8	2.1	2.24
Wisconsin	1.28	1.45	1.7	1.0	1.34
Great Lakes	2.43	2.17	1.6	1.4	1.9
U.S.	1.64	2.46	1.8	2.4	2.08

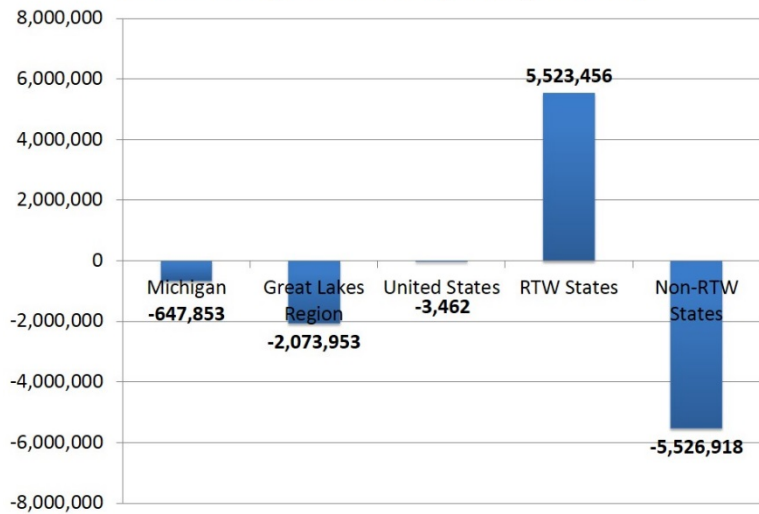
Exhibit 28: U.S. GSP Growth by Region (2011 - 2014)

Region	2011	2012	2013	2014	Average
New England	1.04	1.24	1.3	1.6	1.3
Mid East	1.20	1.48	0.7	1.7	1.3
Great Lakes	2.43	2.17	1.6	1.4	1.9
Plains	1.96	2.74	2.5	1.3	2.1
South East	0.97	2.12	1.6	1.7	1.6
South West	2.97	4.07	3.3	4.3	3.7
Rocky Mountains	1.52	2.10	4.1	3.9	2.9
Far West	1.51	3.33	2.0	2.7	2.4
U.S.	1.64	2.46	1.8	2.2	2.0

3. Net Population Migration

Michigan’s population net migration from 2000-2014 was among the worst in the United States, ranking 47th with a loss of 647,853 people. Net migration is defined by the difference in people leaving a state relative to people migrating to a state over a given period of time. The overall U.S.

Exhibit 17: Population Net Migration (2000-2014)



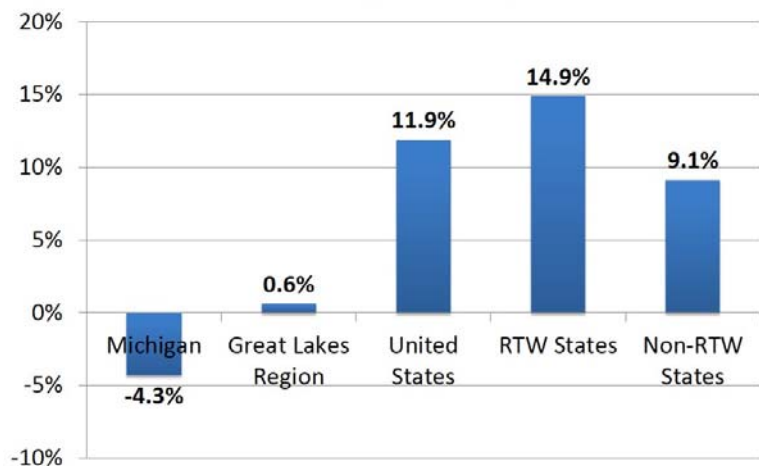
Source: Computed with data from Bureau of Labor Statistics (2000 – 2013)

population net migration for the same period was just over 3,400 people net negative with RTW states experiencing a positive net migration total of 5,523,456 and NRTW states suffering a net migration loss of 5,526,918 with the Great Lakes region realizing a loss of just over 2 million people. (see Exhibit 17). Even though population net migration is still negative, it is slowing with the net job creation that has taken place in Michigan over the last four years.

4. Job Growth by State

During the same period between 2000 and 2013, Michigan Non-Farm Employment growth declined 4.3% while U.S. overall growth grew 11.9%. RTW states saw employment growth at just under 15% while NRTW states job growth was 9.1%. The Great Lakes Region realized slightly positive growth (see Exhibit 32).

Exhibit 32 : Non-farm Payroll Employment Growth (2000-2013)

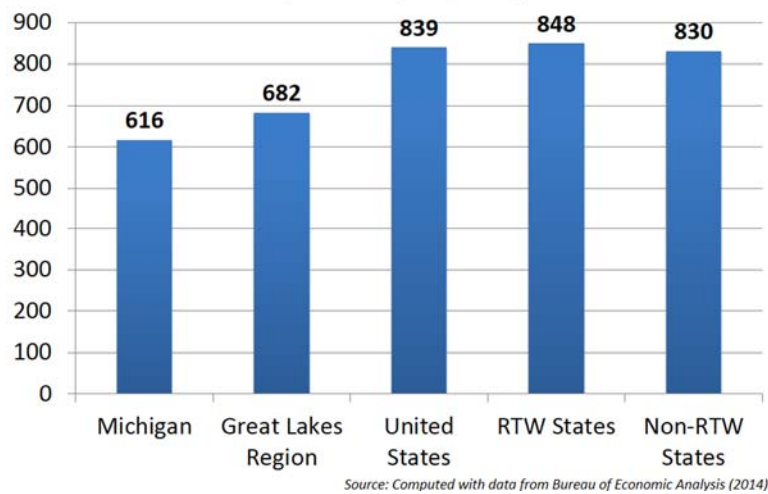


Source: Computed with data from Bureau of Economic Analysis (2000 - 2013)

5. Total Government Employees per 10,000 People

Michigan, as of 2014, has 616 government employees per 10,000 people, ranking it fourth best in the country again with this study (see Exhibit 61). This is a slight decrease from the 2013 study when Michigan had 619 government employees per 10,000 people, and is a sign of increasing government efficiency.

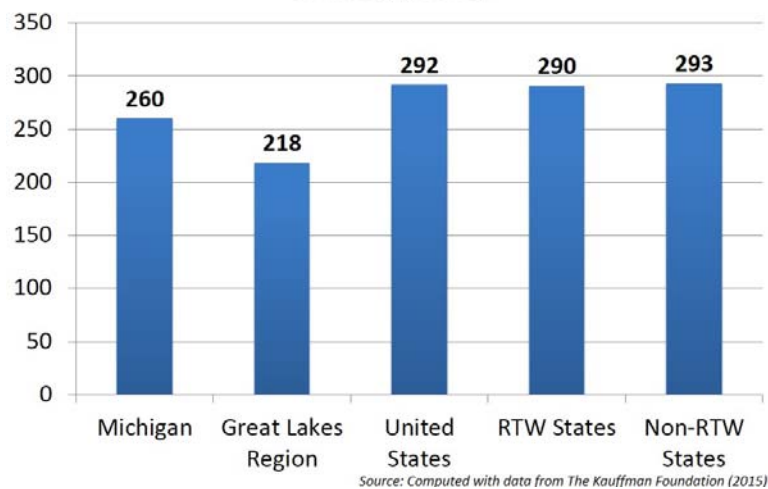
Exhibit 61: Total Government Employees per 10,000 People (2014)



6. Index of Entrepreneurial Activity per 100,000

The Kauffman Foundation ranked new business activity per month per state per 100,000 people in 2015 with the national average being 292 and the Michigan average at 260. The RTW state average was 290, the NRTW state average was 293 and the Great Lakes Region was 218 (see Exhibit

Exhibit 87: Kauffman Index of Entrepreneurial Activity (2015)

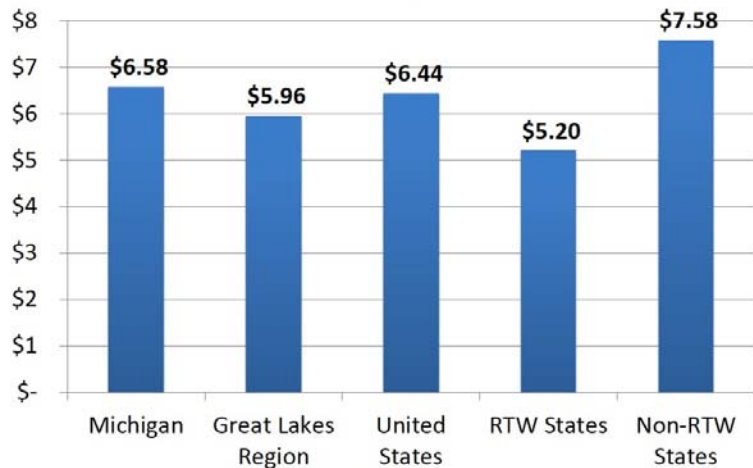


87). Since the “Great Recession”, the Michigan economy has shown strong growth in both income and gross state product clearly improving the environment to bring new business to Michigan and encouraging entrepreneurial growth as we no longer lag behind the national average and are far above Michigan’s average level of 180 in last year’s study.

7. Industrial Cost of Natural Gas

Michigan seems to be somewhat competitive in the area of average cost of electricity, but trails natural gas per unit relative to the Great Lakes Region and RTW averages. It was above the national average for electricity and below the RTW average price for electricity per unit in 2013.

Exhibit 79: Industrial Natural Gas Prices (May 2015)



Source: Computed with data from U.S. Energy Information Administration (May 2015)

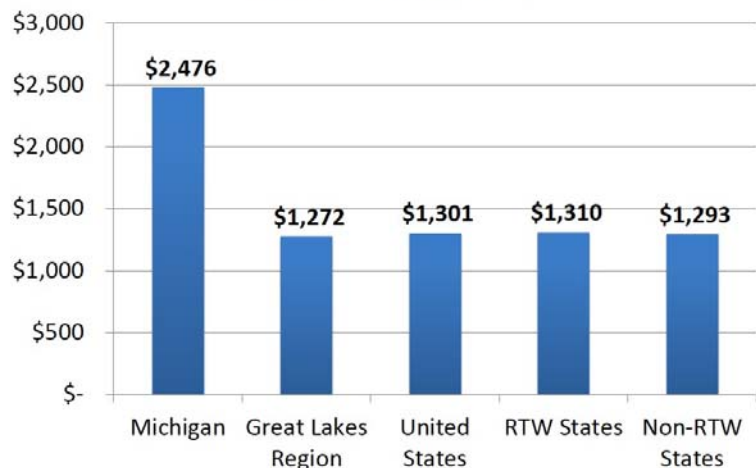
However, the RTW average for natural gas was below the national, NRTW, Great Lakes Region and Michigan averages in industrial natural gas costs we studied for 2013 (see Exhibit 75).

Michigan’s industrial natural gas price increased from last year’s study to this year’s study, and so did the cost for the rest of the country leaving Michigan at a slight competitive disadvantage, continuing to suggest an opportunity for public policy debate relative to pricing structure.

8. Automobile Insurance Cost

The cost of doing business in Michigan is high by a number of key metrics. The median price for an automobile insurance policy in Michigan is the highest in the country, according to a recent study released by

Exhibit 67: Average Price of Annual Car Insurance Policy (2015)



Source: Computed with data from CarInsuranceQuotes.com (2015)

CarInsuranceQuotes.com. The median average in Michigan is

\$2,476, the national average is just over \$1,300, the RTW average is \$1,310, the NRTW average is just under \$1,293 and the Great Lakes region is \$1,272. Michigan requires long-term catastrophic care as a part of its no-fault coverage; the cost figures out to be 5.07% of median

household income to purchase insurance. New Hampshire is the best bargain at 1.27% of median household income (see Exhibit 68). Again with the 2015 study, we used the same broader measure of cost with Michigan falling from 49 to 50th as the most costly state. Again an area for public policy consideration and improvement.

9. State Business Tax Climate Index

The *State Business Tax Climate Index* is produced annually by the Tax Foundation, one of this country’s leading fiscal policy think tanks. The index is a measure of how each state’s tax law affects economic performance. An overall index rank of 1 means the state’s tax system is most favorable for business; a rank of 50 means least. Rankings are weighted and do not average across to total. The chart depicts a strong and improving climate for business in Michigan in 2015. Michigan Ranks 13th overall, 10th best relative to corporate taxes, 14th in individual income taxes and 7th nationally in sales tax. Michigan is number 2 in the Great Lakes Region trailing Indiana which is ranked 8th in the country(see Exhibit 106).

Exhibit 106: State Business Tax Climate Index 2015

State	Overall Index Rank	Corporate Tax	Individual Income Tax	Sales Tax	Unemp. Insurance Tax	Property Tax
Wyoming	1	1	1	13	34	35
South Dakota	2	1	1	35	41	18
Nevada	3	1	1	39	43	9
Alaska	4	30	1	5	24	32
Florida	5	14	1	12	3	16
Montana	6	18	20	3	18	8
New Hampshire	7	48	9	2	44	43
Indiana	8	22	10	10	7	5
Utah	9	5	12	19	22	4
Texas	10	39	6	36	15	36
Great Lakes Region						
Michigan	13	10	14	7	47	27
Illinois	31	47	11	34	38	44
Ohio	44	26	47	32	5	20
Wisconsin	43	33	43	14	27	31

Source: Tax Foundation (2015)

A Snapshot of Key Great Lakes Region Cities

Using the most current data available, we took a close look at how key cities in the Great Lakes region have functioned since 2000. We looked at eight cities from the five Great Lakes region states including Detroit, Grand Rapids, and Lansing.

Michigan was clearly the hardest hit state economy in the country over the last 15 years. The data also show that Detroit was one of the most— if not the most— adversely affected city while Grand Rapids and Lansing had economic challenges as well. The inspiring news is that Grand Rapids was the top performer of the eight cities we analyzed between 2009 and 2014, with Detroit close behind, and Columbus, Ohio in third place. Grand Rapids was also the only city in the region to outperform the national average for GDP growth 2008-11 while Detroit, Grand Rapids and Columbus, OH performed at a significantly higher level than the U.S. metro average 2009 to 2014 based on the Bureau of Economic Analysis data. Chicago, Cleveland, Indianapolis and Milwaukee all trailed Grand Rapids, Columbus and Detroit in economic growth

Exhibit 121: An Economic Snapshot of Key Great Lakes Region Cities

	Metro Compounded Annual GDP Growth Rate (2000-2011)	Metro Compounded Annual GDP Growth Rate (2008-2011)	Metro Compounded Annual GDP Growth Rate (2009-2014)	Metro GDP (2014)	Rank Metro GDP (2011)	Rank Metro GDP (2014)	Number of Employers	City Population (City Proper) (2014)	City Median Household Income/State (2009-2013)
Chicago	0.64	-0.15	1.83	\$611 B	3	3	255,502	2,722,389	\$47,270/\$56,797
Cleveland	-0.15	-0.97	2.32	\$118 B	27	27	26,208	389,521	\$26,217/\$48,308
Columbus	0.53	-0.28	3.6	\$118 B	32	30	56,957	835,957	\$44,072/\$48,308
Detroit	-1.12	-1.25	3.4	\$237 B	14	13	50,588	680,250	\$26,325/\$48,411
Grand Rapids	0.10	0.63	4.06	\$52 B	66	56	15,528	193,791	\$39,227/\$48,411
Indianapolis	1.14	-0.32	2.6	\$126 B	28	26	63,805	848,788	\$41,962/\$48,248
Lansing	0.10	-0.30	2.1	\$21 B	112	112	8,363	114,620	\$36,054/\$48,411
Milwaukee	1.10	0.14	1.4	\$97 B	35	36	31,769	599,942	\$35,467/\$52,413
U.S. Metro Areas	1.48	0.24	2.0	\$14.3 T					

from 2009-2014 with Milwaukee falling below the national average over the period (see Exhibit 121).

A Changing Michigan: Comparing the 2012-2015 Michigan Competitiveness Studies

Michigan is showing stronger growth and a brighter economic picture when comparing our 2015 study to our 2012-2014 studies. Seven of the nine key factors outlined in last year’s Executive Summary have shown some or much improvement (Factors 1, 2, 4, 5, 7, 8, and 9) in 2014, while the other factors outline areas for concern or improvement (Factors 3 and 6). It should be noted that the cost of natural gas has declined overall nationally since 2012 due to increases in the U.S. supply related to the discovery, drilling and processing of new deposits domestically. However, Michigan is still a high-cost state for industrial natural gas. It should also be noted that we used a broad-based metric again to measure automobile insurance costs in the 2015 study. Even with a broader based analysis, Michigan is the top cost state for automobile insurance in the country, but average cost declined slightly in 2015 (see Exhibit 122).

Exhibit 122: Comparison of Key Michigan Data from 2012 - 2015 Studies

	2012 Study	2013 Study	2014 Study	2015 Study
Average Personal Income Per Capita Growth	2000-2010 20.3%	2000-2012 27.5%	2000-2013 30.0%	2000-2014 35.1%
Gross State Product Growth	1998-2011 26.5%	1998-2012 31.5%	1998-2013 42.1%	1998-2014 48.3%
U.S. Population Net Migration	2001-2010 -554,374	2001-2012 -590,635	2001-2013 -619,174	2000-2014 -647,853
U.S. Employment Growth	2001-2010 -16.90%	2001-2011 -13.90%	2001-2012 -5.8%	2000-2013 -4.3%
Total Government Employees Per 10,000 People	2010 657	2012 618	2013 630	2014 616
The Kauffman Index of Entrepreneurial Activity	2011 220	2012 180	2013 290	2015 260
Industrial Natural Gas Prices	2010 \$8.23	2012 \$7.42	2013 \$7.92	2015 \$6.58
Median Price of Annual Car Insurance Policy	2012 \$4,490.00	2013 \$2,520.00	2014 \$2,551.00	2015 \$2,476.00
Northwood University Competitiveness Index	2012 47	2013 39	2014 30	2015 29

Michigan has made dramatic progress over the 4 years of the *Michigan Chamber Foundation's Competitiveness Study*. Michigan has moved from a ranking of 47 in 2012 to 29 in 2015. Michigan has also made tremendous progress in the five factor categories, improving an average of 9 places per category since 2012 (see Exhibit 119). Through November of 2015, Michigan-based non-automotive, Fortune 500 companies have on average outperformed the Dow Jones Industrial Average, the NASDAQ Composite Index and the S&P 500 since the trough of the Great Recession (see Exhibit 123). Michigan has lead the Great Lakes Region in average GDP growth and job creation since 2010. There is much yet to do in areas ranging from energy cost and infrastructure to the cost of automobile insurance, yet there is no doubt at the end of 2015 it can clearly be said that Michigan's economic comeback continues. If one reflects on where the state was just a decade ago, Michigan has truly experienced a remarkable transformation.

Conclusion

Economists fundamentally agree on the sources that drive economic growth. Robert Barro (1991) in his seminal paper, “Economic Growth in a Cross Section of Countries,” studied the key economic and political factors that determined 98 countries’ competitiveness that led to economic growth and standards of living. It is clear from this and other studies that economic growth is helped by investments in human capital, lower tax rates, a lower regulatory burden on businesses and emphasis on human development. It is also clear that the U.S. in recent times has been steadily falling behind in these critical investment areas, or at least unable to keep up with the investments vis-à-vis many of its competitors. One factor might be that government in the United States is becoming increasingly more important in the overall scheme of things as compared to the private sector. In addition, the federal government budget deficit and national debt are growing alarmingly high and the financing of the deficit has been instrumental in increasing the cost of capital, making it difficult for private businesses to invest in critical areas. Many economists would argue that this unprecedented increase in government spending and national debt that exceeds 100% of U.S. GDP has been the primary reason behind the relative decline in American competitiveness (see Exhibit 10).

U.S. economic growth began to slow toward the end of the 20th century and experienced additional challenges in the early 21st century. Government was becoming more significant to the U.S. economy with the U.S. experiencing the highest corporate income tax rate in the industrialized world according to the U.S. Tax Foundation. Taxes continue to plague American businesses disproportionately to its competitors. The 2015 Heritage Foundation/Wall Street Journal’s *Index of Economic Freedom* measures political freedom, prosperity and economic freedom across 10 metrics to gauge the economic success of 184 countries around the world. In 1995, the U.S. was ranked fourth in the world on the index, and in 2015 the U.S. fell to 12th.

It is important to understand how large and important the Michigan economy still is within the U.S. and global economy. Michigan’s 2015 GSP makes it one of the 27 largest economies in the world if it were a country. The 2015 study paints a more positive picture of Michigan’s competitive position relative to most other U.S. states in comparison to our 2012, 2013 and

2014 studies. Michigan's ranking on *The Northwood University Competitiveness Index* of 29 indicates Michigan has made strong progress driven by a more friendly tax and regulatory environment over the last couple of years since our initial study in 2012. This study again indicates more time and study are needed to better determine the causal relationship between RTW legislation and competitiveness; for most of the time period measured in this study, Michigan was still a NRTW state. However, the study shows that RTW states generally were more productive than NRTW states. The research contained in this study should serve as a guidepost and tool for benchmarking for Michigan public policy leaders. For many years Michigan was the economic catalyst for much of the U.S. economy.

Michigan is once again moving in the right direction and deserves to be studied. A few good years of data do not make a trend nor spell "Mission Accomplished." Michigan continues to be: A) blessed with highly educated and skilled white and blue collar workforces, B) in possession of an improving tax and regulatory environment which is favorable for job creation, C) the center of the world's largest deposit of fresh water, D) at the center of waterway transportation for the Great Lakes Region, the Mississippi, and to Ontario, Canada, E) a hub for rail, trucking, cargo and air transportation, F) headquarters to many of the world's leading manufacturing and technology companies, G) home to world-class colleges and universities, and H) poised to realize an energy boom via safe oil and natural gas recovery if the public is afforded a rational and open debate.

Michigan has made it through the economically difficult first decade of the 21st century and continues to show strong signs of an economic turnaround. Michigan is showing that its economic growth is not only outpacing the other Great Lake states, but is a strong example for growth on a national level as well. There is no doubt that Michigan continues down a come-back path but it has not arrived yet. Can Michigan return to the position of greatness it once occupied in the U.S. business structure? We again answer unequivocally yes, but only if we continue to adopt growth-friendly public policies. Michigan must continue to set its sights high and benchmark best economic and political practices of this country's top performing states.

The good news is that many good things have happened in Michigan since last year's study causing other states to benchmark to our progress.

Finally, RTW has been an important factor, but not the answer or significant policy to date in advancing Michigan's economic competitiveness. Michigan's improvement on the Northwood University competitiveness index has been impressive since 2012 and is to be lauded.

However, it is important to understand that state policy can only "go so far" in driving a state economy forward in today's complex global economy. The U.S. federal government still takes the lion's share of income taxes placed on businesses and individuals and determines much of the regulatory burden faced by households and commerce in America today (see Exhibit 3).

Not only must Michigan continue to compete against an ever-changing, aggressive tax policy from other states trying to attract new business, it must compete against international competitors whose federal tax policies are often more attractive as well.

The United States is still the strongest and most vibrant economy in a world rattled with challenges, complexities and much uncertainty. It is a country burdened with the highest corporate income tax in the industrial world, a national debt that is approaching \$19 trillion (roughly 104% of GDP) and a regulatory environment that is increasing the cost of doing business relative to other countries. These and other factors have slowed U.S. growth for nearly a decade with U.S. GDP growth averaging roughly 2% since 2006, while its historic yearly average growth rate since WWII is 3.25% (see Exhibit 24). Michigan's economic comeback has been and continues to be impressive. If Michigan, and the other 49 states, are to realize significant growth in the future, policy makers in Lansing will need congruent policies from Washington, policies that will complement and supplement pro-growth and pro-business policies at the state level.

Introduction

The following research and conclusions emanate from a series of meetings and discussions between the study authors and members of the Michigan Chamber of Commerce board and staff. The study is a follow up to our previous 2012-2014 studies, which were conceived and designed to take a careful and unbiased look at the issue of competitiveness with specific reference to the U.S. and Michigan economies.

The U.S., and therefore the Michigan economy, is part of a highly complex global economy which faces constant and often radical change due to factors such as falling oil prices and global unrest (see exhibits 5 and 13). The study briefly outlines the current state of U.S. competitiveness in the global economy and then focuses on Michigan's economic performance relative to the other 49 U.S. states, the Great Lakes states and regionally within Michigan. The purpose of the study is to conduct a comprehensive analysis of the Michigan economy and evaluate its rank and performance across a number of metrics including but not limited to Gross State Product (GSP) growth, tax policy, regulatory policy and cost of doing business.

The 2015 study focuses on competition on a national scale by state, Right-To-Work versus Non-Right-To-Work states, an expanded Great Lakes Region states section, a comprehensive analysis of non-automotive Michigan based Fortune 500 companies, their stock competitiveness and entrepreneurial activity since the trough of "Great Recession." The study results are informative and unique and make a compelling case for bipartisan discussion, action and objective pro-business reforms.

The U.S. in a Complex Global Economy

Again this year, we begin the study with the statement that economists fundamentally agree about the source of economic growth. There are definite reasons why some nations grow and others don't. Robert Barro (1991) in his seminal paper "Economic Growth in a Cross Section of Countries" tried to answer that question. He studied the key economic and political factors that determined 98 countries' competitiveness that led to economic growth and standards of living. It is clear from his studies and others that economic growth is helped by investments in human capital, lower tax rate, less regulatory burden on businesses and emphasis on the overall human development matrix. According to Barro, there is a positive correlation between economic growth rate and the initial male educational attainment level, and a negative correlation exists between growth rate and fertility rate. His estimates indicated that economic growth can be significantly influenced by favorable government policies, such as enforcements of property rights and reduced government consumption expenditure. The obvious explanation

is that the strong enforcement of property rights provides a strong incentive to acquire property, which leads to increased work efforts and efficient allocation of resources. In addition, he argued that government expenditures crowd out private expenditure, and since private investment expenditure is productivity enhancing it contributes to economic growth. In addition he also found out that favorable terms of trade also is positively correlated with economic growth.

The most significant contribution made by Barro is the estimation of the convergence rate, which he estimated to be around 2.5% per year. This meant that with a 2.5% growth rate it will take approximately 27 years to bridge 50% of the gap between the current level of output for an economy and the steady state level of output for the same economy. His estimates indicate that it will take 89 years to bridge 90% of the gap between the current level and the steady state level of output. Barro has estimated that the convergence rates for U.S. states is also around 2.5% although there is tremendous homogeneity among U.S. states in terms of government policies, institutional characteristics and choice sets which included choices in fertility and savings rates. Barro also found a significant negative relationship between inflation and economic growth. He argued that inflation creates some uncertainties about the future value of money and hence reduces savings and investments, which in turn reduces economic growth.

Barro argued that the bulk of the cross country differential in growth rates and difference in growth rates among different U.S. states can be explained by the neoclassical growth theory, whereas the growth in the long run can be better explained by the endogenous growth theory. However, he also argued that most of the differences in growth rates among different U.S. states and U.S. regions can be explained by differences in bad economic policies of the government. If however, government focuses more on opening up its economy to more global competition, educating its work force better and on enforcing property rights than growth rates will converge and the gap between incomes slowly will get lower. If that is true then the focus will shift from explaining differences in growth rates among different countries and different states within the U.S. to how to increase productivity and shift the technological frontier to the right.

One significant yet curious finding of Barro is that democracy and freedom have a curvilinear impact on economic growth, indicating that at a low level of output more freedom leads to higher growth, but after a certain level of output more freedom reduces economic growth. Barro interpreted this finding by arguing that democracy is important in preventing dictatorial tendencies and associated siphoning of economic resources by the very few, but democracy also has the tendency to promote distributive efficiency over economic efficiency. It is

important to note that Barro did not provide any empirical evidence that such tendencies exist within vibrant democracies.

It is clear that the advantages that the U.S. enjoyed in these critical investment areas vis-à-vis its competitors are slowly eroding. Also, government is becoming increasingly more important in the overall scheme of things as compared to the private sector. In addition, the federal government budget deficit and national debt have grown alarmingly high, and the financing of the deficit, along with additional post-recession banking regulation, has been instrumental in increasing the cost of capital, making it difficult for private businesses to invest in critical areas. The cost in burden of introducing the Patient Protection and Affordable Care Act (PPACA) has caused many business leaders to be indecisive and delay decisions that would lead to greater growth in the economy over the last two years (see exhibit 14). Many economists argue that these unprecedented increases in government spending and new regulation have been the main reasons behind the relative decline in American competitiveness. In the appendix of this paper we provide numerous tables and charts that highlight this decline in U.S. competitiveness across a variety of factors.

It is important to note that the 20th century clearly was the “American Century.” The 1900s saw the United States become the world’s largest, most productive and most competitive economy while also becoming the world leader in invention and innovation. The U.S. was the envy of the world, producing new technologies and abandoning old ones while successfully commercializing the best at a rate the rest of the world could only dream of (see Exhibit 1). While the American competitive free enterprise system produced individual giants like Ford, GM, Standard Oil and U.S. Steel and billionaires named Rockefeller, Carnegie and Ford, the educated middle class realized rapid income growth and soaring standards of living that was the U.S. hallmark during this time (U.S. Department of Commerce, 2014).

U.S. economic performance was nothing short of exceptional during the 20th century driven by inventors and innovators. The U.S. became the world’s most entrepreneurial, most educated and most competitive economy in the world and remained that way throughout most of the century. This creation of millions of jobs and newly founded businesses and industries that performed at exceptional levels allowed America to shoulder the burden of World War I and II while realizing a 213% increase in real disposable personal income from \$9,240 in 1950 to \$28,899 in 2010 (U.S. Bureau of Economic Analysis, 2010).

Toward the end of the 20th century grave concerns were voiced as to whether or not the U.S. could or would remain in its position of prominence atop the global economy. Income growth and job growth began to slow toward the end of the 20th century and have continued to slow into the 21st century (U.S. Department of Commerce, 2012). Simultaneously after the collapse of the Berlin Wall, many of the former communist countries began to appear on the global

economic stage as viable competitors to the United States. Countries from Poland and Hungary to China and India began to reform their economies benchmarking to the historical success of the U.S. Over the last decade or more, evidence of a decline in American competitiveness has continued to mount. As an example, U.S. 15-year-olds ranked just 36th in math among the 66 industrialized countries that make up the Organization for Economic Cooperation and Development (OECD) countries and scored in the middle in science and reading on the Program for International Student Assessment (PISA) test given to students in just under 70 countries in 2012 as reported in December 2013. The test is given every three years with the Shanghai region of China finishing number one among the 72 countries taking the exam (see Exhibit 2). In response to this report, U.S. Secretary of Education Arne Duncan stated that “the brutal fact here is there are many countries that are far ahead of the U.S. and improving more rapidly than we are. This should be a massive wake-up call to the entire country (Bloomberg, 2010).”

In addition, according to the Congressional Budget Office and the Heritage Foundation, government at all levels in the United States consumed less than 8% of GDP by expenditures in 1902 and today consumes more than 36% (see Exhibit 3). Yet we believe less than 8% of government expenditures as a percent of GDP is unrealistically low in today’s complex global economy; yet we also believe that almost 37% is excessively high, creating a crushing burden on business and economic growth in the United States (see Exhibit 3).

Additionally, the U.S. tax system is becoming more and more burdensome to U.S. competitiveness relative to the rest of the world. According to 2013 data from KPMG and the Tax Foundation, the U.S. now has the highest corporate income tax rate in the industrialized world at somewhere between 39.2% and 40%, not because we have raised taxes but rather because many of our competitors have lowered their rates over the last decade (see Exhibit 6). In 2015, we also have among the highest long-term and integrated capital gains tax rates in the industrialized world at 28.7% and 51% respectively (see Exhibit 7).

In reviewing the 16 key indicators (including the number of scientists and engineers, corporate and government R&D, venture capital, productivity, trade performance and others) contained in the July 2011 Atlantic Century (Atkinson, 2011) report, the results show the U.S. ranked number four behind Singapore, Finland and Sweden.

While a fourth place ranking doesn’t appear to be too bad, additional studies and data sources paint a picture of a less nimble and less competitive U.S. economy and business environment. The 2015 Heritage Foundation/Wall Street Journal’s Index of Economic Freedom measures political freedom, prosperity and economic freedom across 10 metrics to gauge the economic success of 184 countries around the world. In 1995 the U.S. was ranked fourth in the world on the index, and in 2015 we have dropped to number 12 (see Exhibit 8). Another measure of economic competitiveness is the highly regarded International Institute for Management

Development's (IMD) Global Competitiveness Index, which consists of 323 variables and four sub-indices (Economic Performance, Government Efficiency, Business Efficiency and Infrastructure) and measures the competitiveness of nations by analyzing how they create a competitive business environment. The U.S. has dropped from being ranked number one on the 1999-2000 index to number five on the 2013-14 index behind Switzerland, Singapore, Sweden and Finland and returned to number 3 in the 2015-16 study, due to a slowing global economy and political uncertainty around the world (see Exhibit 4, 5, and 9).

U.S. competitiveness is being adversely impacted by a number of factors, including our mounting national debt which now stands at more than \$18.8 trillion and is greater than 103% of our projected 2015 GDP. The national debt of the United States took more than 205 years to reach the \$1 trillion mark, and in roughly 34 years we have increased it more than 18-fold (see Exhibit 10). According to the U.S. Department of the Treasury and the U.S. Congressional Budget Office (CBO), U.S. gross interest rate payments on treasury debt securities in 2014 was \$431 billion dollars (more than the total GDP of some of the most advanced economies in the world). It is also important to note that the debt has been serviced at a historically low average interest rate of just 1.8% (see Exhibit 11). We are concerned with the future burden of high gross interest rate payments in the United States if the economy recovers or if we enter an inflationary spiral; in either case, interest rates will rise as will the cost of servicing our national debt.

Many believe that the solution to the U.S. deficit problem is simply to raise taxes, especially on those in the top 1% on personal income taxes and on corporations. According to the Tax Foundation in 2012 (most recent tax data available), the top 1% of income earners paid 37.4% of total U.S. personal income taxes while the top 10% paid 68.3% (Tax Foundation, 2015). Additionally, from 2012-2015 the U.S. gained the dubious distinction of having the highest corporate income tax rate in the industrialized world, making the U.S. and the North American region less competitive (see Exhibit 12).

We are of the opinion that somewhere over the last 100 years the United States as a country has lost sight of what made it great. There is less understanding of the contributions of (a) economic and political freedom and (b) entrepreneurship and investment to (c) business success, infrastructure development and rising standards of living. Productivity and wealth generated by a free and dynamic business sector allow for households to prosper and government to exist and operate in a vital role in an economy. All three of the macro flow variables (households, business and government) are important (see Exhibit 15). It seems to us that the mix of resource allocation among households, businesses and government needs to be closely re-examined as government is consuming a large share of U.S. GDP thus thwarting U.S. competitiveness and growth. The above is also true on a smaller scale at the state level as the

50 states that comprise the United States of America often compete with each other as well as internationally for business, human capital and economic growth.

Michigan in a Changing U.S. Economy

The U.S. economy's pace for invention, innovation and new business formation was staggering throughout the 20th century, and Michigan was at the epicenter of much of that growth. Michigan-based companies like Amway, Chrysler, Credit Acceptance Corporation, The Dow Chemical Company, Ford, General Motors, Kellogg, Upjohn, Whirlpool and many others were complemented and supplemented by thousands of small- and medium-sized entrepreneurial organizations, making Michigan a center for business excellence (U.S. Department of Commerce Report, 2013). A further measure of Michigan's success in that period is the fact that Detroit had the highest per capita average income in the United States in 1950 (Skorup, 2009)

As we reported last year, Michigan began to lose its competitive edge to lower-cost U.S. states and foreign countries starting in the 1970s and continuing into the 21st century. Today, the Michigan economy is still heavily reliant upon the automobile industry and has not attracted sufficient new businesses to the state or developed home-grown entrepreneurs to ensure strong economic growth and wide-scale economic diversification. The following analysis will shed some light on the factors impeding economic growth in Michigan while comparing Michigan to numerous national averages and the average for U.S. Right to Work (RTW) states, U.S. Non-Right to Work (NRTW) states and Great Lakes Region states. We are pleased to report that Michigan has made strong progress both on a regional and national level as evident by the coming findings included in this study. Michigan has moved from an overall competitiveness rank of 47 in our 2012 study to 39 in our 2013 study, 30 in the 2014 study and 29 in this 2015 study.

Population, Employment and GDP Growth in Michigan and the United States

Michigan's U.S. population net migration from 2000-2014 was among the worst in the United States with a net loss of 647,853 people. Net migration is defined as the difference in people leaving a state relative to people migrating to a state over a given period of time. The overall U.S. population net migration for the same period was just over 3,400 net negative with RTW states experiencing a positive net migration total of 5,523,456 and NRTW states suffering a net migration loss of 5,526,918. The Great Lakes Region states lost 2,073,953 in net migration exodus (see Exhibits 16 and 17).

From 1998-2014 Michigan Gross State Product (GSP) lagged the national average significantly. While the U.S. economy grew from an overall Gross Domestic Product (GDP) level of more than

\$8 trillion dollars in 1998 to just over \$16 trillion dollars in 2013 or just under 81%, the Michigan economy grew by only 42% over the same period. Gross State Product grew at an average rate of roughly 105% in RTW states while realizing a slower growth rate in NRTW states of roughly 93%, while Great Lakes Region states grew to 68% over the same period (see Exhibits 18-24).

However, there is good news for the Michigan and Great Lakes Region over the last three years. Real Gross State Product grew at 2.07% in the Great Lakes Region while it only grew at 1.97% for the U.S. as a whole. The Great Lakes Region was the 4th best performing region in terms of average gross state product growth in 2011-2014 and Michigan led the region in average GSP growth at just under 2.56% during this time (see Exhibits 25-28).

As one should expect, poor growth or negative growth in GSP is generally correlated with higher levels of unemployment. From 2000-2014, the average unemployment rate in Michigan was 7.77%, while the average for the United States was 5.82%. Average unemployment in RTW states was 5.6877%, while NRTW states averaged 5.94% and Great Lakes Region states averaged 6.64% (see Exhibits 29 and 30). Michigan and U.S. unemployment has improved over the last 3 years; the averages above reflect unemployment averages since 2000.

Employment growth in the Non-Farm segment of the U.S. economy from 2000-2013 averaged 11.9%. Michigan's job creation was negative, ranked dead last out of the 50 states for job growth during this period. The average rank for job growth in RTW states over the same period was 20.3, while the average rate out of 50 states for NRTW states was 30.3 and Great Lakes Region states had an average rank of 47.8 (see Exhibits 30 - 34). It is important to note that Michigan was a net positive producer of new jobs over the last four years, creating almost 400,000 jobs. Even though Michigan was the only state to realize net population loss based on the 2010 census, Michigan has clearly showed above national average performance in economic growth and job creation over the last two years.

Household Income Growth and Minimum Wage in Michigan and the United States

Personal income per capita growth in Michigan grew 35.1% from 2000-2014 while the U.S. average income grew at 54.9% over the same period. Personal income growth over the period grew at just over 56% in RTW states, at 53.7% in NRTW states and just over 44% in Great Lakes Region states. It is also important to note that Great Lakes Region states and Michigan in particular outperform the national averages over the last three years (see Exhibits 35-37).

Median income (generally the parent or parents in the household) are often used as a benchmark income to show growth and demonstrate competitiveness. Michigan lags the national and Great Lakes Region averages while having an average median household income that is slightly higher than the averages for RTW in 2014. NRTW states have higher average

incomes, but the margin is narrowing relative to RTW states due to more rapid income growth and GSP growth in RTW states over the past decade. Michigan ranked 31 in overall median household income in 2014 (see Exhibits 38-39).

Minimum wage rates are often considered to be a barrier to entry for young and/or unskilled workers who either lack necessary skills or job experience or both. The U.S. federally mandated minimum wage floor is \$7.25, thus no state may set its minimum wage below this rate. The Michigan minimum wage for 2015 raised to \$8.15, and is scheduled to rise above \$10 over the next 4 years. Michigan is now \$.28 above the national average and \$.35 above the Great Lakes Region average. In 2015, Michigan is only \$.66 cents above the RTW average consistent from last year's study. There is a \$.73 differential premium between RTW and NRTW states regarding minimum wage rates (see Exhibits 40 and 41).

Assessing the Cost of Government in Michigan and the United States

Tax burdens, especially on business, have a generally negative effect on job creation, job growth and new businesses attraction. The average state and local income tax burden as a percent of income in Michigan in 2012 was 9.6%, which is down from 2011, and consistent with the U.S. average of 9.4%. The average in RTW states is 8.7% while the average in NRTW states is 10% and the Great Lakes Region states average 10.0% (see Exhibits 42 and 43). The average combined state and local tax rate on corporations in Michigan in 2015 was 6%, more than a half percent below the national average, almost 1.25% below the NRTW state average and better than the Great Lakes Region average (see Exhibit 44-45).

Unlike the federal government and many other states, Michigan's state debt as a percent of Michigan Gross State Product (GSP) has improved over last year's study and is down to 6.99% and now below the national average of 7.25% of GSP. This compares to 4.82% on average in RTW states, 9.49% in NRTW states and 7.41% in Great Lakes Region states (see Exhibits 50 and 51). State debt per capita in Michigan is relatively low and has decreased over last year's study, to \$3,069 per capita, with the U.S. average at \$3,790, the NRTW state average at \$5,189 and the Great Lakes Region states at \$3,668. However, the RTW average is considerably lower at \$2,274. Michigan's rate of per capita debt decline since last year's study is still among the most impressive in the country (see Exhibit 52 and 53). In examining state debt as a percent of tax revenue, Michigan fared well with the national average at 135.15% and the Michigan average down to 121.82% (a decline of more than 7% since last year's study), while RTW states' debt as a share of tax revenue was just under 100%, NRTW states average more than 168% and Great Lakes Region states averaged 136% (see Exhibits 54 and 55). Michigan's debt service as a share of tax revenue is 5.77% and is below the Great Lakes Region states average of 6.12% (see Exhibits 56 and 57).

Michigan's state liability ranking improved to 27 out of 50 in 2012 with RTW states' average rank at 23.3 and NRTW states' at 27.5 (see Exhibits 58 and 59). The effects of a challenging economy in Michigan and greater efficiencies and productivity at the governmental level have allowed the state to see a reduction in the number of government employees at all levels over the past decade. As of 2012 Michigan had 618 government employees per 10,000 people, with a slight decrease to 616 in 2013, still ranking at fourth largest in the country (see Exhibits 60 and 61).

Looking at state and local government employees alone, Michigan ranks among the ten lean-government states in the country and well below the U.S., Great Lakes Region, and even RTW state averages (see Exhibits 62 and 63).

Government operating efficiencies notwithstanding, Michigan received the highest level of federal bailout funds per capita associated with the financial crisis of 2008-2009. It can be argued that without said funds, the economic downturn in Michigan and in the U.S. automobile industry would have been dramatically worse, yet many debate the long-term effect the bailout will have on the competitiveness of both Michigan and the U.S. automobile industry. Federal bailout funds have much less impact on the Michigan economy today, as bailout funds in 2015 are \$385.99 per capita in Michigan based on 2015 study data (see Exhibits 64 and 65).

Cost of Key Goods and Services in Michigan and Nationally

The cost of doing business in Michigan is high by a number of key metrics. We used a more broad-based measurement in pricing the average automobile insurance policy in Michigan with some improvement over last year's study. The median average in Michigan is \$2,476 while the national average is \$1,301. The RTW average is \$1,310, while the NRTW average is \$1,293 and the Great Lakes Region average is \$1,272. Because Michigan requires long-term catastrophic care as a part of its no-fault coverage, the cost figures out to be just over 5% of household family income to purchase insurance. New Hampshire is the best bargain at 1.269% of household family income (see Exhibits 66-69).

Michigan is slightly more competitive in the area of average cost of electricity relative to last year's study, and remains less competitive in the areas of industrial natural gas prices and gasoline taxes. It is below the national average for electricity cost relative to all metrics for electricity per unit in 2014. However, in 2014 Michigan's gasoline tax is well above the national, Great Lakes Region, NTRW and RTW state averages with the ninth highest total gasoline tax in the nation. Moreover, RTW state averages for natural gas are no longer below the national, Great Lakes Region, NRTW and Michigan averages in general when looking at all three natural gas categories we studied for 2015 (see Exhibits 70-79).

Finally, the average insurance trust expenditure in Michigan is still among the highest in the country, but declined to \$860 per capita in 2013 from last year's study number of \$922 in 2012. The national average has decreased to \$885 with the Great Lakes Region average cost being \$973 per capita (see Exhibits 80 - 83).

Competitiveness Metrics in Michigan and the United States

In this section we have attempted to compile a number of measurement tools related to the business environment and business competitiveness of a state and the subsequent rankings. We have broken them down to compare Michigan with RTW and NRTW states.

We looked at a study by hospitality marketing research firm Cvent. It noted the top 50 cities for meetings and conventions, and Michigan for the fourth year in a row did not have one city in the top 50 (see Exhibit 84 and 85). Also, the Kauffman Foundation ranked new business start-ups per 100,000 people per month per state in 2013 with the national average being 292 and the Michigan average ranking 31 in the country at just 260. The RTW state average was 290, the NRTW state average was 293 and the Great Lakes Region state average was 218 (see Exhibits 86 and 87). In this study we were able to find additional data on establishment births and deaths from 2000-2013. In 2013, Michigan trailed the national average and the NRTW average in business births. RTW states are producing new organizations at a faster pace than NRTW states as well, but the Kauffman Index success in 201 gives us cause for optimism as Michigan moved up dramatically to 290 in 2013 from 180 in 2012 (see Exhibits 88-95).

Professors from the University of Warwick in England and Hamilton College in New York have done some path-breaking work trying to measure happiness and quality of life, having published it in the journal *Science*. We took their survey rankings from 2005-2008 and compared Michigan to RTW and NRTW states and discovered the following. In 2015, Michigan ranked 43rd happiest in the country which is still an improvement over our 2012 study in which Michigan ranked 48 in happiness, but not the 2014 study where Michigan ranked 37th (see Exhibits 96 and 97).

The American Legislative Exchange Council annually ranks states on economic performance considering seven factors ranging from corporate tax rates and GSP growth to non-farm payroll growth and population growth. We took the average of their 2003-2013 scores on several variables, and Michigan ranked dead last at 50 in economic performance with the average ranking for the Great Lakes Region at 45.60, RTW states average ranking of 19.50 and NRTW states averaging ranking of 31.04 (see Exhibits 98 and 99).

We then took the Forbes Best States for Business Index and broke it down to compare Michigan to RTW and NRTW states. The Forbes Index considers seven variables ranging from business costs and the regulatory environment to the economic climate and a state's growth prospects.

Michigan remains ranked 42 overall out of 50 with 1 being the highest and 50 being the lowest. The Great Lakes Region average according to the Forbes Index is 31, the RTW states average 20.54 and NRTW states measured 30.08 (see Exhibits 100 and 101). In this study, we again did a similar analysis with data from the 2015 CNBC Index of America's Top States for Business. The 10 general variables used by CNBC range from education and infrastructure, to cost of living and cost of business. Michigan fared much better here in 2015 with an overall rank of 22 out of 50, an improvement from 26 last year (50 being least favorable) with RTW states averaging just over 20 and NRTW states averaging just over 30 (see Exhibits 102 and 103). Michigan again fared less well on the Beacon Hill Institute's Competitiveness Index in 2014, which includes government and fiscal policy, security, infrastructure, human resources, technology, business incubation, openness and environmental policy factors. It ranked 28 (1 being most favorable) the GLR average was just over 30, RTW states averaged 25.46 and NRTW states averaged 25.54 (see Exhibits 104 and 105).

The Northwood University Competitiveness Index

In this study, Michigan shows strong improvement in many measures of competitiveness mentioned earlier, ranging from happiness and business climate to economic performance in general. In order to define the combined effects of our data, we took the roughly 200 variables in our study for all 50 states and conducted a factor analysis to find five categories or aggregate factors.

Unlike many other indices where the data and/or categories are assigned weights by the researchers, the Northwood Index assigns weights based on factor analysis. The weights are market sensitive since they change with changes in the economic conditions, and the indices are therefore subject to change as the values of our data change over time. Thus, the model delivers an overall ranking for a state, provides evidence of strengths and weaknesses relative to other states by category and the weights assigned in each category by the model may be useful in prioritizing efforts to improve a state's relative competitiveness.

The Factor Categories and the key variables that influenced each factor are:

Factor 1 (General Macroeconomic Environment) - considers general measures of statewide economic health such as unemployment rates, labor force participation rates, per-capita income and life-satisfaction (another measure of well-being in addition to per-capita income).

Factor 2 (State Debt and Taxation) - considers state debt per capita, cost of living and tax burden per capita (tax burden considers state sales taxes, selective taxes, license taxes, corporate income taxes and state income taxes).

Factor 3 (Workforce Composition and Cost) – considers percentage of the working population that is part of a union, percentage of the private working population that is a member of a union, the percentage of the public working population that is a member of a union and cash payments to beneficiaries (including withdrawals of retirement contributions) of employee retirement, unemployment compensation, workers’ compensation and disability benefit social insurance programs.

Factor 4 (Labor and Capital Formation) - considers employment growth, population growth, migration and organizational birth and death data.

Factor 5 (Regulatory Environment) – represents a composite of other indices that consider the business friendliness of a state's regulatory framework/environment.

Based on the most current available data, Michigan’s economic performance in the five categories is:

Exhibit 119: Michigan’s Economic Performance Ranking
(2012-2015)

	2015	2014	2013	2012
NU State Competitiveness Index: Michigan	29	30	39	47
Factor 1 – General Macroeconomic Environment	11	20	31	48
Factor 2 – State Debt and Taxation	13	12	14	10
Factor 3 – Workforce Composition and Cost	39	38	43	45
Factor 4 – Labor and Capital Formation	36	38	44	45
Factor 5 – Regulatory Environment	25	23	26	24

Overall, Michigan ranks 29th out of the 50 states in the Index. Consequently, the state’s increasingly strong performance in terms of Debt and Taxation and Regulatory Environment was enhanced in 2014 by its relatively strong performance in the factor categories of the General Macroeconomic Environment. The key reason for Michigan’s overall rank improvement in 2014 had to do with a stronger macroeconomic environment and a more competitive tax and regulatory environment. GDP growth in Michigan over the last three years has been led by a resurgence in the automobile, agriculture and tourism sectors. A careful analysis of factors 1, 3 and 4 coupled with sound public policies designed to address said issues will enhance Michigan competitiveness in the future (see Exhibits 107-118). The following is additional analysis of Michigan’s competitive environment.

Additional Data on State Business Climate

The *State Business Tax Climate Index* is produced by the Tax Foundation, one of this country's leading fiscal policy think tanks. The index is a measure of how each state's tax laws affects economic performance. An overall index rank of 1 means the state's tax system is most favorable for business; a rank of 50 means least. Rankings are weighted and do not average across to total.

The chart depicts a strong and improving climate for business in Michigan with an overall rank of 13 in 2015, up from 14 in 2014 (see Exhibit 106).

An Economic Snapshot of Key Great Lakes Region Cities

Using the most current data available, we took a close look at how key cities in the Great Lakes region have functioned since 2000. We looked at eight cities from the five Great Lakes region states including Detroit, Grand Rapids and Lansing from the state of Michigan. Michigan was clearly the hardest hit state in the country over the last 15 years. The data clearly shows that Detroit was one of the most, if not the most, adversely affected city while Grand Rapids clearly had economic challenges as well. The inspiring news is that Grand Rapids was the top performer of the eight cities we analyzed between 2008-11 and led in GDP growth 2009-14. Grand Rapids was also the only city in the region to outperform the national average for GDP growth in 2008-11 while Detroit, Columbus, OH, and Grand Rapids performed at a dramatically higher level than the U.S. metro average in 2009-14 (see Exhibit 121).

An Economic Snapshot at Key Michigan Metropolitan Areas

A new addition to the 2015 study is our analysis of gross state product by key metropolitan areas across the state of Michigan. Michigan has 14 of the 375 of the largest metropolitan areas in the United States, with metropolitan Detroit ranking largest in Michigan and 13th in the country, while Bay City ranks 14th in Michigan and 367th nationally. Michigan gross state product for 2014 was \$451,516,000,000. The 14 largest metropolitan areas of the state of Michigan produced a total of \$398,990,000,000 or 88.37% of Michigan's gross state product. To put Michigan's major metropolitan areas into perspective, if metropolitan Detroit were a country it would be the 46th largest economy in the world, slightly smaller than Greece and slightly larger than Portugal, the Grand Rapids-Wyoming metroplex would be the 80th largest economy in the world, with Lansing-East Lansing metropolitan area being the 106th largest economy and Bay City ranking number 158th in the global economy (see Exhibit 126).

Comparisons of Key Data from 2012, 2013 and 2014 Studies to 2015 Study

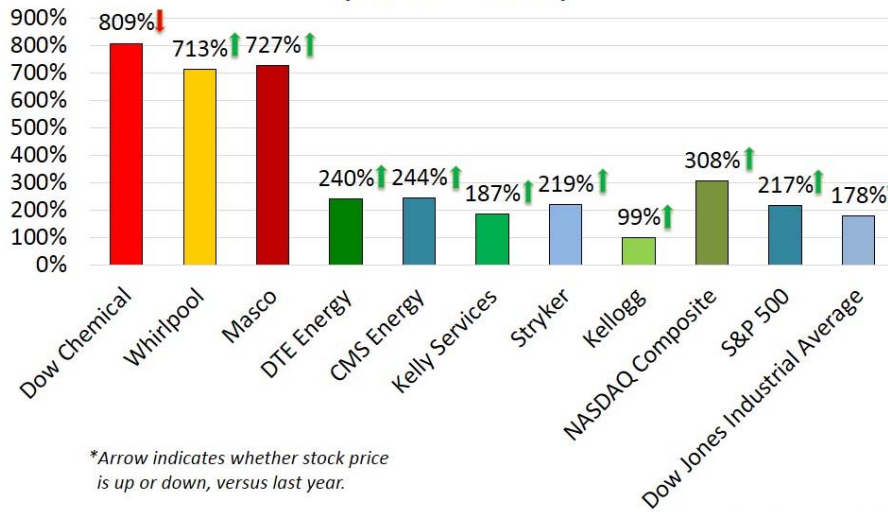
Michigan is showing stronger growth and a brighter economic picture when comparing our 2015 study to our 2012 - 2014 studies. Five of the nine key factors outlined in last year's Executive Summary have shown some or much improvement (Factors 1, 2, 4, 6 and 9) in 2014,

while the other factors outline areas for concern or improvement (Factors 3, 5, 7 and 8). It should be noted that the cost of natural gas has declined overall nationally since 2012 due to increases in the U.S. supply related to the discovery, drilling and processing of new deposits domestically. However, Michigan is still a high cost state for industrial natural gas. It should also be noted that we used a broader based metric to measure automobile insurance costs again in the 2015 study. Even with a broader based analysis, Michigan is the most expensive state for automobile insurance in the country (see Exhibit 122).

Comparison of Key Michigan Non-Automotive Fortune 500 Stocks

Michigan’s non-automotive Fortune 500 companies on average have outperformed the three major stock indices and the trough of the “Great Recession” (see Exhibit 123).

Exhibit 123: Percent Increase in Michigan Based Fortune 500 Company Stock Price (Non-Automotive) (03/09 – 11/15)



Source: Yahoo! Finance November 2015

Great Lakes Region Personal Income Growth by State in 2015

By the end of 2015, a key indicator of Michigan’s economic comeback was growth in personal income. The Bureau of Economic Analysis (BEA) reported in December of 2015 that 3 of the 5 Great Lakes Region states were in the top 21 nationally for personal income growth at the end of the 3rd quarter of 2015. According to the BEA report, Michigan ranked 19th, Ohio 21st and Wisconsin 18th, with Illinois and Indiana ranking 41st and 30th respectively (see Exhibit 128).

Exhibit 128: Great Lakes Region Personal Income Growth by State (Q₁, Q₂ and Q₃ 2015)

Great Lakes Region	Q ₁ (in Millions)	Q ₂ (in Millions)	Q ₃ (in Millions)	National Rank (Q ₁ - Q ₃)
Illinois	\$625,294	\$629,495	\$636,419	41
Indiana	\$266,793	\$268,935	\$272,431	30
Michigan	\$413,260	\$417,223	\$423,064	19
Ohio	\$496,958	\$501,543	\$508,063	21
Wisconsin	\$258,408	\$260,698	\$264,609	18

Cobb-Douglas Analysis

As a follow-up to our 2014 study we continue to assess whether RTW laws are a cause or effect. Once again we apply a different approach towards identifying whether RTW matters with regard to a state's economic performance. In this study, regression analysis was used to estimate a standard Cobb-Douglas production function. The Cobb-Douglas production function is a tool used by economists to examine the dependency between economic output and inputs such as capital, labor and technology.

The percentage changes in state gross domestic product, employment and organizational births were used to measure output, labor and capital formation in the Cobb-Douglas function. It was from this equation that we derived a measure for technological formation, a proxy for productivity or business competitiveness. A series of regression models were then estimated to examine the relationship between business competitiveness and whether a state had in place right-to-work legislation, controlling for factors including, but not limited to, state-by-state union participation rates, government expenditures and tax policy. In all of the models estimated, empirical support was provided for the notion that RTW states are more competitive.

There are two main conclusions that we have derived from this year's Cobb-Douglas Production Function analysis (with last year's results in mind):

1) When we use the measure of productivity using the Cobb-Douglas Production Function as a proxy for productivity and competitiveness, we can conclude that RTW states are more competitive than NRTW states at a statistically significant level. This is the case even after controlling for corporate tax rates, government spending, government taxation and union participation rates, whether they are public, private or private manufacturing.

2) There are limitations associated with using organizational births as a proxy for capital formation during economic downturns, especially considering that the most recent economic downturn was one of the largest in American history. Before the recession the percentage change in organizational births when combined with increases in employment explained a huge percentage of the variability in per-capita gross domestic product from one state to the next, but this was not the case for updated analyses that included information through 2011.

The conclusion is that during downturns, it is probably better to examine the percentage change in already existing business investment to proxy capital formation. The following is a detailed analysis of this year's Cobb-Douglas Production Function methodology and results.

1. The Meaning and Definition of Productivity

How competitive an economy is often depends upon how productive that economy is. Productivity is a measure of the rate at which outputs of goods and services are produced per units of inputs. Broadly defined, the inputs are labor, capital, and other inputs like raw materials.

$$\text{Productivity} = \text{Output/Input.}$$

Productivity is defined as the amount of goods and services produced per worker per hour. Thus productivity is technically the ratio between real output produced and the number of inputs that are needed to produce that output.

To study economic growth economists have often used the aggregate production function. In economics the aggregate production function relates physical output of a production process to physical inputs. The production function is one of the key concepts of mainstream neoclassical theories. Specifically, production function defines the physical relationship between the number of units of output produced and the number of units of inputs needed to produce that level of output. Traditionally, the aggregate level of output produced in an economy is a function of the available supply of labor and capital. Thus productivity is a “supply side” measure depicting the relationship between output and inputs.

2. Different Measures of Productivity:

There are two measures of productivity, labor productivity and total factor productivity.

Labor productivity: One important measure of productivity is labor productivity. Labor productivity is the ratio of output to labor input. It is measured by the number of units of output produced per labor hour. So labor productivity increases if the output (defined by the number of units that are produced) increases while number of working hours remains the same. Labor productivity is important because an increase in labor productivity raises per capita income. It indicates that the production of goods and services is expanding more rapidly than the increases in the population. This is the only way a country or state can ensure that the per capita income is expanding. Economists agree that only when there is an increase in per capita income can we say that the prosperity of the nation is increasing. Thus an increase in labor productivity, which leads to increases in per capita income, is one of the principle determinants of economic growth. In summary, economists are always in pursuit of economic policy that promises to ensure that the production of goods and services are greater than the growth in population leading to economic growth and prosperity. One has to be careful about interpreting labor productivity. Although labor productivity measures how productive labor is, it often reflects something more than that. Labor productivity measures output per unit of labor. However, we know that many other factors besides labor, like the quantity and quality of capital and the level of technology that is available to workers also influences output. So it

probably could lead to a misleading conclusion if we interpret labor productivity as solely attributable to performance of labor and nothing else.

Multi-Factor Productivity: However, since all economies face a finite supply of factors of production (labor and capital), it is important to also see how efficient an economy is in using its supply of labor and capital in producing output. In that sense productivity can also be broadly defined as a measure of efficiency. We all rely on productivity numbers because it indicates how competitive the country is. In economics we use the concept of productivity to serve as a proxy for efficiency. So we use the concept of multi-factor productivity also known as the total factor productivity (TFP). Multi-factor productivity or total factor productivity is the ratio of output to the combined input of labor capital and raw materials.

That efficiency, in turn, depends upon the level of technology and the efficiency of the prevailing institutions. In principle, total factor productivity is a more comprehensive measure of productivity.

3. What does Productivity Measure?

Productivity usually measures the following effects in a production process:

- a. Technological change or improvements:
- b. Improvements in human capital
- c. Institutional improvements resulting in reductions in inefficiencies
- d. A general increase in productivity could also signal resource allocation from low productivity sectors to high productivity sectors.

4. The Importance of Productivity Growth:

We know that $\text{Productivity} = \text{output}/\text{Input}$. Thus we can state the same thing in growth terms and come up with some real interesting conclusions. We can state that

$$\text{Productivity Growth} = \text{Output Growth} - \text{Input Growth}.$$

Thus we have

$$\text{Output Growth} = \text{Input Growth} + \text{Productivity Growth}.$$

So both the growth in input and the growth in productivity contribute to growth in output. So since increase in input is slow and often uncontrollable, one way to foster economic growth is through ensuring growth in productivity.

Since the per capita GDP often is used to reflect standard of living, we can see how productivity can have a profound influence on standard of living. $\text{Per capita income} = \text{GDP}/\text{Population}$.

So we can rewrite the equation to reflect an important fact:

$$\text{GDP/population} = [\text{GDP/\# of Hours worked}] \times [\# \text{ of Hours worked/Population}]$$

GDP is both income and output. So per capita GDP is the product of GDP/# of hours worked (labor productivity) and hours worked per person. Since it is very difficult to change the hours worked per person, it is therefore true that per capita income is directly related to labor productivity. Thus productivity growth is a crucial source of growth in sustainable living standards.

Since productivity growth is more output per unit of input, it provides benefits to all sections of the societies. Krugman (1992) states that “Productivity isn’t everything, but in the long run it is almost everything. A country’s ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker.” Increase in productivity means an increase in wages and benefits for labor, more profits and dividends to owners of capital and entrepreneurs, lower price for consumers, more taxes for the government and also more resources for remedying social imperatives, like reducing income inequalities, poverty and malnutrition. At the macro level, a country’s ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker. Blinder and Baumol (1993) state that over long periods of time, small differences in rates of productivity growth compound, like interest in a bank account and can make an enormous difference to a society’s prosperity. Nothing contributes more to reduction of poverty, to increase in leisure and to the country’s ability to finance education, public health, environment and the arts.

Thus productivity growth over long periods of time, can have a significant impact on how competitive and prosperous a nation is compared to other countries.

5. Sources of Productivity Growth:

Economists generally agree that technological progress, a new invention, an innovative process, an increase in the skill level of the labor force, institutional efficiency as measured by strong rule of law, well defined property rights and free and competitive markets, flexible labor markets and increased international trade are among some of the factors that influence Total Factor Productivity. A study (UNIDO Oct 2006) shows that increased productivity was due to “...human and physical capital, infrastructure, financial development, technology transfer through trade and absorptive capacity regarding knowledge creation, privatization and trade liberalization to achieve increased competition and economic institutions.” The same study indicated that research shows a long-term relationship between TFP and spending on research and development (R&D). However, research also shows that the impact of R&D spending is higher in countries with strong institutions. One of the major differences between rich and poor countries is that rich countries have an abundance of skilled work force, better institutional infrastructure and well defined property rights compared to the poor countries. Productivity

increases also allow trade between rich and poor countries without lowering of factor incomes in poor countries. Thus U.S. can still participate in mutually beneficial trade under NAFTA, without U.S. wages falling to the level in Mexico because of productivity differences between the U.S. and Mexico.

In the literature numerous variables have been identified as contributing to productivity. They are broadly classified under four different categories:

- a. **Economic Factors:** such as openness of the economy, the size of the government, the extent of price distortions both in the goods and the labor markets, the size of the government deficit and the savings rate of the economy.
- b. **Institutions:** such as the nature of the legal system, the nature of the political decision making process and the right to private property.
- c. **Social Base:** such as the extent of ethnic and religious composition of the society, whether there is ethnic and religious harmony and if the country has had a history of colonial exploitation.
- d. **Physical Base:** Such as physical locations, climate, the availability to raw materials and the disease environment.

Not all economists agree on the proposed categories outlined above. While economists like Jeffrey Sachs argue that physical base does play a direct and important role in the economic performance of a country, economists like Acemoglu and Rodrik argue that physical bases play an indirect role in the economic performance of the country through the specifics of the institution. However, in today's economy an increase in American productivity can be attributed to three additional factors. Increase in productivity has been fueled by increased competition fostered by growth in state, national, and international trade. Increased trade resulted from globalization which resulted in reduction in tariffs and non-tariff barriers to trade. In addition, the revolution in Information and Communication Technology (ICT) paved the way for increased globalization and trade and also increased productivity by increasing total factor productivity. Increased competition, globalization and improvements in ICT helped better the allocation of resources through fostering increased competition both internationally and domestically and between different companies and regions.

6. Measuring Productivity:

Any given economy owes a lot of the growth of its economy to increases in productivity. However, two critical issues emerge: (1) what are the determinants of A, and (2) how can the contribution of A be measured? We have already covered what are the factors that are determinants of productivity. So now we can move into measuring productivity growth.

Robert M. Solow (1957) set up the grounds for growth accounting. He considered a neoclassical production function

$$Y_t = A_t F(K_t, L_t)$$

where Y_t is aggregate output, K_t is the stock of physical capital, L_t is the labor force and A_t represents total factor productivity. The letter A measures what we will call productivity. A higher value of A means that the same inputs lead to more output. The central feature of any economy is that economic agents take factor inputs—labor, capital, and raw materials—and convert them into useful products.

To determine efficiency or productivity, one method that is often used is the growth accounting method first used by Robert Solow. In this method we break down the growth of output into the growth of the factors of production, capital and labor and the growth of the efficiency in the utilization of the factors of production. This method is often called the total factor productivity (TFP).

We consider a Cobb-Douglas production function $F(K_t, L_t) = K_t^\alpha L_t^{1-\alpha}$ with $0 < \alpha < 1$. Then, taking natural logarithms and differentiating both sides of (1) with respect to time t the growth rate of aggregate output can be expressed as

$$\dot{Y}/Y = \dot{A}/A + \alpha(\dot{K}/K) + (1-\alpha)(\dot{L}/L) \quad (2)$$

Note that the growth rates of physical capital and labor are weighted by α and $(1-\alpha)$ respectively. These weights correspond to the respective shares of rental payments for capital and labor in total income. With available data on α and the growth rates for output, physical capital and labor, TFP growth can be computed from (2) as the residual. Thus growth in productivity is given by

$$\dot{A}/A = \dot{Y}/Y - \alpha(\dot{K}/K) - (1-\alpha)(\dot{L}/L) \quad (3)$$

Measuring productivity as a residual involves a “two-stage” methodology, the first being obtaining a reliable estimate of productivity and then analyzing what policy variables has a significant impact on the productivity estimates. Solow suggested that total factor productivity (TFP), which is estimated as a residual, should be the left hand side variable in a cross-country or cross-region analysis of economic performance. This is due to the fact that a number of studies have indicated that TFP rather than factor accumulation is the principal determinant of

income differences across countries and across regions within the same country. Both the Neo-Classical Growth Theory and the New Growth Theory allow for this possibility. Both account for the fact that a significant variations in the growth rate across countries can be explained by variations in the growth rate of A_t .

In this method, the growth in productivity is thus measured as a residual. The percentage changes in state gross domestic product, employment and organizational births were used to measure the growth rate of output, labor and capital. Thus the growth of productivity is measured as the difference between the growth rate of output and the growth rate of factor inputs.

7. Estimation of Productivity:

Once the productivity rate was computed, a series of regression models were estimated, using the productivity growth rate as the dependent variable. All the factors that theoretically influence productivity could be used as independent variables. Some proxy of economic and social infrastructure, R&D spending, spending on higher education, regulatory structure, tax and government spending could be used as the independent variables in the regression equation estimating productivity. In addition, flexibility in the labor market, the influence of labor unions, and state union participation rate could also be used to access its impact on productivity. In particular, “right to work” legislation could be used as a dummy variable to see if such legislation has any impact on productivity and growth. Economists argue that a business-friendly environment is also critical in productivity growth. So a proxy for business-friendly environment could include but not be limited to the following set of variables: (1) government support for entrepreneurs, (2) reform in “new business” registration process like cost of registration, number of days for registration, (3) whether the states has one-stop business registration centers or not (4) dispute resolution mechanism and (5) bankruptcy procedures.

Cobb-Douglas Production Function:

To examine the link between whether right to work improves competitiveness, we started with the Cobb-Douglas production function as follows:

$$Y = K^{\alpha_1} L^{\alpha_2} T^{\alpha_3}$$

Take log:

$$\ln Y = \alpha_1 \ln K + \alpha_2 \ln L + \alpha_3 T$$

Re-specify as

$$\begin{aligned} \frac{Y'}{Y} &= \alpha_1 \left(\frac{K'}{K} \right) + \alpha_2 \left(\frac{L'}{L} \right) + \alpha_3 \left(\frac{T'}{T} \right) \\ \frac{T'}{T} &= \frac{\left(\frac{Y'}{Y} \right) - \alpha_1 \left(\frac{K'}{K} \right) - \alpha_2 \left(\frac{L'}{L} \right)}{\alpha_3} \end{aligned}$$

Growth in organizational births and statewide employment were used as proxies for K'/K and L'/L . From this, we estimated the growth in technology by taking the difference between the growth in state gross domestic product and the growth in the capital and labor in the state:

$$\text{Model 1: } \hat{Y} = \hat{\alpha}_1 K_i + \hat{\alpha}_2 L_i + \hat{\varepsilon}_i$$

The predicted value is the percentage change in a state's gross domestic product, K is the percentage change in capital formation, and L is the percentage change in labor formation.

We then regressed competitiveness on whether a state is RTW as follows:

$$\text{Model 2: } \frac{T'}{T} = \hat{\beta}_1 * RTW_i + \hat{\omega}_i$$

This model expanded to consider statewide unionization and overall tax burden as follows:

$$\text{Model 3: } \frac{T'}{T} = \hat{\beta}_1 * RTW_i + \hat{\beta}_2 * union + \hat{\beta}_3 * tax\ burden + \hat{\omega}_i$$

To assess whether the type of union, corporate tax rates, and total government expenditures affects competitiveness, this model was further elaborated upon as follows:

$$\begin{aligned} \text{Model 4: } \frac{T'}{T} &= \hat{\beta}_1 * RTW_i + \hat{\beta}_2 * union_i + \hat{\beta}_3 * tax\ burden_i + \hat{\beta}_4 * public_i \\ &+ \hat{\beta}_5 * private_i + \hat{\beta}_6 * private\ man_i + \hat{\beta}_7 * corp_i + \hat{\beta}_7 * gov_i + \hat{\omega}_i \end{aligned}$$

Output below:

Model 1	
Employment Growth	0.315*** (0.210)
Organizational Births	0.007*** (0.002)
N	50
r ²	0.542
aic	357.048
bic	360.872

Standard errors in parentheses

* p<0.10 ** p<0.05 *** p<0.01

	Model 2	Model 3	Model 4
Right-to-Work	9.909*** (1.323)	5.343*** (0.695)	4.856*** (0.751)
Union Membership		0.218*** (0.086)	0.114 (0.472)
Tax Burden		0.002*** (0.001)	-0.001 (0.001)
Membership Private			0.121 (0.500)
Membership Public			0.018 (0.067)
Membership Private Manu			-0.061* (0.083)
Corporate Tax			-0.015 (0.125)
Government Expenditures			0.001*** (0.000)
N	50	50	50
r ²	0.534	0.931	0.944
aic	325.402	233.593	233.838
bic	327.314	239.329	249.134

Standard errors in parentheses

* p<0.10 ** p<0.05 *** p<0.01

Explanation of results: As stated earlier, the predicted residuals from this model are used to estimate the percentage change in technological formation, our proxy for business competitiveness. As you can see by looking at models 2, 3 and 4, whether a state has in place RTW legislation has a strong, statistically significant effect on productivity. All models and parameter coefficients on whether a state is RTW are statistically significant at below the 1% level. This provides empirical support for the notion that RTW states have a competitive advantage in attracting business to their states.

Conclusion

It is important to highlight the large and expanding role of Michigan in this highly integrated global economy. Michigan's GSP is roughly equivalent to the GDP of the country of Austria, which would make the state of Michigan one of the 27 largest economies in the world. This study paints a much rosier picture of Michigan's competitive position relative to most other U.S. states since the 2014 study was released. Michigan's ranking on *The Northwood University Competitiveness Index* of 29 indicates that although Michigan has made tremendous progress over the last three years, it has room for improvement and reason for optimism in the future. The study's empirical analysis indicates that RTW states have positive and statistically significant impact on gross state product growth. Effects of RTW legislation are often hard to isolate since states adopting RTW legislation are also states with a pro-business environment. However, regardless of the technical difficulty of establishing causality between RTW legislation and economic and productivity growth, it is clear that RTW in its own right or in conjunction with other complementary business provisions did have a statistically significant impact on both economic growth and productivity in Michigan.

The research contained in this study should, however, serve as a guidepost and tool for benchmarking for Michigan public policy leaders. For many years Michigan was the economic catalyst for much of the U.S. economy, Detroit put America and much of the world on wheels, and Michigan was the "Arsenal of Democracy" in WWII.

The *2015 Michigan Chamber Foundation Competitiveness Study* clearly notes that there has been tremendous economic progress in the state of Michigan over the last few years. RTW legislation has made Michigan a more attractive place, especially for manufacturing and construction businesses to locate. Michigan has a relatively favorable business tax climate and an improving regulatory environment which is also attractive to new and existing businesses. The study data indicates that Michigan has been a regional and national leader in GSP growth, entrepreneurial activity and declining unemployment rates over the last few years. In addition, Michigan's two largest cities, Metro Detroit and Metro Grand Rapids, have shown strong growth potential over the last five years. Grand Rapids is one of the economically strongest

cities in the Great Lakes Region for more than a decade despite the economic conditions in the state of Michigan as a whole, but a few good years of data do not make a trend nor spell “Mission Accomplished.” Michigan is blessed: A) with exceptional institutes of higher learning, graduating highly educated white collar workforces, B) a highly skilled and productive blue collar workforce, given Michigan’s long and productive experience in the automotive industry, C) an improving tax and regulatory environment which is favorable for job creation, D) the epicenter of the world’s largest deposit of fresh water, E) a gateway of waterway transportation for the Great Lakes Region, the Mississippi and to Ontario, Canada, F) a hub for rail, trucking and air transportation, G) home to many of the world’s leading manufacturing and technology companies, and H) poised to realize an energy boom via safe oil and natural gas exploration once that comes to fruition.

Michigan has made it through the economically difficult first decade of the 21st century and is showing strong signs of an economic turnaround. Michigan is clearly showing that its economic growth is not only outpacing the other Great Lake states, but is a relatively strong example for growth on a national level. There is no doubt that Michigan is continuing on the comeback path, but has not yet arrived. Can Michigan return to the position of greatness it once occupied in the U.S. business structure? The answer is unequivocally yes, but only if we continue to adopt growth-friendly public policies. Michigan must continue to set its sights high and benchmark the best economic and political practices of this country’s top performing states. The good news is that in the last year many good things have happened in Michigan causing other states to benchmark to our progress.

The good news on the Michigan economy continues and is once again incorporated in this year’s study. The Michigan economy is not only improving, but doing so across a broad-based range of businesses, as noted by the non-automotive Fortune 500 stock growth of Michigan companies in recent years, as well as the dramatic improvement on the *Kauffman Index of Entrepreneurial Activity* in 2014. Michigan must continue to be open to new ideas, change and improvement while celebrating her successes and strengths.

The Michigan economy began its sixth year of economic recovery in the summer of 2015. Michigan has led the Great Lakes region in GDP growth since the recovery began in earnest in 2010 with Michigan ranking 19th in state GDP growth in 2014. Job growth has slowed a bit, but still averaged a healthy 2.8 percent growth in the first half of 2015. The University of Michigan projects good job growth of 1.8 percent for the second half of 2015 and solid job growth of 1.4 percent continuing into the first half of 2016. Since the end of the “Great Recession,” Michigan has experienced the greatest decline in unemployment of any state in the country based on U.S. Bureau of Labor Statistics data. Michigan’s unemployment rate fell 9.6 points from June 2009 (14.9%) to July 2015 (5.3%). In fact, Michigan had 360,000 more jobs by the end of 2014

than it had at the end of 2009. Michigan also ranks number one in the Great Lakes region and 20th nationally in income growth for the first half of 2015. Michigan, once again in 2015, led the Great Lakes region in entrepreneurial activity and new job growth according to the Kauffman Foundation, but dropped nationally from its recent high in 2014 (see exhibit 86).

The comeback of the Michigan economy is a testimony of its resilience and the resilience comes for Michigan's competitive spirit. It is therefore incumbent on Michigan's lawmakers to stoke that spirit with a pro-business tax-friendly environment where free-market instincts can soar high to regain Michigan's former glory.

Finally, RTW has been an important factor, but not the answer or significant policy to date in advancing Michigan's economic competitiveness. Michigan's improvement on the Northwood University competitiveness index has been impressive since 2012 and is to be lauded.

However, it is important to understand that state policy can only "go so far" in driving a state economy forward in today's complex global economy. The U.S. federal government still takes the lion's share of income taxes placed on businesses and individuals and determines much of the regulatory burden faced by households and commerce in America today (see Exhibit 3). Not only must Michigan continue to compete against an ever-changing, aggressive tax policy from other states trying to attract new business, it must compete against international competitors whose federal tax policies are often more attractive as well.

The United States is still the strongest and most vibrant economy in a world rattled with challenges, complexities and much uncertainty. It is a country burdened with the highest corporate income tax in the industrial world, a national debt that is approaching \$19 trillion (roughly 104% of GDP) and a regulatory environment that is increasing the cost of doing business relative to other countries. These and other factors have slowed U.S. growth for nearly a decade with U.S. GDP growth averaging roughly 2% since 2006, while its historic yearly average growth rate since WWII is 3.25% (see Exhibit 24). Michigan's economic comeback has been and continues to be impressive. If Michigan, and the other 49 states, are to realize significant growth in the future, policy makers in Lansing will need congruent policies from Washington, policies that will complement and supplement pro-growth, pro-business policies at the state level.

References

- Acemoglu, D., Johnson, S., and J.A. Robinson. (2001). "Colonial Origins of Comparative Development: An Empirical Investigation", *American Economic Review*, Vol. 91, pp. 1369-1401.
- Acemoglu, D., Johnson, S., and J.A. Robinson. (2002). "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution", *Quarterly Journal of Economics*, Vol. CXVII, pp. 1231-94.
- Barro, R. (1991). Economic Growth in a Cross-Section of Countries. *The Quarterly Journal of Economics* 106, No.2, 407-433.no.
- Blinder, A. and Baumol, W. (1993). *Economics: Principles and Policy*, Harcourt Brace Jovanovich, San Diego, p.778.
- Easterly, W. and Levine, R. (2001). "It's Not Factor Accumulation" *The World Bank Economic Review* 15(2): 177-219.
- Isaksson, A. and Thiam Hee, N. (2006) "Determinants of Productivity: Cross-Country Analysis and Country Case Studies", *UNIDO*.
- Griliches, Z. and Jorgenson, D. (1967). "The Explanation of Productivity Change." *The Review of Economic Studies* 34 (2): 249-280.
- Klenow, P. and Rodríguez-Clare, A. (1997). "The Neoclassical Revival in Growth Economics: Has It Gone Too Far?" *NBER Macroeconomics Annual 1997*, 12: 13-103.
- Krugman, P. (1992). *The Age of Diminished Expectations: US Economic Policy in the 1980s*, MIT Press, Cambridge, p. 9.
- Pritchett, L. (2001). "Where Has All the Education Gone?" *The World Bank Economic Review* 15(3): 367-391.
- Rodrik, D., Subramanian, A., and Trebbi, F. (2002). "Institutions Rule: The Primacy of Institutions Over Integration and Geography in Development," National Bureau of Economic Research Working Paper No. 9305.
- Sachs, J. and Warner A. (1995). "Natural Resource Abundance and Economic Growth", National Bureau of Economic Research working paper No. 5398, December (1995b).
- Sachs, J. and Warner A. (1997). "Fundamental Sources of Long Run Growth", *American Economic Review*, May 1997, pp. 184-188.
- Solow, R. (1957). "Technical Change and the Aggregate Production Function." *Review of Economics and Statistics* 39: 312-320.

Tax Foundation, (2012, 2013, and 2014). *Study of Tax Competitiveness Among States*.

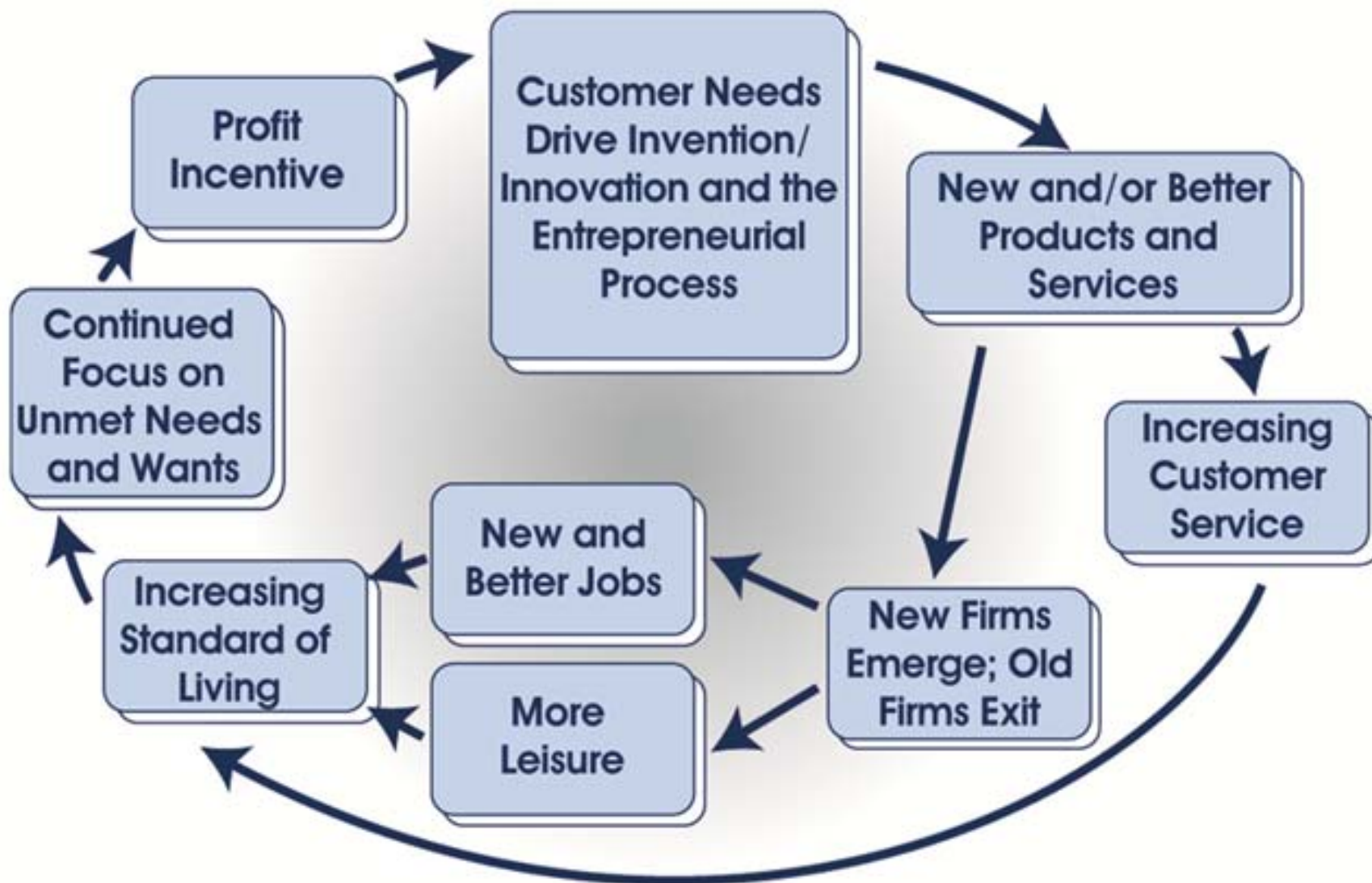
U.S. Department of Commerce (2012, 2013, and 2014). *U.S. Competitiveness and Innovative Capacity Report*.

U.S. Bureau of Economic Analysis. (2010 and 2011). *Survey of Current Businesses*.

All additional sources of data are referenced on the charts contained in this study.

Exhibits

Exhibit 1: Economic Cycle of Human Progress



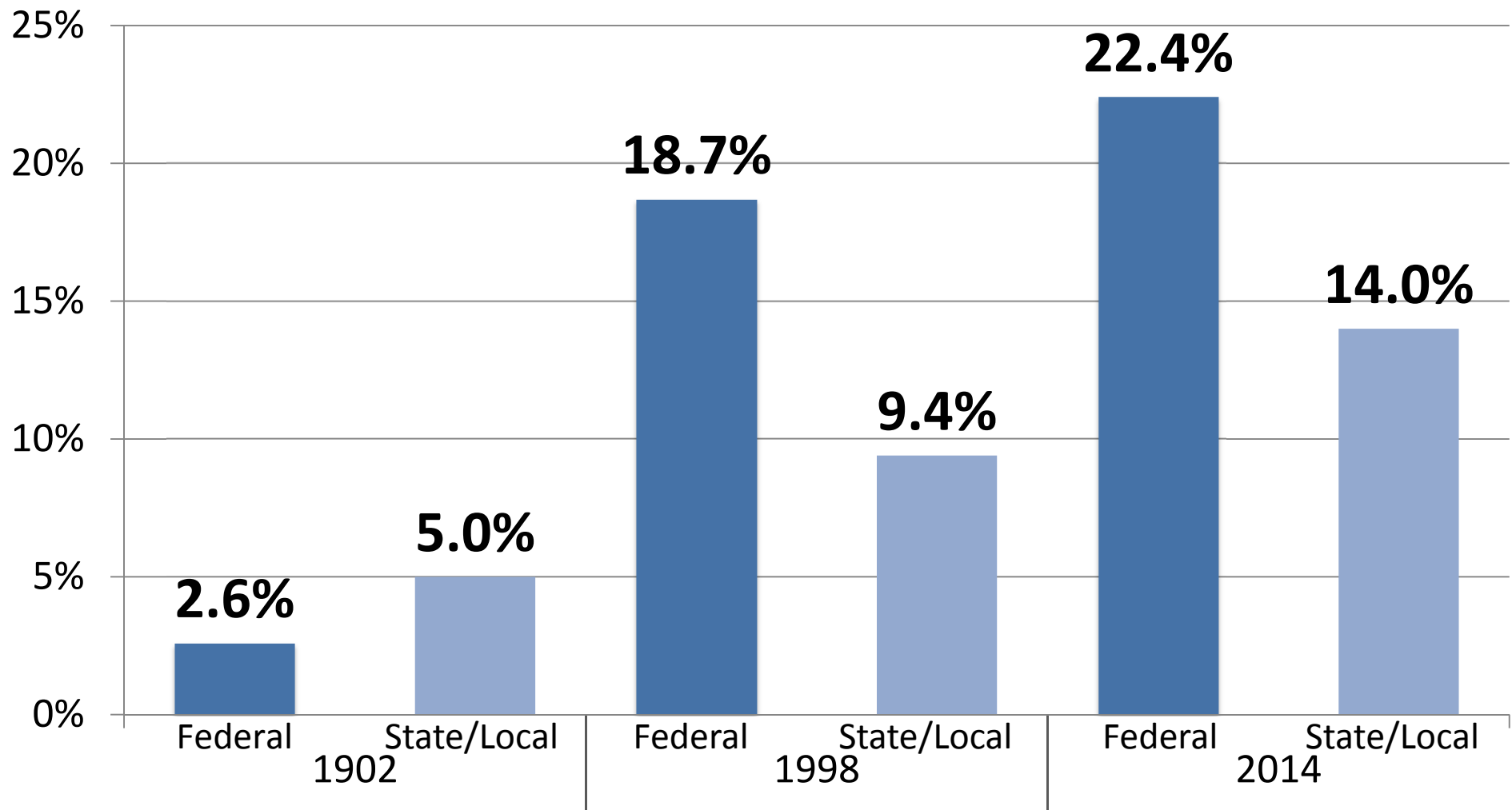
Sources: *Myths of Rich and Poor* (1999) and *When We Are Free* (2005)

Exhibit 2: World Education Rankings (2012)

	Reading	Math	Science
South Korea	5	5	7
Finland	6	12	5
Canada	8	13	10
Japan	4	7	4
Netherlands	15	10	15
Switzerland	18	9	10
United States	27	36	28
Germany	20	16	12
France	22	25	26
United Kingdom	26	26	20

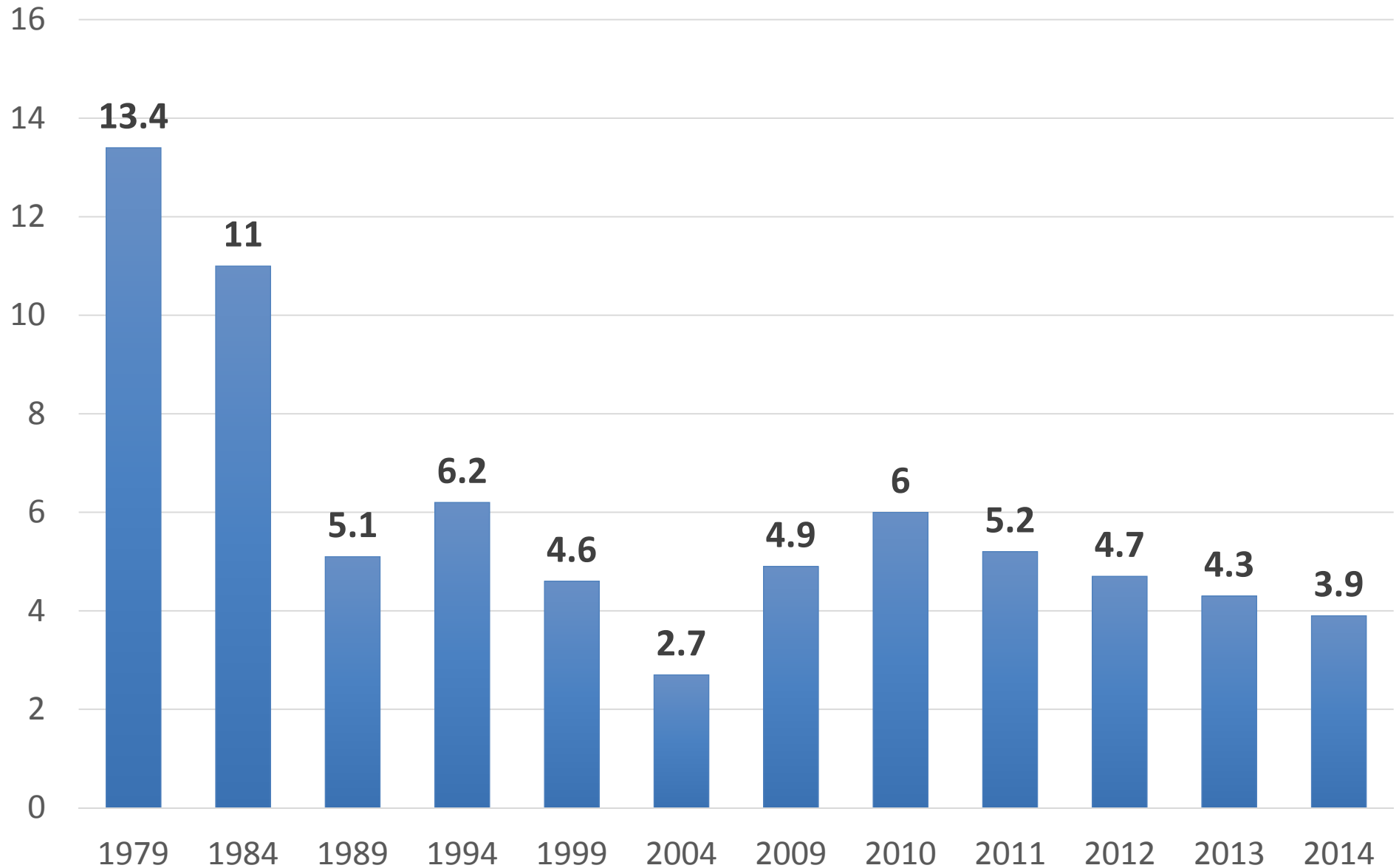
Sources: The Programme for International Student Assessment (PISA) and the Organization for Economic Cooperation and Development (OECD, 2013)

Exhibit 3: Government Expenditures as a Percentage of GDP



Sources: Computed with data from the Joint Economic Committee Report (1999), U.S. Statistical Abstract and the Bureau of Economic Analysis (2014) and Heritage Foundation (2012)

Exhibit 4: Percent of Hourly Workers Paid at or Below the Prevailing Federal Minimum Wage



Sources U.S. Bureau of Labor Statistics, 2015

Exhibit 5: Global GDP Growth (2001-2014)

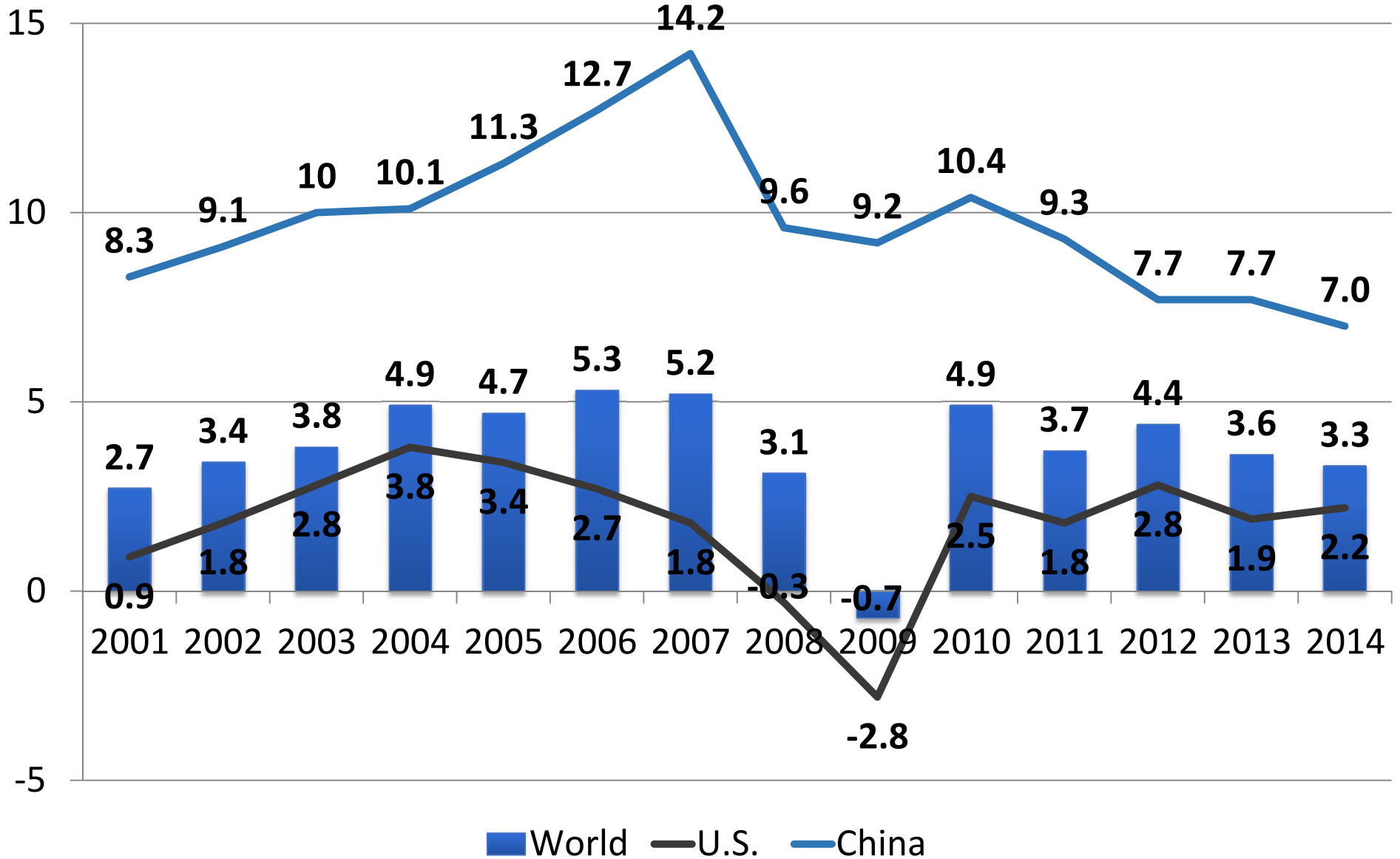


Exhibit 6: 2015 Corporate Tax Rates

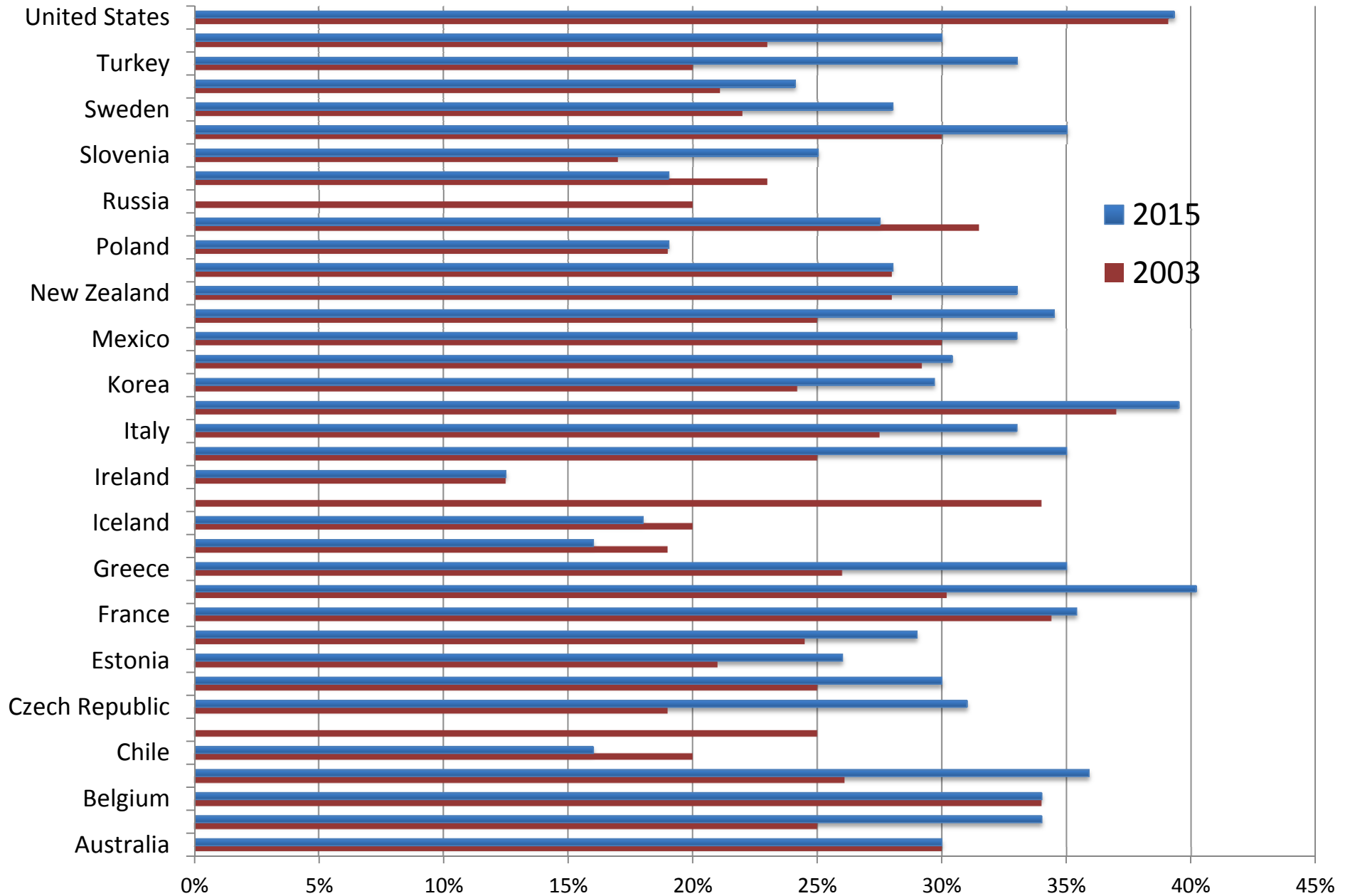
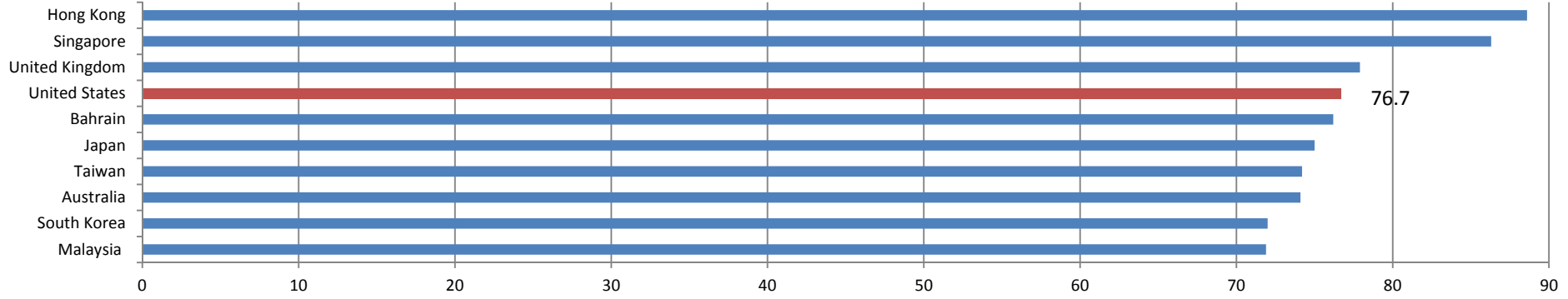


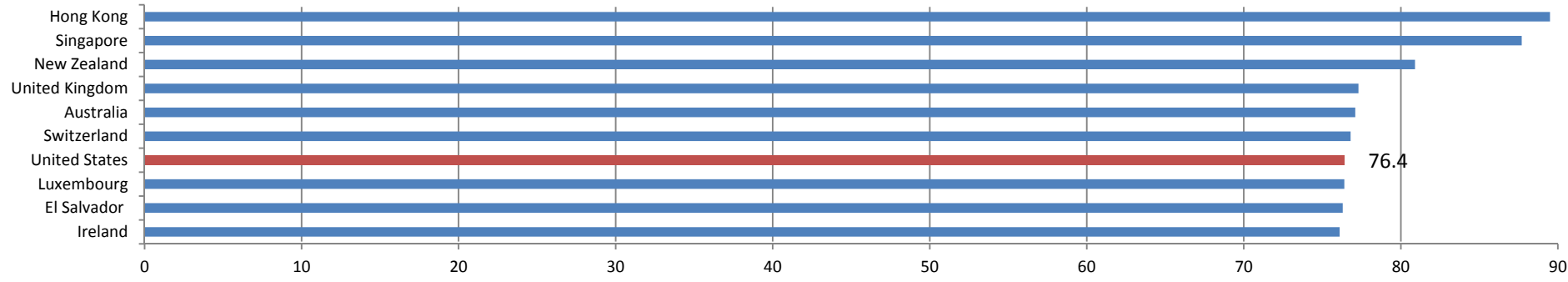
Exhibit 7: Capital Gains Rate by Country

Country	Top Long-Term Capital Gains Tax Rate (2015)	Integrated Capital Gains Tax Rate (2011)	Country	Top Long-Term Capital Gains Tax Rate (2015)	Integrated Capital Gains Tax Rate (2011)
Australia	22.50%	46.00%	Japan	20.00%	46.00%
Austria	25.00%	25.00%	Korea	0.00%	24.00%
Belgium	0.00%	34.00%	Luxembourg	0.00%	29.00%
Canada	22.50%	44.00%	Mexico	10.00%	30.00%
Chile	20.00%	34.00%	Netherlands	0.00%	25.00%
Czech Republic	0.00%	19.00%	New Zealand	0.00%	26.00%
Denmark	42.00%	57.00%	Norway	27.00%	48.00%
Estonia	21.00%	38.00%	Poland	19.00%	34.00%
Finland	32.00%	47.00%	Portugal	28.00%	27.00%
France	38.00%	55.00%	Slovak Republic	25.00%	34.00%
Germany	25.00%	48.00%	Slovenia	0.00%	20.00%
Greece	15.00%	20.00%	Spain	27.00%	45.00%
Hungary	16.00%	32.00%	Sweden	30.00%	48.00%
Iceland	20.00%	36.00%	Switzerland	0.00%	21.00%
Ireland	33.00%	34.00%	Turkey	0.00%	20.00%
Israel	25.00%	39.00%	United Kingdom	28.00%	47.00%
Italy	20.00%	60.00%	United States	28.70%	51.00%

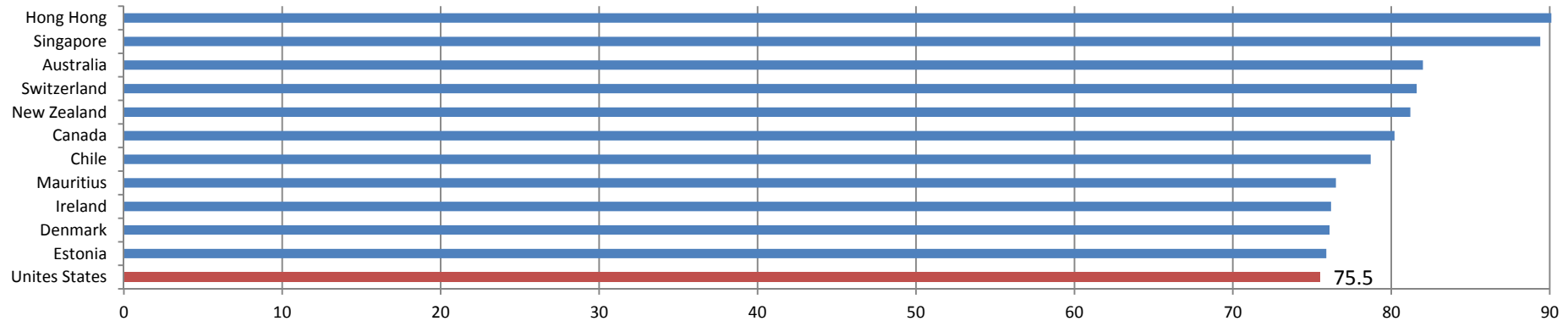
Exhibit 8: 1995 Heritage/WSJ Economic Freedom Index



2000 Heritage/WSJ Economic Freedom Index



2015 Heritage/WSJ Economic Freedom Index



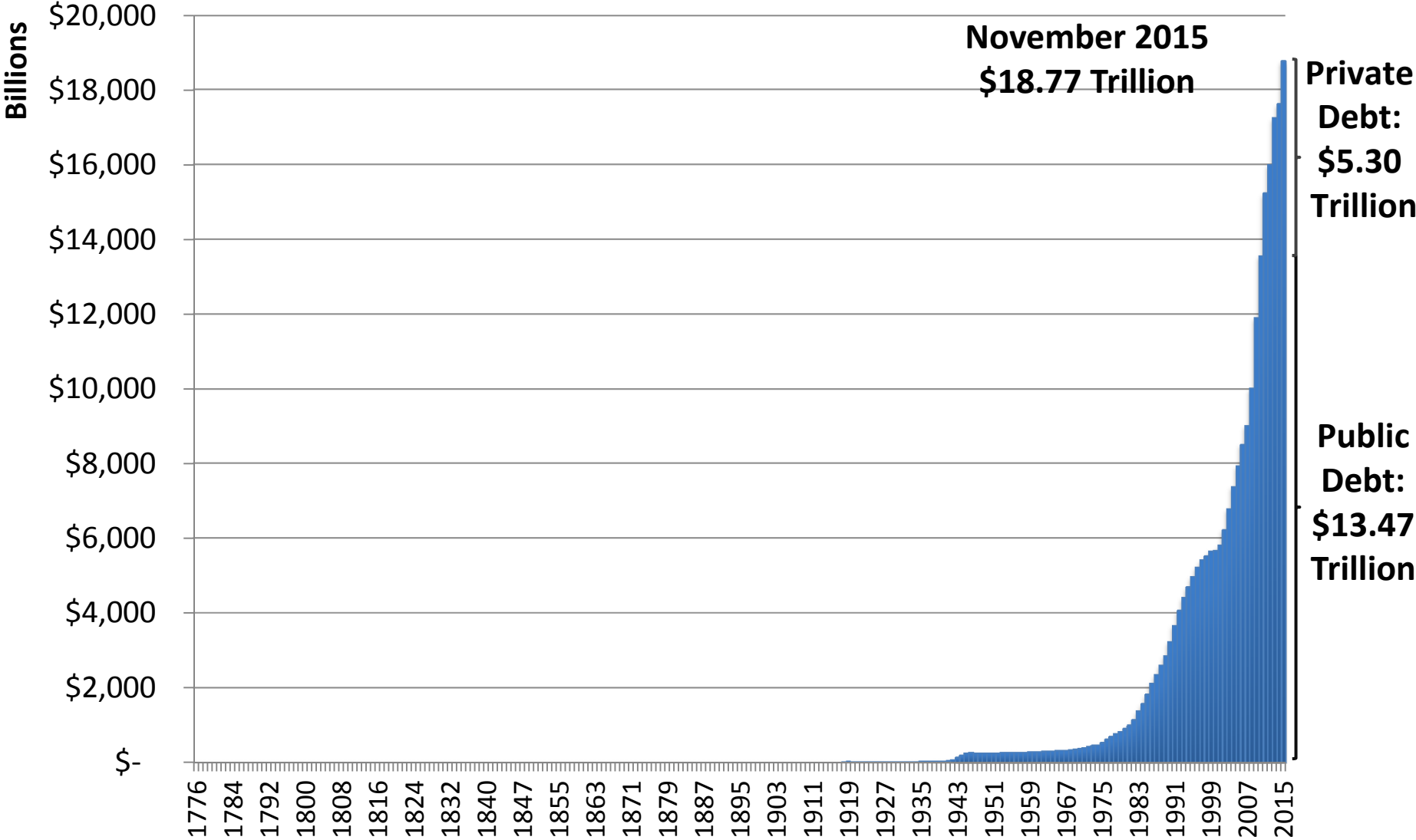
Sources: The Heritage Foundation and the Wall Street Journal (2015)

Exhibit 9: World Economic Forum's Global Competitiveness Report

Rank	1999-2000	2013-2014	2015-2016
1	United States	Switzerland	Switzerland
2	Finland	Singapore	Singapore
3	Netherlands	Finland	United States
4	Sweden	Germany	Germany
5	Switzerland	United States	Netherlands
6	Germany	Sweden	Japan
7	Denmark	Hong Kong SAR	Hong Kong SAR
8	Canada	Netherlands	Finland
9	France	Japan	Sweden
10	United Kingdom	United Kingdom	United Kingdom

Source: World Competitiveness Forum (September 2015)

Exhibit 10: History of the U.S. National Debt Outstanding



Source: U.S. Department of the Treasury (2015)

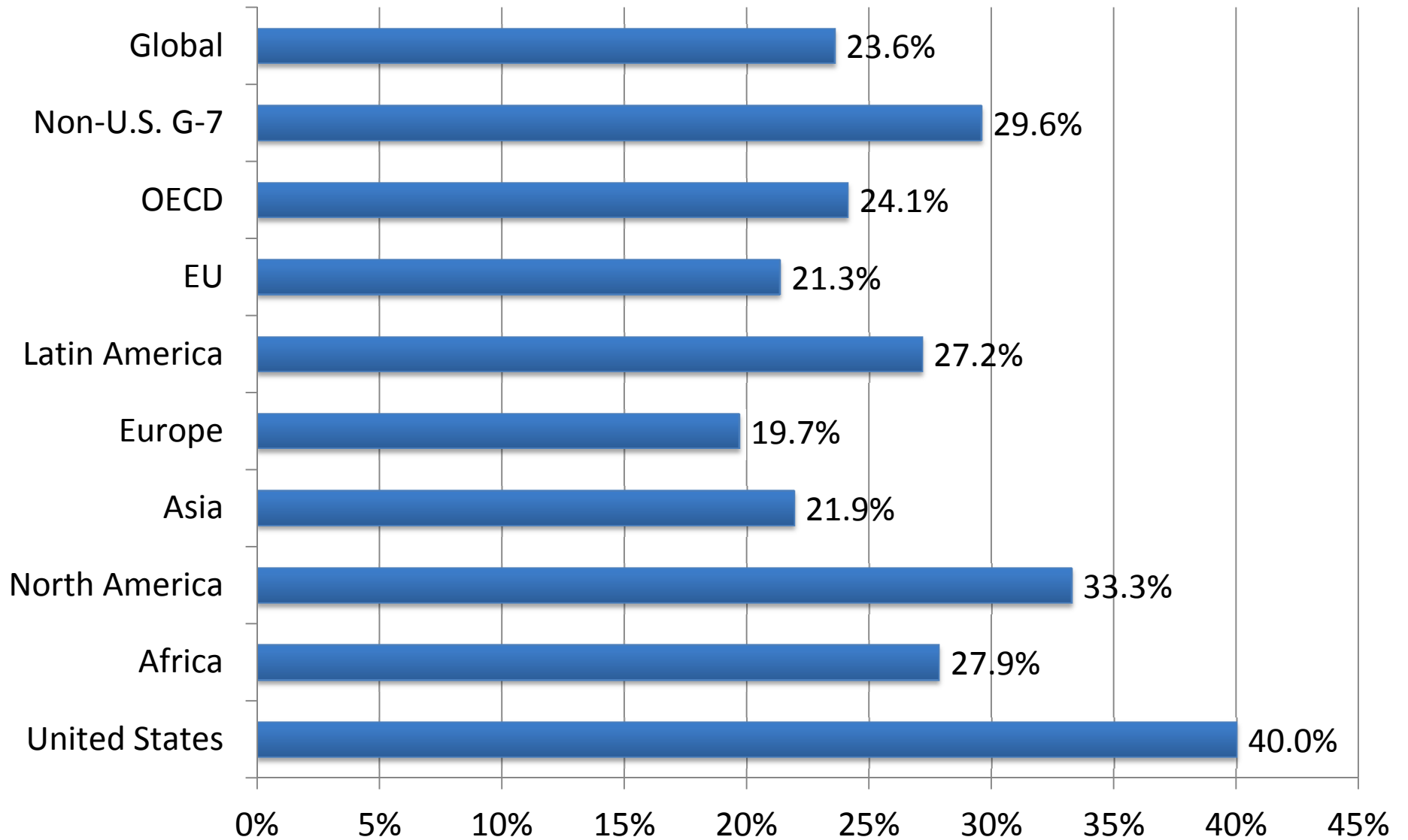
Exhibit 11: Financing the U.S. National Debt – 2015 Data

Interest	
Average Interest Rates (As of Oct. 31, 2015)	
Marketable	2.07%
Non-marketable	3.10%
Total	2.37%
Gross Interest Payments of Treasury Debt Securities (in billions)	
Fiscal Year 2015 (Oct.) to Date	\$ 402
Actual 2014	\$ 431
Projected Net Interest Outlays (in billions)	
Actual 2014	\$ 229
Projected for 2016-2020	\$ 1,872
Projected for 2016-2025	\$ 5,156
Net Interest as a Percent of GDP	
Actual 2014	1.3%
Projected for 2016-2020	1.8%
Projected for 2016-2025	2.3%

Debt	
Debt Held by the Public As a Percentage of GDP	
Actual 2014	74.0%
Projected for 2019	73.1%
Projected for 2024	76.1%
Interest-Bearing Debt Held by Private Investors (As of June, 2015)	
Falling Due Within 1 Year	32.1%
Falling Due Within 5 Years	70.6%
Falling Due Within 10 Years	90.5%
Holders of the Public Debt (At End of 2014 Fiscal Year)	
Domestic Investors	41.7%
Foreign Investors	58.3%

Source: Compiled from Congressional Budget Office and U.S. Department of Treasury (2015)

Exhibit 12: 2015 Average Corporate Tax Rates



Source: Compiled from Congressional Budget Office and U.S. Department of Treasury (2015)

Exhibit 13: Annual Average Price of WTIC (2000-2015)

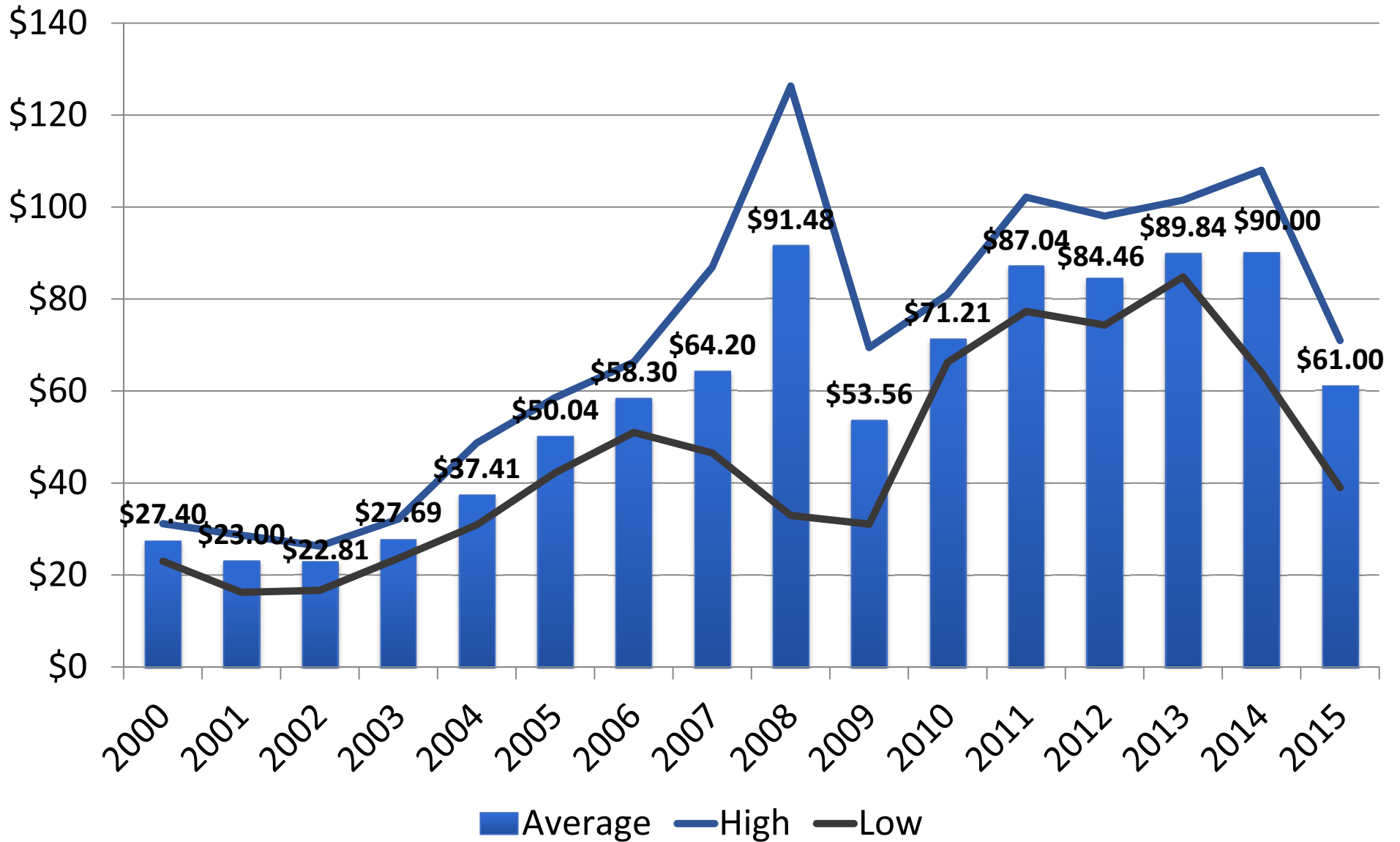


Exhibit 14: New Tax Changes Tied to the PPACA

	Starting January 2014	2013
Top Medicare Tax Rate	2.35%	1.45%
Top Personal Income Tax Bracket	39.60%	35.00%
Top Income Payroll Tax Rate	52.40%	37.40%
Capital Gains Tax Rate	28.00%	15.00%
Dividend Tax Rate	39.60%	15.00%
Estate Tax Rate	55.00%	0.00%

Exhibit 15: The Circular Flow Model

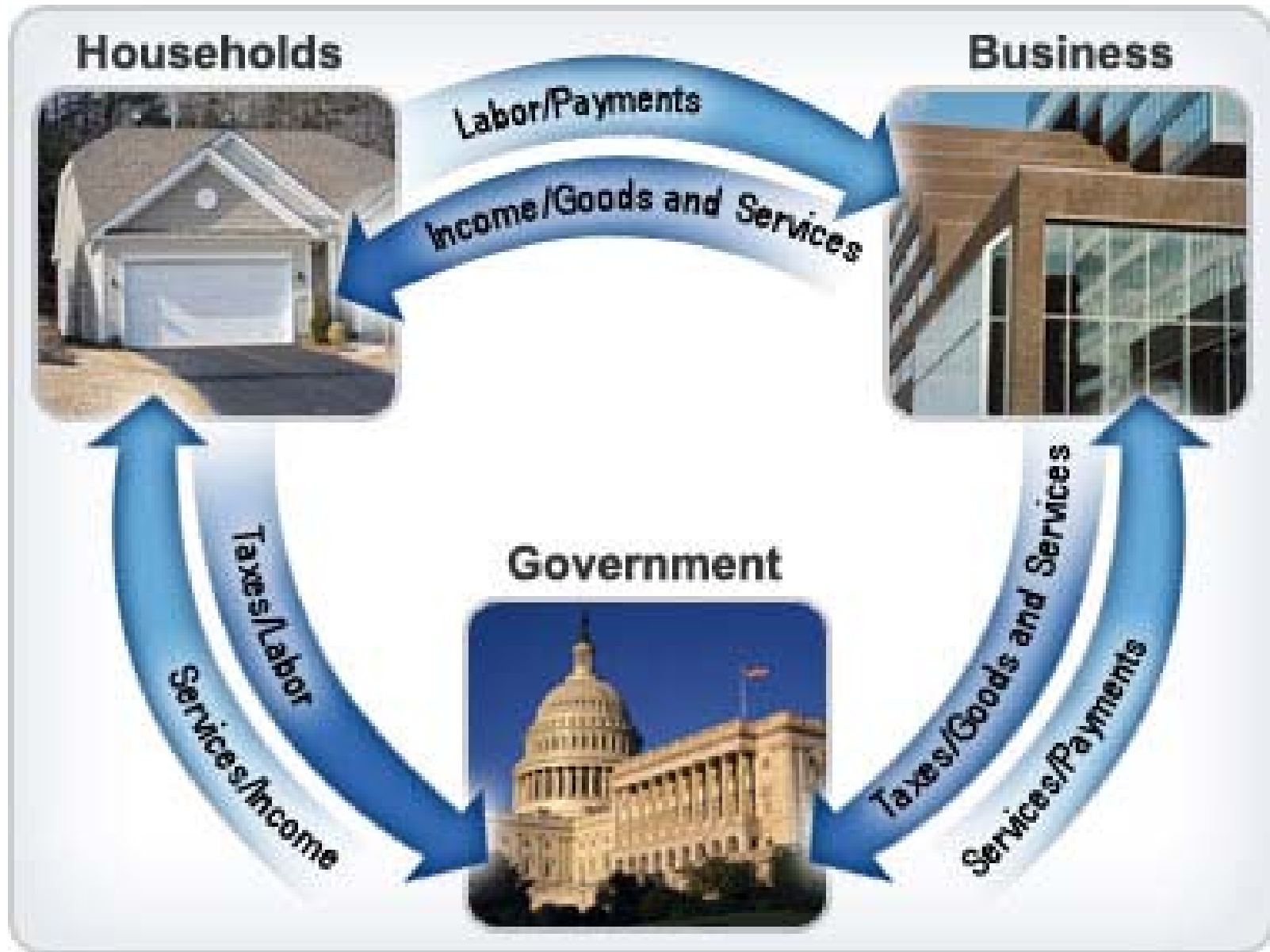
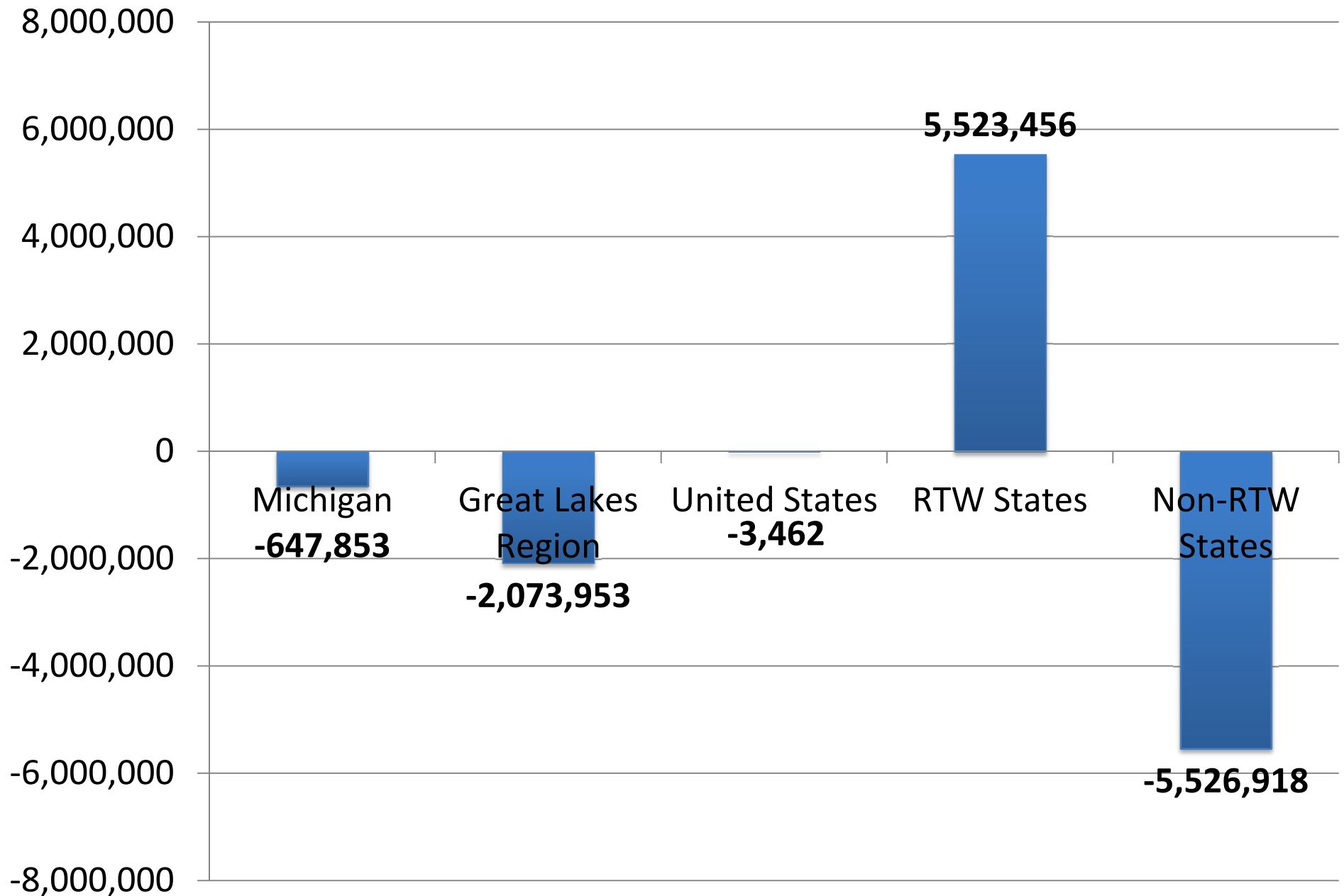


Exhibit 16: Population Net Migration (2000-2014)

Rank 14	Alabama	89,340	Rank 20	Montana	54,011
30	Alaska	-25,171	33	Nebraska	-45,234
3	Arizona	823,292	6	Nevada	422,052
16	Arkansas	71,316	21	New Hampshire	32,011
49	California	-1,650,619	46	New Jersey	-618,461
9	Colorado	323,641	29	New Mexico	-6,907
42	Connecticut	-162,374	50	New York	-2,084,143
18	Delaware	57,930	4	North Carolina	790,246
1	Florida	1,524,832	24	North Dakota	17,397
5	Georgia	574,699	45	Ohio	-456,832
32	Hawaii	-43,582	17	Oklahoma	68,746
13	Idaho	123,598	11	Oregon	224,544
48	Illinois	-881,594	40	Pennsylvania	-114,947
34	Indiana	-46,406	36	Rhode Island	-58,482
35	Iowa	-55,867	7	South Carolina	409,900
39	Kansas	-101,620	25	South Dakota	17,003
15	Kentucky	73,568	8	Tennessee	333,075
44	Louisiana	-323,925	2	Texas	1,287,754
22	Maine	28,401	19	Utah	57,256
41	Maryland	-127,483	28	Vermont	-5,184
43	Massachusetts	-308,155	12	Virginia	166,700
47	Michigan	-647,853	10	Washington	301,227
38	Minnesota	-63,286	26	West Virginia	14,103
37	Mississippi	-60,519	31	Wisconsin	-41,268
27	Missouri	12,134	23	Wyoming	27,674

Source: Computed with data from Bureau of Labor Statistics (2000 – 2013)

Exhibit 17: Population Net Migration (2000-2014)



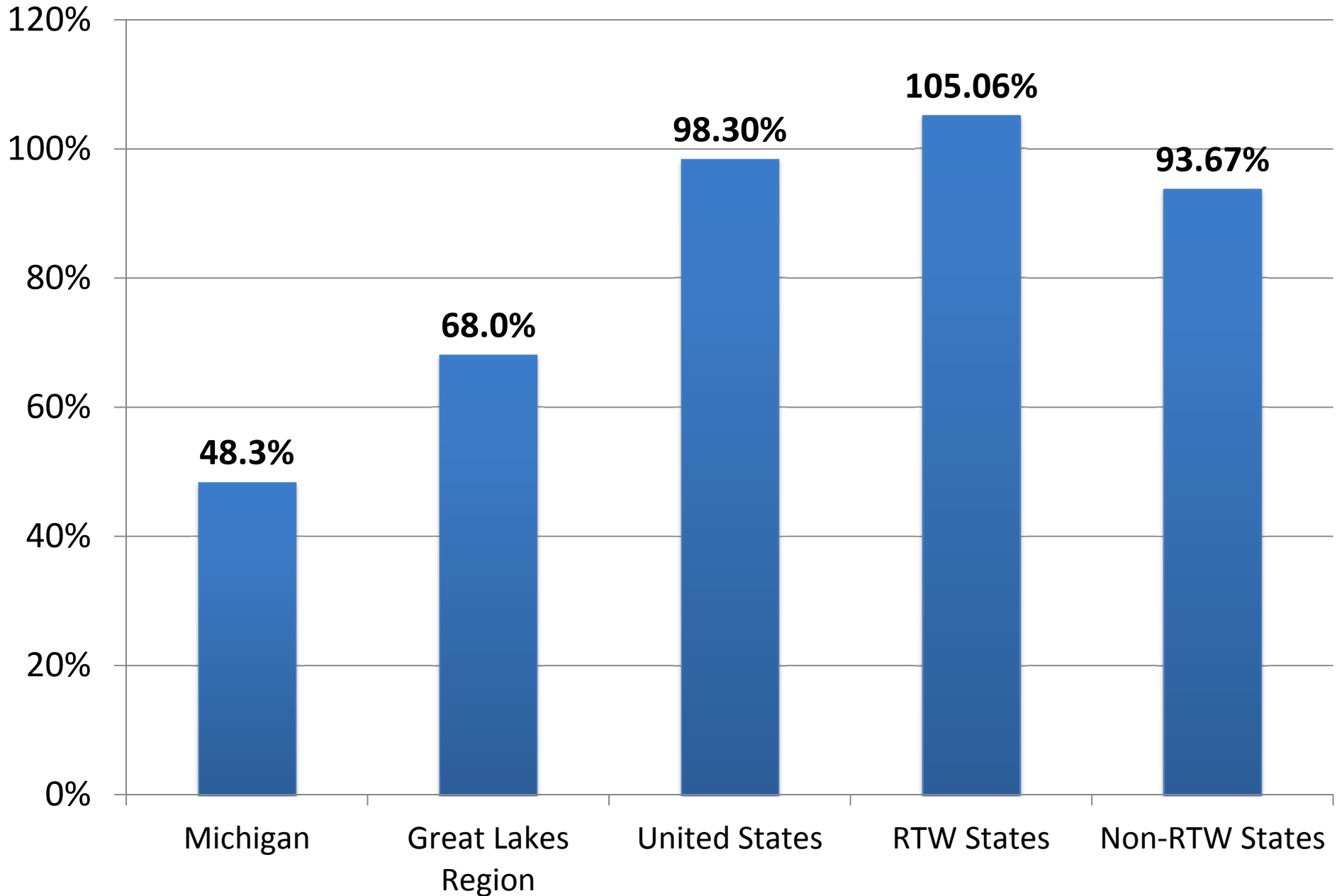
Source: Computed with data from Bureau of Labor Statistics (2000 – 2013)

Exhibit 18: Gross State Product Growth (1998-2014)

Rank 31	Alabama	87.4%	Rank 7	Montana	121.2%
4	Alaska	144.9%	9	Nebraska	116.0%
20	Arizona	104.0%	17	Nevada	106.3%
27	Arkansas	96.2%	36	New Hampshire	84.9%
16	California	107.5%	42	New Jersey	76.0%
11	Colorado	115.8%	23	New Mexico	100.0%
41	Connecticut	76.1%	18	New York	106.3%
43	Delaware	75.5%	25	North Carolina	99.0%
24	Florida	99.7%	1	North Dakota	223.0%
32	Georgia	87.3%	48	Ohio	66.5%
22	Hawaii	103.6%	6	Oklahoma	127.4%
10	Idaho	115.9%	14	Oregon	113.2%
45	Illinois	74.1%	39	Pennsylvania	82.1%
40	Indiana	76.6%	33	Rhode Island	86.6%
21	Iowa	103.6%	37	South Carolina	84.3%
30	Kansas	89.9%	8	South Dakota	118.4%
44	Kentucky	74.6%	35	Tennessee	85.0%
15	Louisiana	108.4%	3	Texas	159.8%
46	Maine	73.9%	5	Utah	131.0%
12	Maryland	115.5%	34	Vermont	85.1%
28	Massachusetts	95.1%	19	Virginia	105.6%
50	Michigan	48.3%	13	Washington	113.8%
29	Minnesota	92.5%	26	West Virginia	97.8%
49	Mississippi	54.8%	38	Wisconsin	82.7%
47	Missouri	72.7%	2	Wyoming	200.8%

Source: Computed with data from Bureau of Economic Analysis (1998 – 2014)

Exhibit 19: Gross State Product Growth (1998-2014)



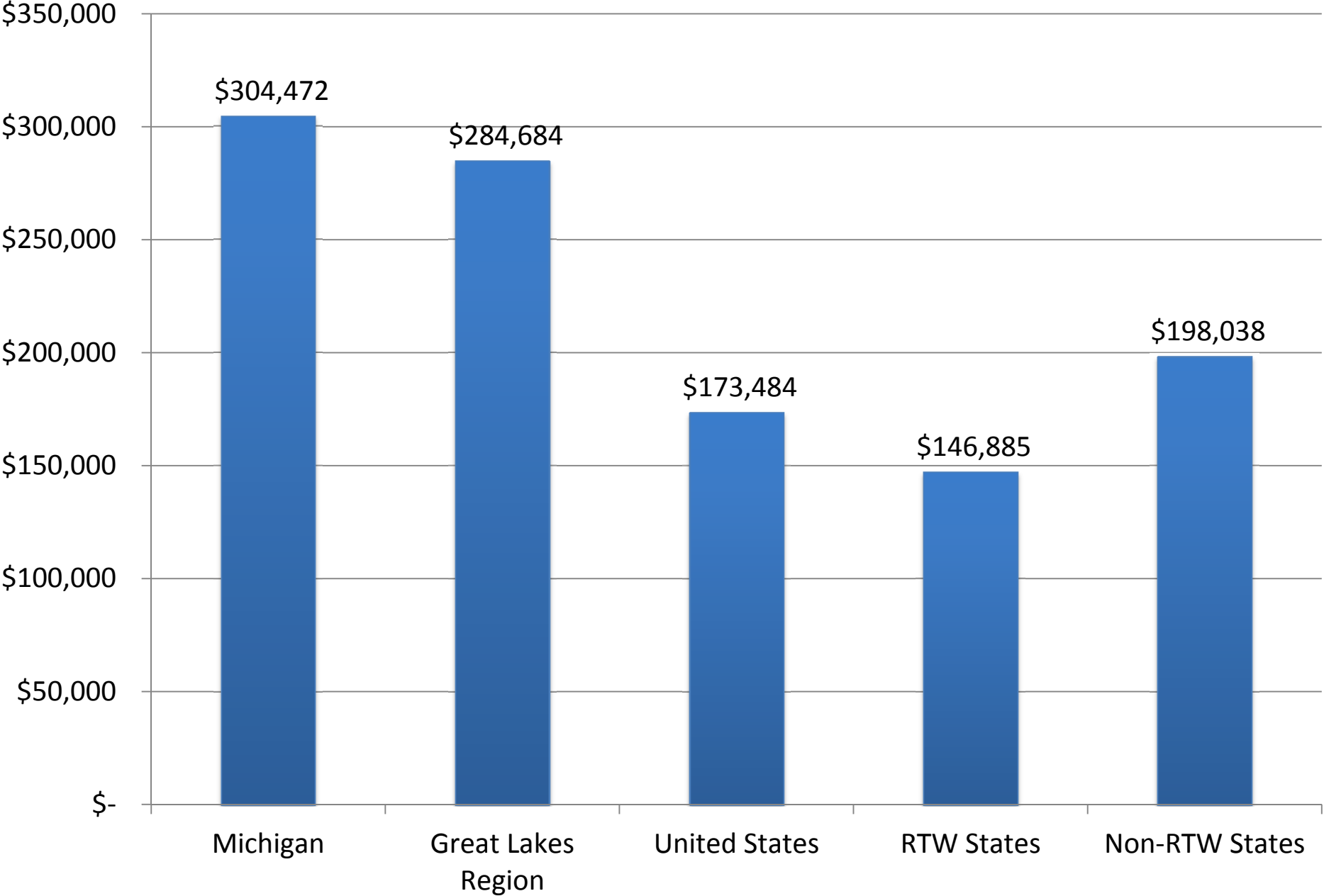
Source: Computed with data from Bureau of Economic Analysis (1998 – 2014)

Exhibit 20: 1998 Gross State Product (millions of dollars)

Rank 26	Alabama	\$106,449	Rank 47	Montana	\$20,009
45	Alaska	\$23,306	36	Nebraska	\$51,931
23	Arizona	\$139,272	33	Nevada	\$64,009
34	Arkansas	\$61,888	38	New Hampshire	\$38,691
1	California	\$1,114,035	8	New Jersey	\$311,981
22	Colorado	\$142,086	37	New Mexico	\$46,479
21	Connecticut	\$143,725	2	New York	\$680,860
41	Delaware	\$35,750	11	North Carolina	\$242,799
5	Florida	\$420,569	48	North Dakota	\$17,072
10	Georgia	\$254,346	7	Ohio	\$350,293
40	Hawaii	\$38,019	30	Oklahoma	\$80,711
43	Idaho	\$29,618	28	Oregon	\$101,164
4	Illinois	\$428,314	6	Pennsylvania	\$364,052
15	Indiana	\$180,015	44	Rhode Island	\$29,446
29	Iowa	\$83,813	27	South Carolina	\$103,274
31	Kansas	\$77,441	46	South Dakota	\$21,000
25	Kentucky	\$108,002	18	Tennessee	\$162,521
24	Louisiana	\$120,625	3	Texas	\$634,286
42	Maine	\$32,104	35	Utah	\$61,217
19	Maryland	\$161,779	49	Vermont	\$16,002
12	Massachusetts	\$235,797	13	Virginia	\$225,493
9	Michigan	\$304,472	14	Washington	\$199,706
17	Minnesota	\$164,256	39	West Virginia	\$38,080
32	Mississippi	\$67,725	20	Wisconsin	\$160,324
16	Missouri	\$164,716	50	Wyoming	\$14,689

Source: Bureau of Economic Analysis (1998)

Exhibit 21: 1998 Gross State Product (millions of dollars)



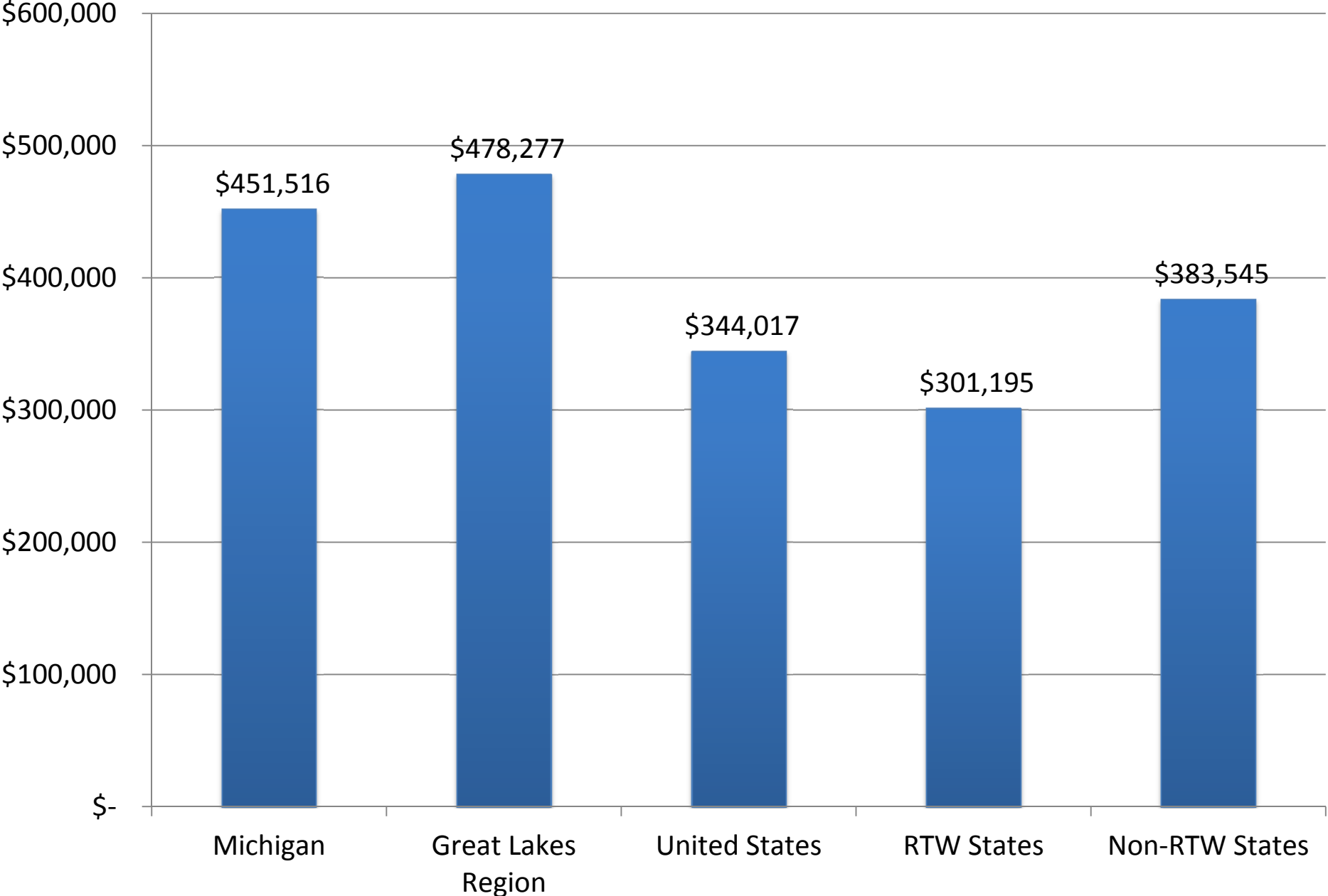
Source: Computed with data from Bureau of Economic Analysis (1998)

Exhibit 22: 2014 Gross State Product (millions of dollars)

Rank 26	Alabama	\$199,440	Rank 48	Montana	\$44,269
43	Alaska	\$57,080	35	Nebraska	\$112,159
22	Arizona	\$284,156	33	Nevada	\$132,064
34	Arkansas	\$121,395	40	New Hampshire	\$71,552
1	California	\$2,311,616	8	New Jersey	\$549,099
18	Colorado	\$306,663	37	New Mexico	\$92,959
23	Connecticut	\$253,036	3	New York	\$1,404,518
42	Delaware	\$62,756	9	North Carolina	\$483,126
4	Florida	\$839,944	45	North Dakota	\$55,136
10	Georgia	\$476,483	7	Ohio	\$583,261
38	Hawaii	\$77,389	29	Oklahoma	\$183,501
41	Idaho	\$63,952	25	Oregon	\$215,677
5	Illinois	\$745,875	6	Pennsylvania	\$662,890
16	Indiana	\$317,840	46	Rhode Island	\$54,960
30	Iowa	\$170,613	27	South Carolina	\$190,304
31	Kansas	\$147,075	47	South Dakota	\$45,867
28	Kentucky	\$188,602	19	Tennessee	\$300,604
24	Louisiana	\$251,397	2	Texas	\$1,648,036
44	Maine	\$55,838	32	Utah	\$141,410
15	Maryland	\$348,631	50	Vermont	\$29,613
12	Massachusetts	\$459,937	11	Virginia	\$463,613
13	Michigan	\$451,516	14	Washington	\$427,052
17	Minnesota	\$316,204	39	West Virginia	\$75,337
36	Mississippi	\$104,851	20	Wisconsin	\$292,891
21	Missouri	\$284,462	49	Wyoming	\$44,190

Source: Bureau of Economic Analysis (2014)

Exhibit 23: 2014 Gross State Product (millions of dollars)



Source: Computed with data from U.S. Bureau of Economic Analysis (2014)

Exhibit 24: U.S. GDP Growth Since World War II

Category	Average GDP Growth Rate
Annual U.S. GDP Growth Rate 1945-2008	3.3%
Annual U.S. GDP Growth Rate 1945-2014	3.25%
Annual U.S. GDP Growth Rate 2011-2014	2.03%
Normal Growth Rate Coming Out of a Recession Since WWII	3.8% - 5.4%
2015 U.S. GDP Growth First Quarter	0.6%
2015 U.S. GDP Growth Second Quarter	3.9%
2015 U.S. GDP Growth Third Quarter	1.5%
2015 U.S. GDP First Three Quarters	2.0%

Source: U.S. Bureau of Economic Analysis (2015)

Exhibit 25: 2013 Real Gross State Product (Growth by Rank)

Alabama	43	Montana	10
Alaska	50	Nebraska	11
Arizona	36	Nevada	38
Arkansas	16	New Hampshire	42
California	21	New Jersey	37
Colorado	6	New Mexico	32
Connecticut	39	New York	46
Delaware	28	North Carolina	17
Florida	18	North Dakota	1
Georgia	25	Ohio	26
Hawaii	22	Oklahoma	4
Idaho	5	Oregon	14
Illinois	40	Pennsylvania	47
Indiana	19	Rhode Island	33
Iowa	12	South Carolina	35
Kansas	23	South Dakota	9
Kentucky	29	Tennessee	45
Louisiana	34	Texas	8
Maine	41	Utah	7
Maryland	49	Vermont	24
Massachusetts	30	Virginia	48
Michigan	20	Washington	15
Minnesota	13	West Virginia	3
Mississippi	31	Wisconsin	27
Missouri	44	Wyoming	2

Source: Bureau of Economic Analysis (2013)

Exhibit 26: Gross State Product Growth (2011 - 2014)

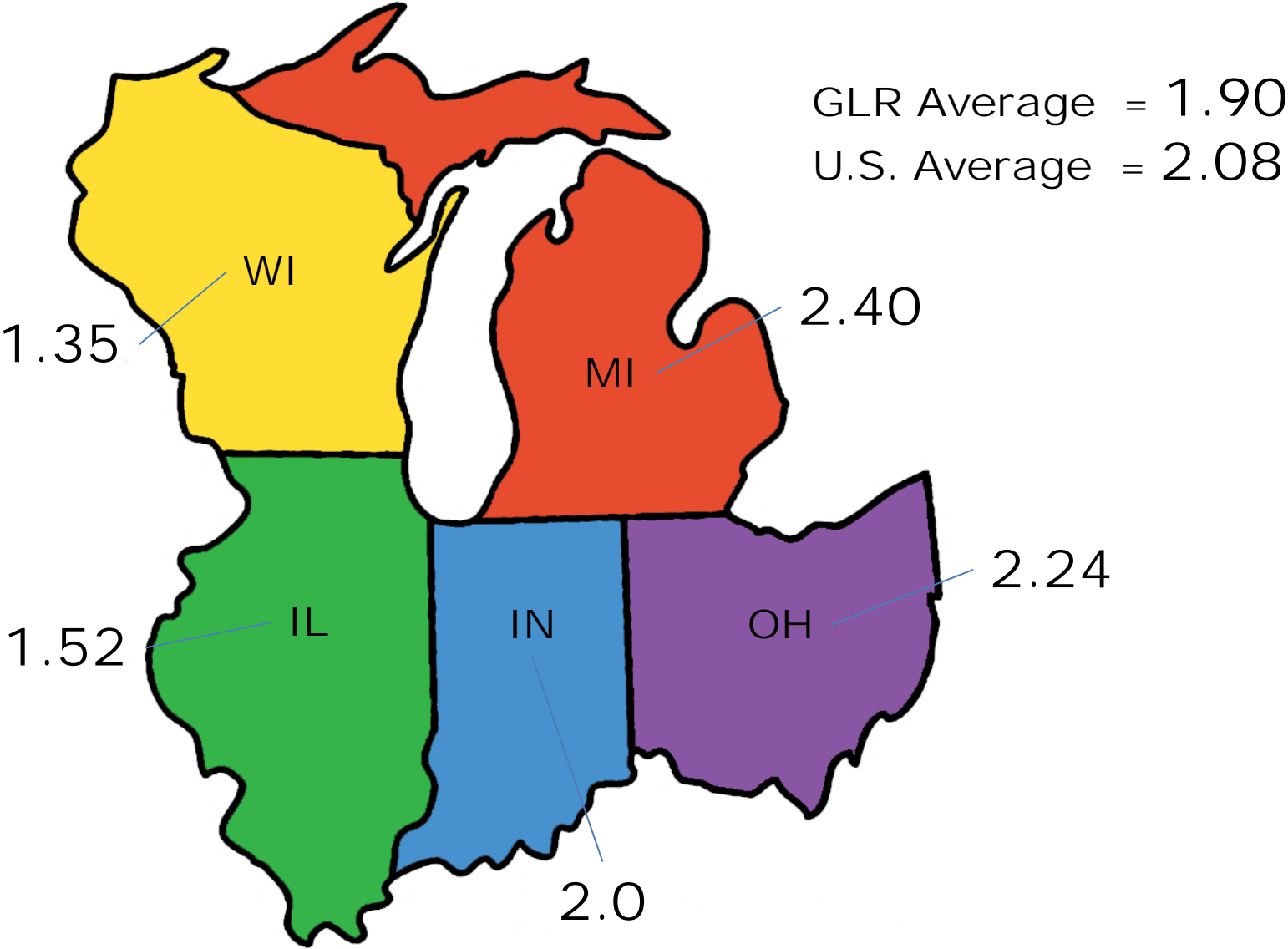


Exhibit 27: U.S. GSP Growth in Great Lakes Region (2011 - 2014)

State	2011	2012	2013	2014	Average Rank
Illinois	2.07	1.91	0.9	1.2	1.52
Indiana	2.19	3.30	2.1	0.4	2.0
Michigan	3.45	2.25	2.0	1.9	2.4
Ohio	2.88	2.16	1.8	2.1	2.24
Wisconsin	1.28	1.45	1.7	1.0	1.34
Great Lakes	2.43	2.17	1.6	1.4	1.9
U.S.	1.64	2.46	1.8	2.4	2.08

Exhibit 28: U.S. GSP Growth by Region (2011 - 2014)

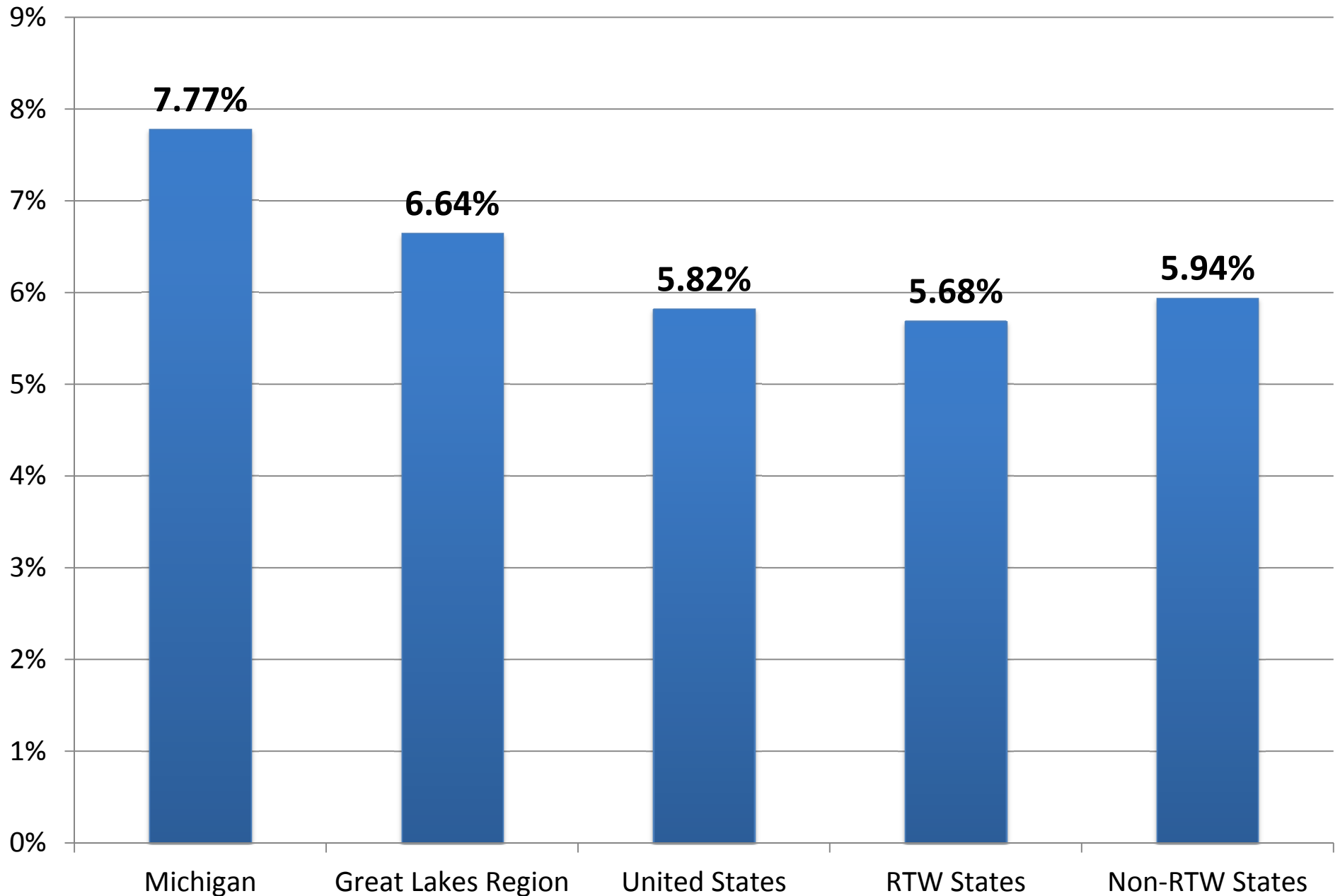
Region	2011	2012	2013	2014	Average
New England	1.04	1.24	1.3	1.6	1.3
Mid East	1.20	1.48	0.7	1.7	1.3
Great Lakes	2.43	2.17	1.6	1.4	1.9
Plains	1.96	2.74	2.5	1.3	2.1
South East	0.97	2.12	1.6	1.7	1.6
South West	2.97	4.07	3.3	4.3	3.7
Rocky Mountains	1.52	2.10	4.1	3.9	2.9
Far West	1.51	3.33	2.0	2.7	2.4
U.S.	1.64	2.46	1.8	2.2	2.0

Exhibit 29: Average Unemployment Rate (2000-2014)

Rank 35	Alabama	6.41%	Rank 13	Montana	5.06%
43	Alaska	7.01%	3	Nebraska	3.64%
34	Arizona	6.37%	45	Nevada	7.19%
30	Arkansas	6.16%	6	New Hampshire	4.34%
49	California	7.54%	33	New Jersey	6.33%
20	Colorado	5.63%	22	New Mexico	5.80%
23	Connecticut	5.81%	32	New York	6.31%
16	Delaware	5.21%	41	North Carolina	6.77%
28	Florida	6.13%	1	North Dakota	3.27%
37	Georgia	6.45%	38	Ohio	6.46%
9	Hawaii	4.55%	11	Oklahoma	4.72%
18	Idaho	5.60%	48	Oregon	7.39%
42	Illinois	6.98%	25	Pennsylvania	5.99%
31	Indiana	6.26%	44	Rhode Island	7.13%
7	Iowa	4.40%	46	South Carolina	7.21%
14	Kansas	5.13%	2	South Dakota	3.61%
39	Kentucky	6.71%	36	Tennessee	6.42%
29	Louisiana	6.15%	24	Texas	5.85%
19	Maine	5.61%	10	Utah	4.72%
15	Maryland	5.13%	5	Vermont	4.31%
17	Massachusetts	5.57%	8	Virginia	4.49%
50	Michigan	7.77%	40	Washington	6.74%
12	Minnesota	4.91%	26	West Virginia	6.04%
47	Mississippi	7.38%	21	Wisconsin	5.73%
27	Missouri	6.07%	4	Wyoming	4.28%

Source: Computed with Data from Bureau of Economic Analysis (2000-2014)

Exhibit 30: Average Unemployment Rate (2000-2014)



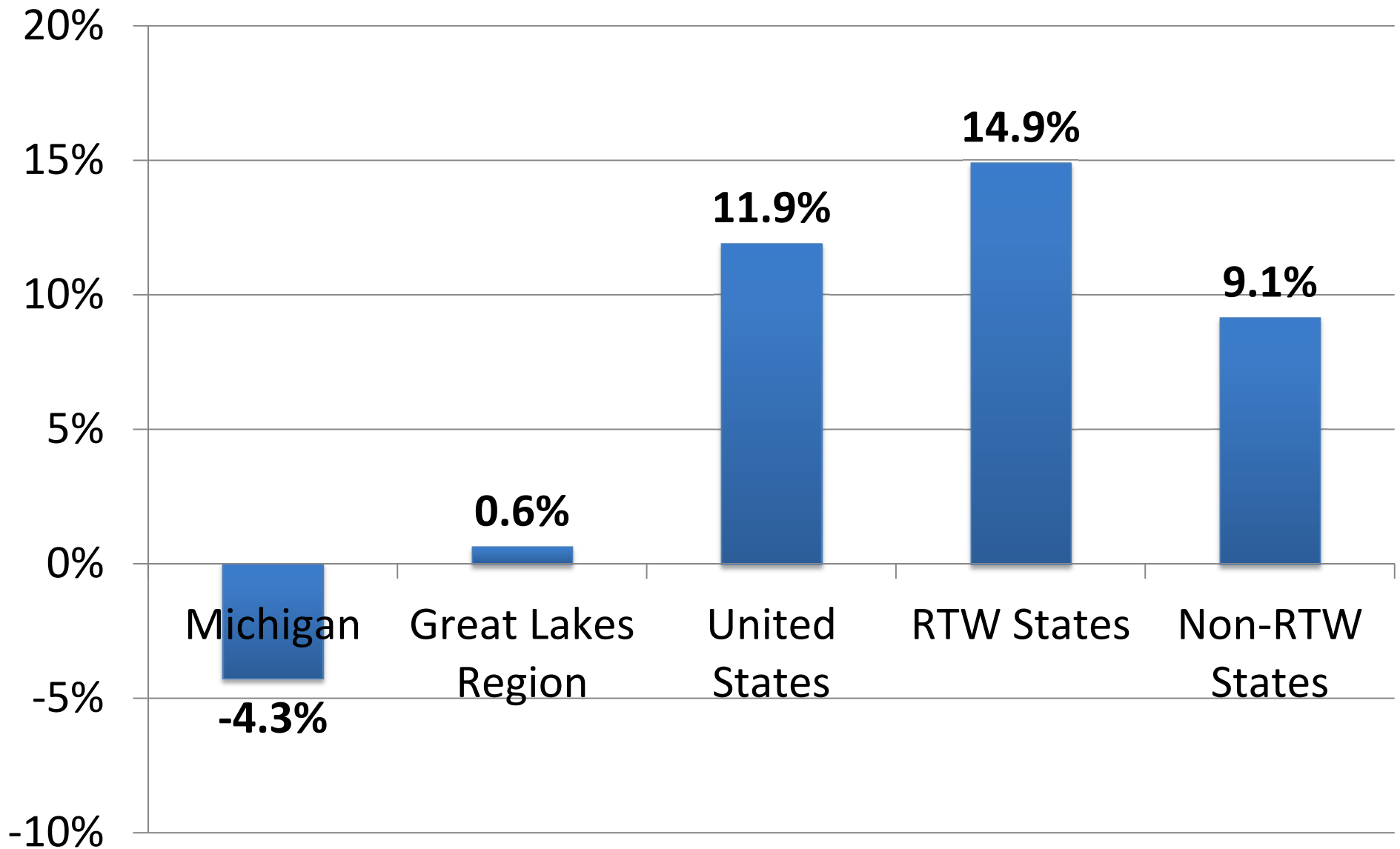
Source: Computed with data from Bureau of Economic Analysis (2000 - 2014)

Exhibit 31: Non-farm Payroll Employment Growth (2000-2013)

Rank 33	Alabama	7.2%	Rank 10	Montana	19.5%
7	Alaska	21.0%	26	Nebraska	9.7%
6	Arizona	21.7%	5	Nevada	24.2%
38	Arkansas	6.3%	37	New Hampshire	6.4%
19	California	13.6%	27	New Jersey	8.5%
16	Colorado	13.9%	17	New Mexico	13.8%
35	Connecticut	6.6%	20	New York	13.5%
29	Delaware	8.3%	23	North Carolina	11.3%
8	Florida	20.5%	1	North Dakota	41.1%
15	Georgia	14.0%	49	Ohio	-1.1%
11	Hawaii	18.7%	14	Oklahoma	14.9%
9	Idaho	19.6%	25	Oregon	10.0%
47	Illinois	3.0%	34	Pennsylvania	7.2%
48	Indiana	1.3%	43	Rhode Island	4.4%
31	Iowa	7.3%	24	South Carolina	11.3%
32	Kansas	7.2%	12	South Dakota	16.7%
41	Kentucky	5.7%	28	Tennessee	8.5%
13	Louisiana	15.1%	2	Texas	30.9%
46	Maine	3.1%	3	Utah	28.5%
21	Maryland	13.2%	40	Vermont	5.9%
36	Massachusetts	6.6%	22	Virginia	12.8%
50	Michigan	-4.3%	18	Washington	13.7%
30	Minnesota	8.3%	42	West Virginia	5.1%
39	Mississippi	6.1%	45	Wisconsin	4.1%
44	Missouri	4.3%	4	Wyoming	25.4%

Source: Computed with Data from Bureau of Economic Analysis (2000-2013)

Exhibit 32 : Non-farm Payroll Employment Growth (2000-2013)



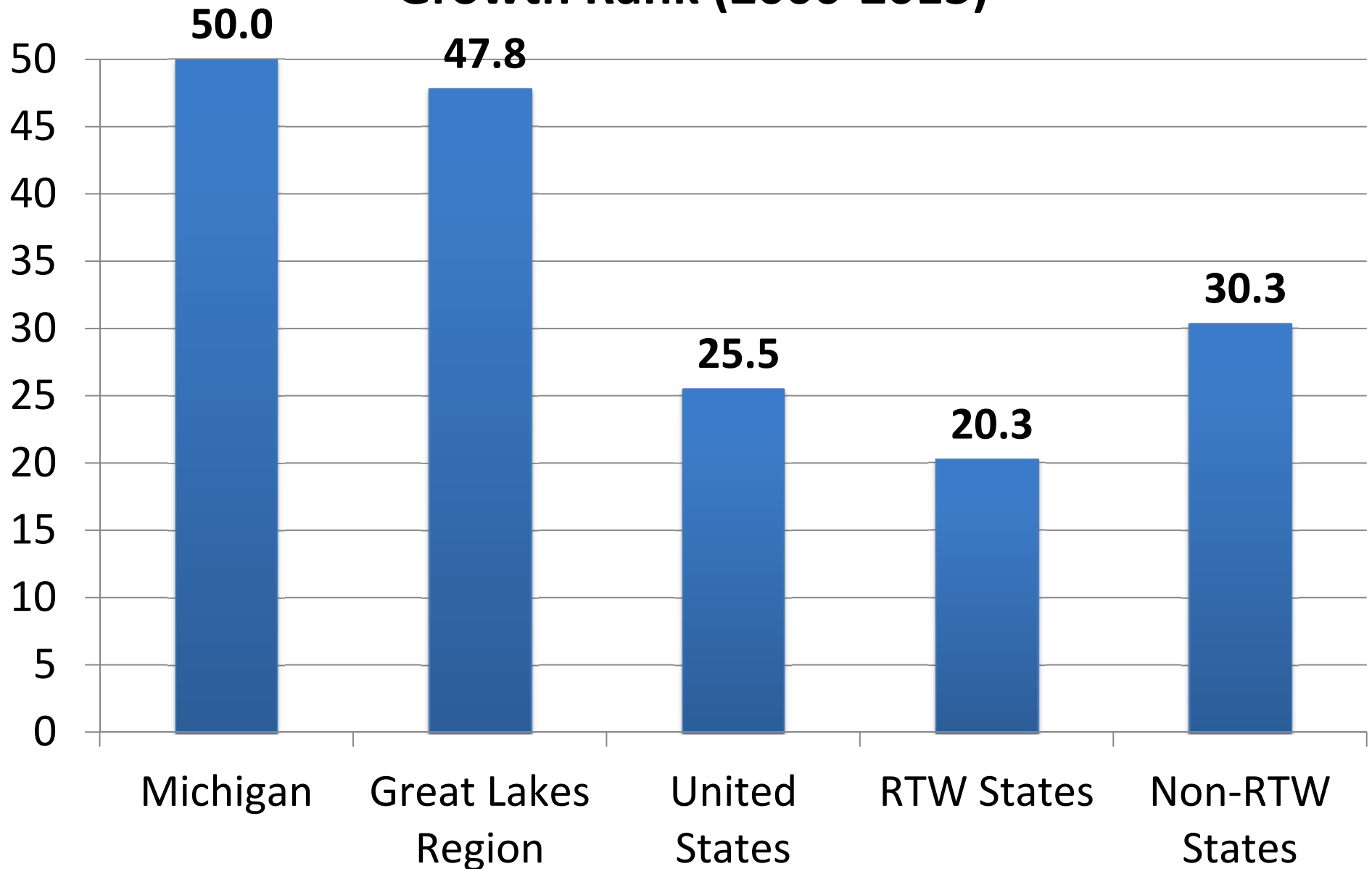
Source: Computed with data from Bureau of Economic Analysis (2000 - 2013)

Exhibit 33: Non-farm Payroll Employment Growth Rank (2000-2013)

Alabama	33	Montana	10
Alaska	7	Nebraska	26
Arizona	6	Nevada	5
Arkansas	38	New Hampshire	37
California	19	New Jersey	27
Colorado	16	New Mexico	17
Connecticut	35	New York	20
Delaware	29	North Carolina	23
Florida	8	North Dakota	1
Georgia	15	Ohio	49
Hawaii	11	Oklahoma	14
Idaho	9	Oregon	25
Illinois	47	Pennsylvania	34
Indiana	48	Rhode Island	43
Iowa	31	South Carolina	24
Kansas	32	South Dakota	12
Kentucky	41	Tennessee	28
Louisiana	13	Texas	2
Maine	46	Utah	3
Maryland	21	Vermont	40
Massachusetts	36	Virginia	22
Michigan	50	Washington	18
Minnesota	30	West Virginia	42
Mississippi	39	Wisconsin	45
Missouri	44	Wyoming	4

Source: Computed with data from Bureau of Economic Analysis (2000 - 2013)

Exhibit 34: Non-farm Payroll Employment Growth Rank (2000-2013)



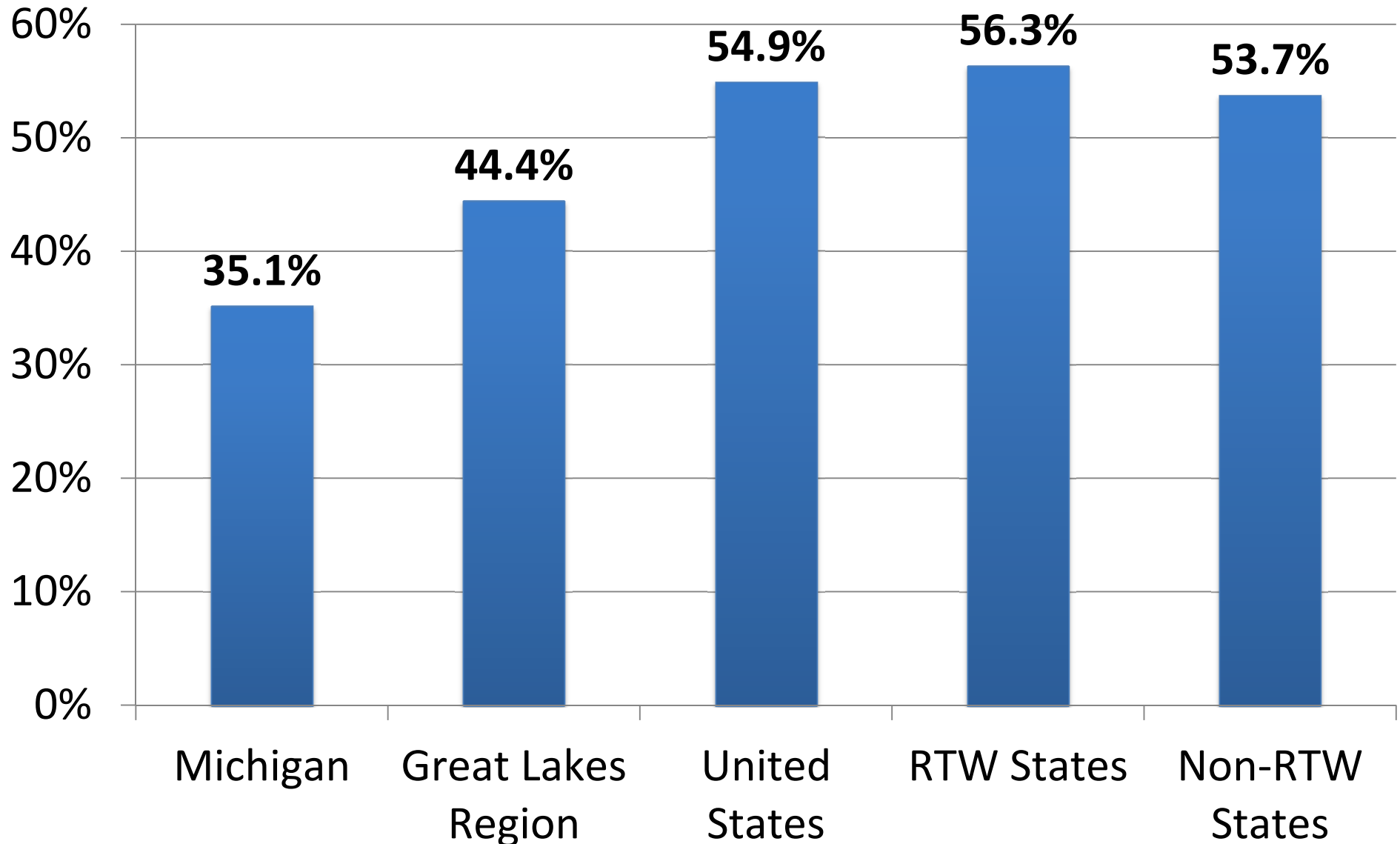
Source: Computed with data from Bureau of Economic Analysis (2000 - 2013)

Exhibit 35: Personal Income Per Capita Growth (2000-2014)

Rank 27	Alabama	52.2%	Rank 5	Montana	72.1%
7	Alaska	68.0%	12	Nebraska	62.5%
44	Arizona	42.8%	50	Nevada	28.4%
10	Arkansas	65.7%	23	New Hampshire	55.0%
32	California	50.2%	40	New Jersey	45.1%
45	Colorado	42.4%	14	New Mexico	60.6%
36	Connecticut	48.0%	17	New York	59.3%
43	Delaware	43.1%	46	North Carolina	42.3%
42	Florida	44.2%	1	North Dakota	112.4%
48	Georgia	36.4%	33	Ohio	48.7%
15	Hawaii	60.4%	4	Oklahoma	73.9%
34	Idaho	48.6%	41	Oregon	44.4%
39	Illinois	46.1%	20	Pennsylvania	56.6%
47	Indiana	40.3%	13	Rhode Island	61.7%
11	Iowa	63.6%	38	South Carolina	47.0%
19	Kansas	58.3%	6	South Dakota	70.0%
29	Kentucky	51.0%	37	Tennessee	47.9%
3	Louisiana	79.5%	16	Texas	60.3%
22	Maine	55.2%	26	Utah	52.5%
21	Maryland	56.1%	9	Vermont	65.8%
24	Massachusetts	54.0%	25	Virginia	53.2%
49	Michigan	35.1%	30	Washington	50.9%
31	Minnesota	50.7%	8	West Virginia	65.8%
18	Mississippi	59.2%	28	Wisconsin	51.7%
35	Missouri	48.6%	2	Wyoming	89.5%

Source: Computed with Data from Bureau of Economic Analysis (2000-2014)

Exhibit 36: Personal Income Per Capita Growth (2000-2014)



Source: Computed with data from Bureau of Economic Analysis (2000 - 2014)

Exhibit 37: Great Lakes Average Personal Income Per Capita Growth (2010-2014)

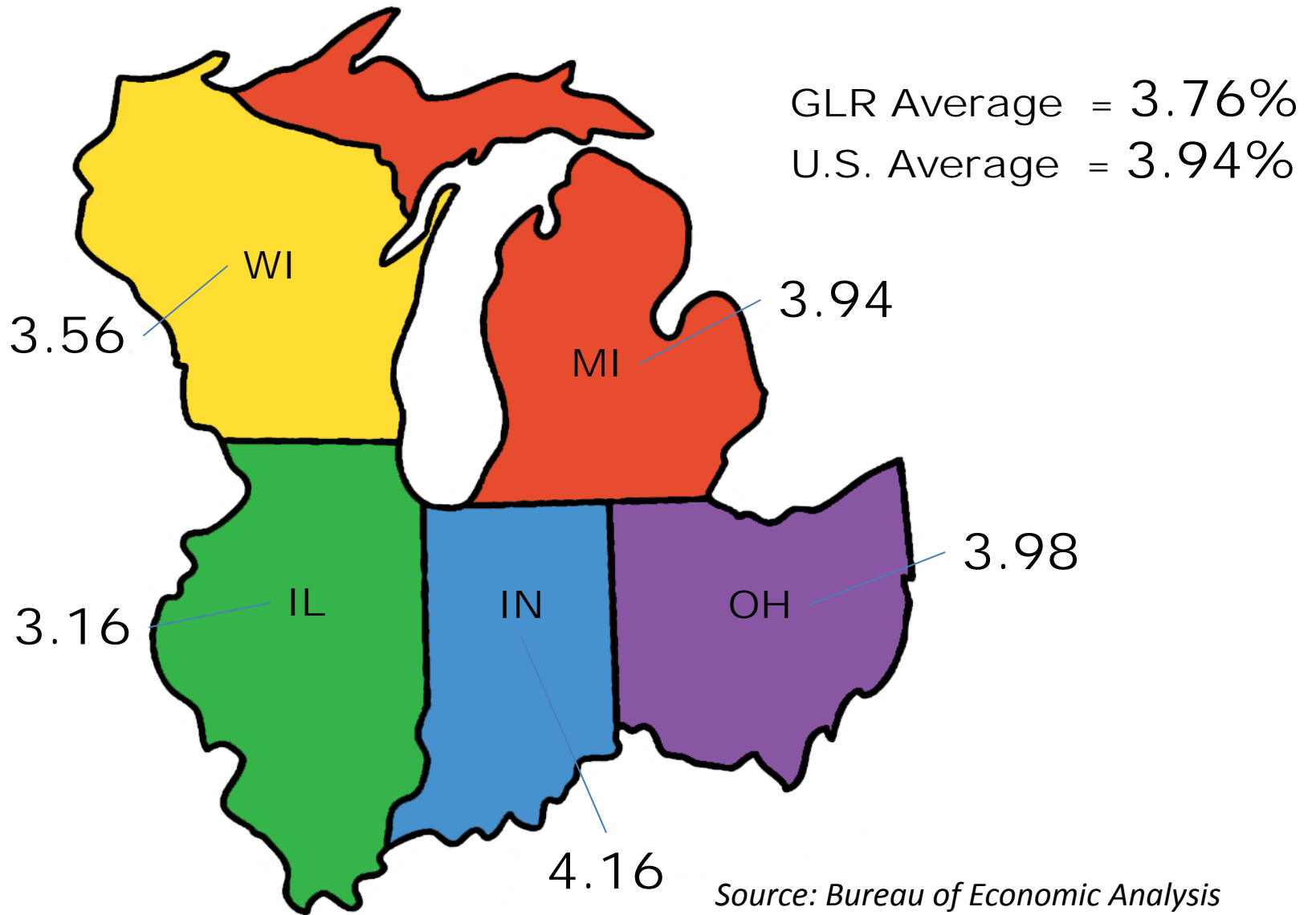
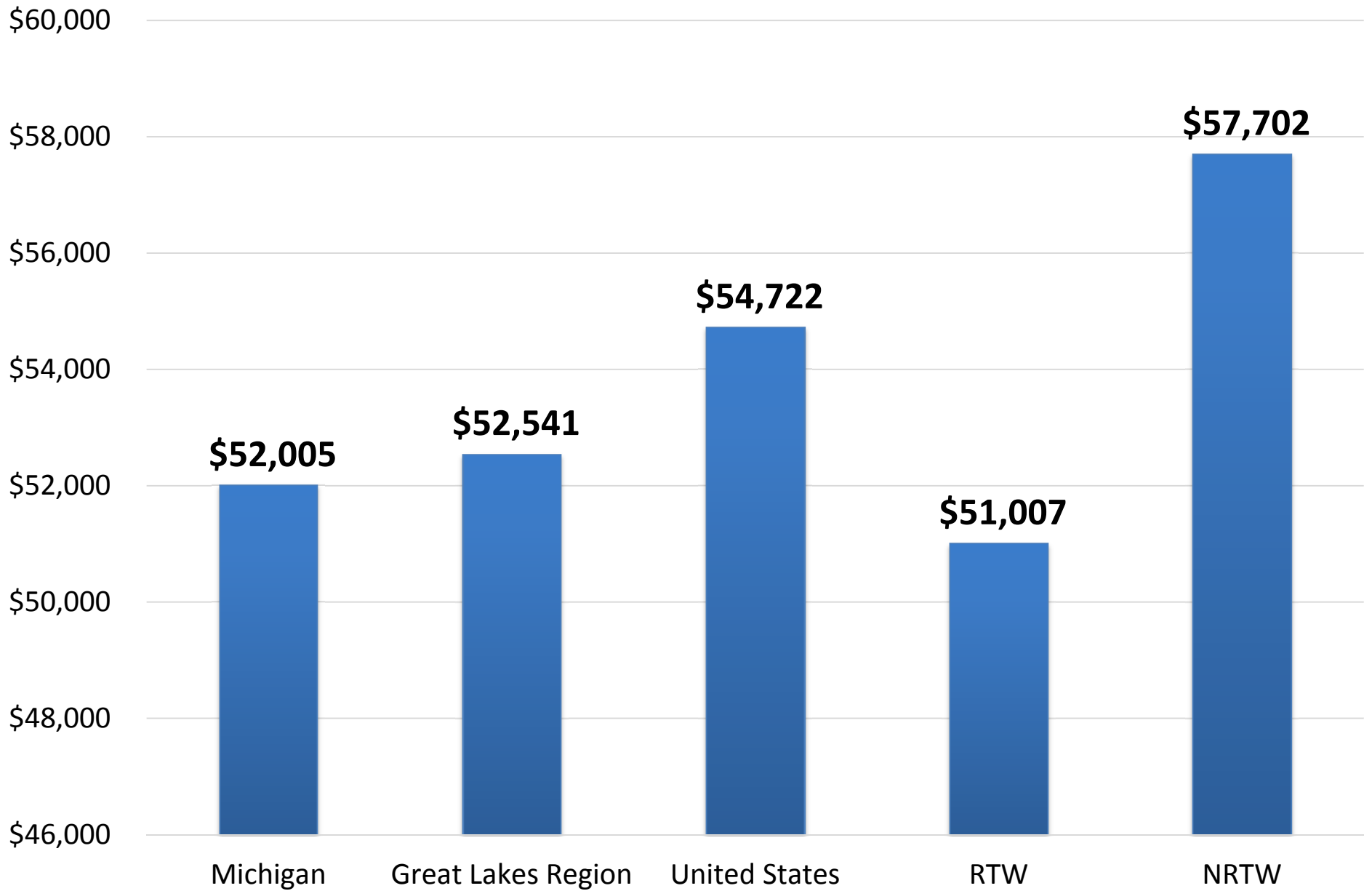


Exhibit 38: Median Household Income (2014)

Rank 48	Alabama	\$42,278	Rank 33	Montana	\$51,102
5	Alaska	\$67,629	21	Nebraska	\$56,870
37	Arizona	\$49,254	34	Nevada	\$49,875
44	Arkansas	\$44,922	2	New Hampshire	\$73,397
13	California	\$60,487	7	New Jersey	\$65,243
10	Colorado	\$60,940	41	New Mexico	\$46,686
4	Connecticut	\$70,161	30	New York	\$52,310
19	Delaware	\$57,522	40	North Carolina	\$46,784
42	Florida	\$46,140	11	North Dakota	\$60,730
36	Georgia	\$49,555	35	Ohio	\$49,644
3	Hawaii	\$71,223	39	Oklahoma	\$47,199
28	Idaho	\$53,438	15	Oregon	\$58,875
25	Illinois	\$54,916	24	Pennsylvania	\$55,173
38	Indiana	\$48,060	16	Rhode Island	\$58,633
18	Iowa	\$57,810	43	South Carolina	\$44,929
27	Kansas	\$53,444	29	South Dakota	\$53,053
46	Kentucky	\$42,786	45	Tennessee	\$43,716
47	Louisiana	\$42,406	26	Texas	\$53,875
32	Maine	\$51,710	8	Utah	\$63,383
1	Maryland	\$76,165	12	Vermont	\$60,708
9	Massachusetts	\$63,151	6	Virginia	\$66,155
31	Michigan	\$52,005	14	Washington	\$59,068
20	Minnesota	\$57,224	49	West Virginia	\$39,552
50	Mississippi	\$35,521	17	Wisconsin	\$58,080
22	Missouri	\$56,630	23	Wyoming	\$55,690

Source: Computed with Data from Bureau of Economic Analysis (2014)

Exhibit 39: Median Household Income (2014)



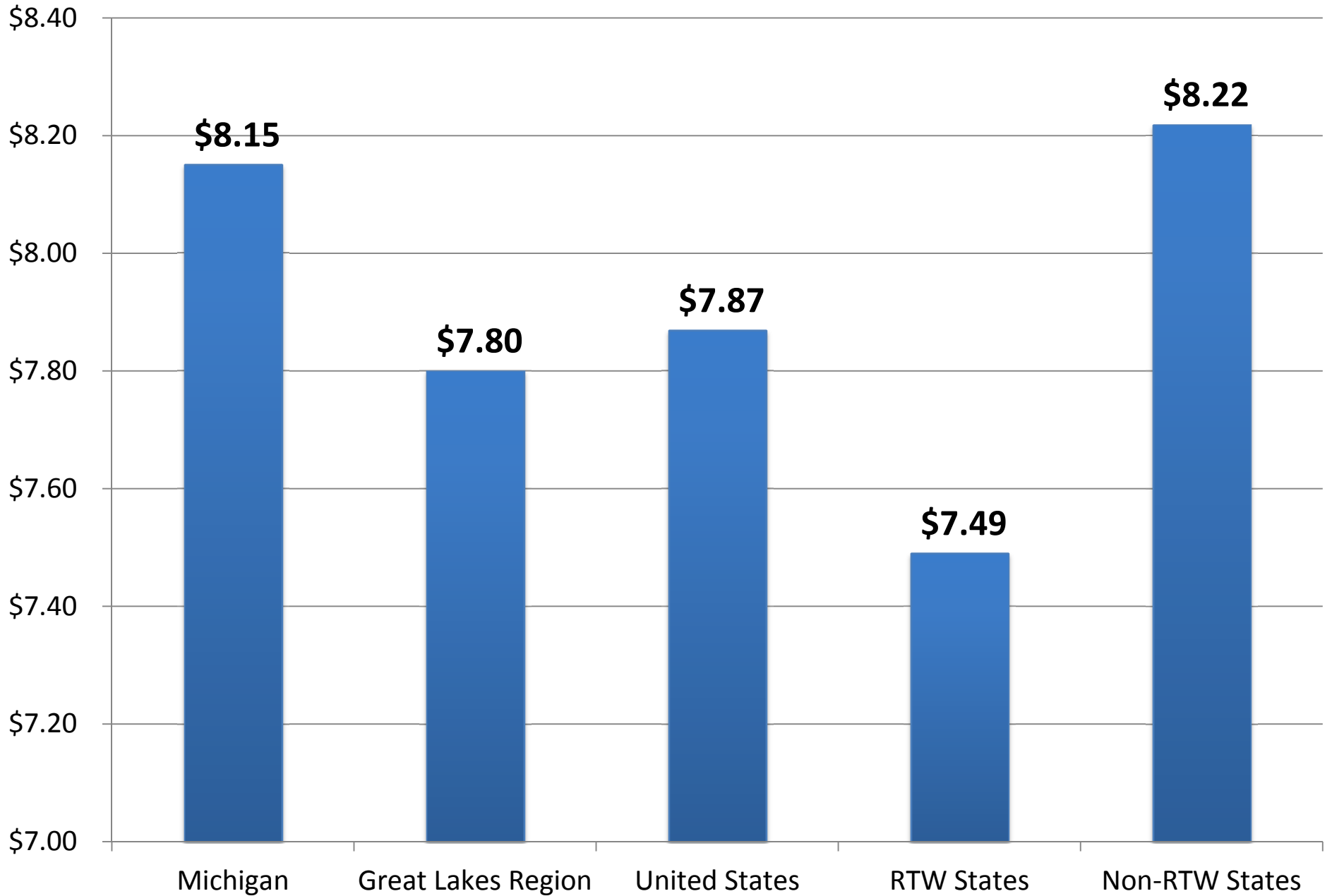
Source: Computed with data from Bureau of Economic Analysis (2013)

Exhibit 40: State Minimum Wage (Jan 1, 2015)

Rank 1	Alabama	\$7.25	Rank 30	Montana	\$8.05
42	Alaska	\$8.75	28	Nebraska	\$8.00
30	Arizona	\$8.05	36	Nevada	\$8.25
23	Arkansas	\$7.50	1	New Hampshire	\$7.25
44	California	\$9.00	40	New Jersey	\$8.38
35	Colorado	\$8.23	23	New Mexico	\$7.50
47	Connecticut	\$9.15	42	New York	\$8.75
36	Delaware	\$8.25	1	North Carolina	\$7.25
30	Florida	\$8.05	1	North Dakota	\$7.25
1	Georgia	\$7.25	33	Ohio	\$8.10
27	Hawaii	\$7.75	1	Oklahoma	\$7.25
1	Idaho	\$7.25	49	Oregon	\$9.25
36	Illinois	\$8.25	1	Pennsylvania	\$7.25
1	Indiana	\$7.25	44	Rhode Island	\$9.00
1	Iowa	\$7.25	1	South Carolina	\$7.25
1	Kansas	\$7.25	41	South Dakota	\$8.50
1	Kentucky	\$7.25	1	Tennessee	\$7.25
1	Louisiana	\$7.25	1	Texas	\$7.25
23	Maine	\$7.50	1	Utah	\$7.25
36	Maryland	\$8.25	47	Vermont	\$9.15
44	Massachusetts	\$9.00	1	Virginia	\$7.25
34	Michigan	\$8.15	50	Washington	\$9.47
1	Minnesota	\$7.25	28	West Virginia	\$8.00
1	Mississippi	\$7.25	1	Wisconsin	\$7.25
26	Missouri	\$7.65	1	Wyoming	\$7.25

Source: Bureau of Labor Statistics (2015)

Exhibit 41: State Minimum Wage (Jan 1, 2015)



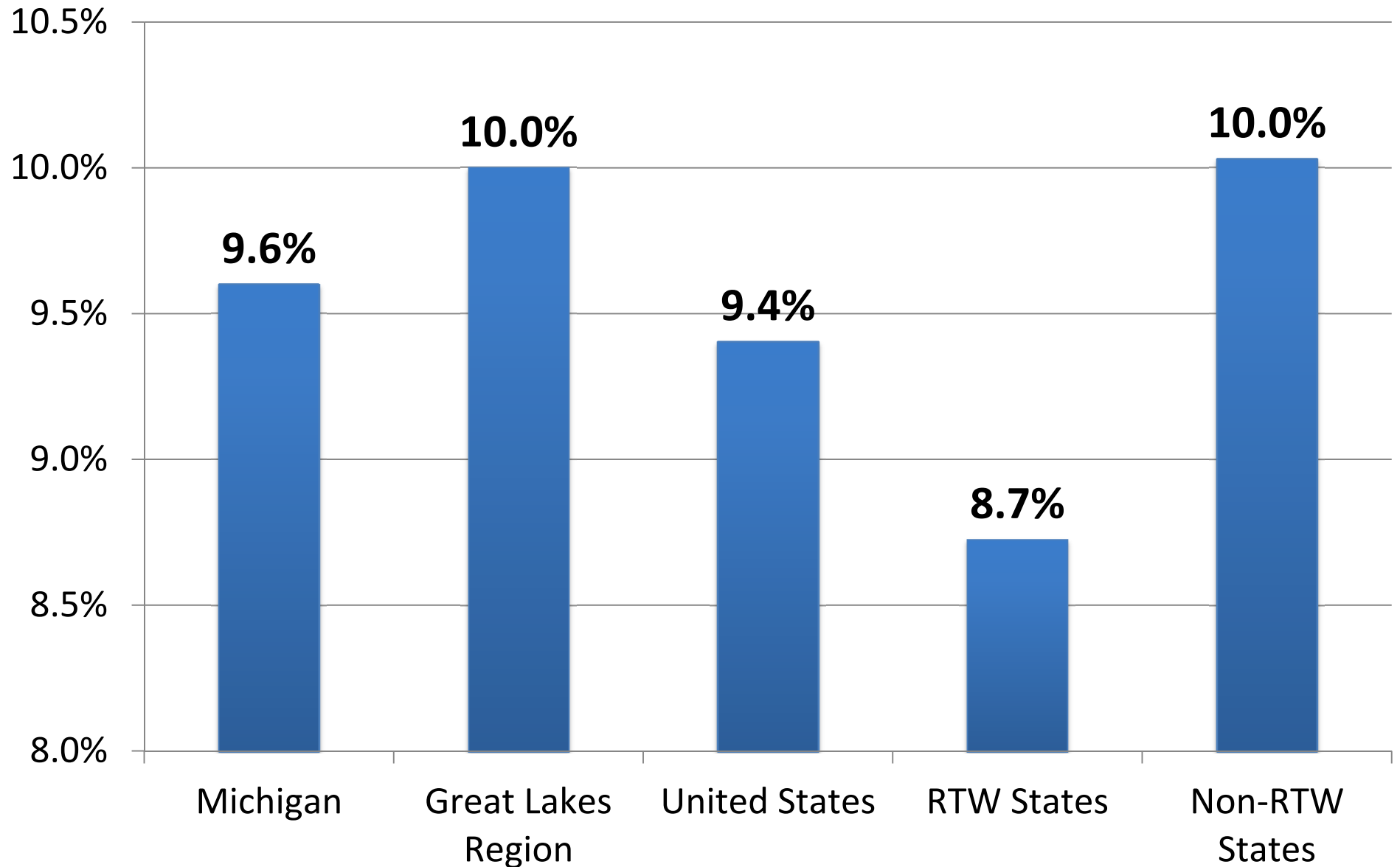
Source: Computed with data from Bureau of Labor Statistics (2015)

Exhibit 42: State and Local Tax Burden as a % of Income (FY 2012)

Rank	9	Alabama	8.3%	Rank	13	Montana	8.6%
	2	Alaska	7.0%		23	Nebraska	9.4%
	17	Arizona	8.9%		8	Nevada	8.1%
	39	Arkansas	10.3%		7	New Hampshire	8.0%
	47	California	11.4%		49	New Jersey	12.3%
	18	Colorado	9.0%		13	New Mexico	8.6%
	48	Connecticut	11.9%		50	New York	12.6%
	35	Delaware	10.1%		34	North Carolina	9.8%
	20	Florida	9.2%		15	North Dakota	8.8%
	15	Georgia	8.8%		32	Ohio	9.7%
	30	Hawaii	9.6%		12	Oklahoma	8.5%
	27	Idaho	9.5%		35	Oregon	10.1%
	37	Illinois	10.2%		39	Pennsylvania	10.3%
	27	Indiana	9.5%		42	Rhode Island	10.5%
	22	Iowa	9.3%		9	South Carolina	8.3%
	23	Kansas	9.4%		3	South Dakota	7.1%
	27	Kentucky	9.5%		5	Tennessee	7.6%
	5	Louisiana	7.6%		4	Texas	7.5%
	37	Maine	10.2%		23	Utah	9.4%
	44	Maryland	10.6%		42	Vermont	10.5%
	39	Massachusetts	10.3%		20	Virginia	9.2%
	30	Michigan	9.6%		23	Washington	9.4%
	45	Minnesota	10.7%		32	West Virginia	9.7%
	11	Mississippi	8.4%		46	Wisconsin	11.0%
	18	Missouri	9.0%		1	Wyoming	6.9%

Source: Tax Foundation (2012)

Exhibit 43: State and Local Tax Burden as a % of Income (FY 2012)



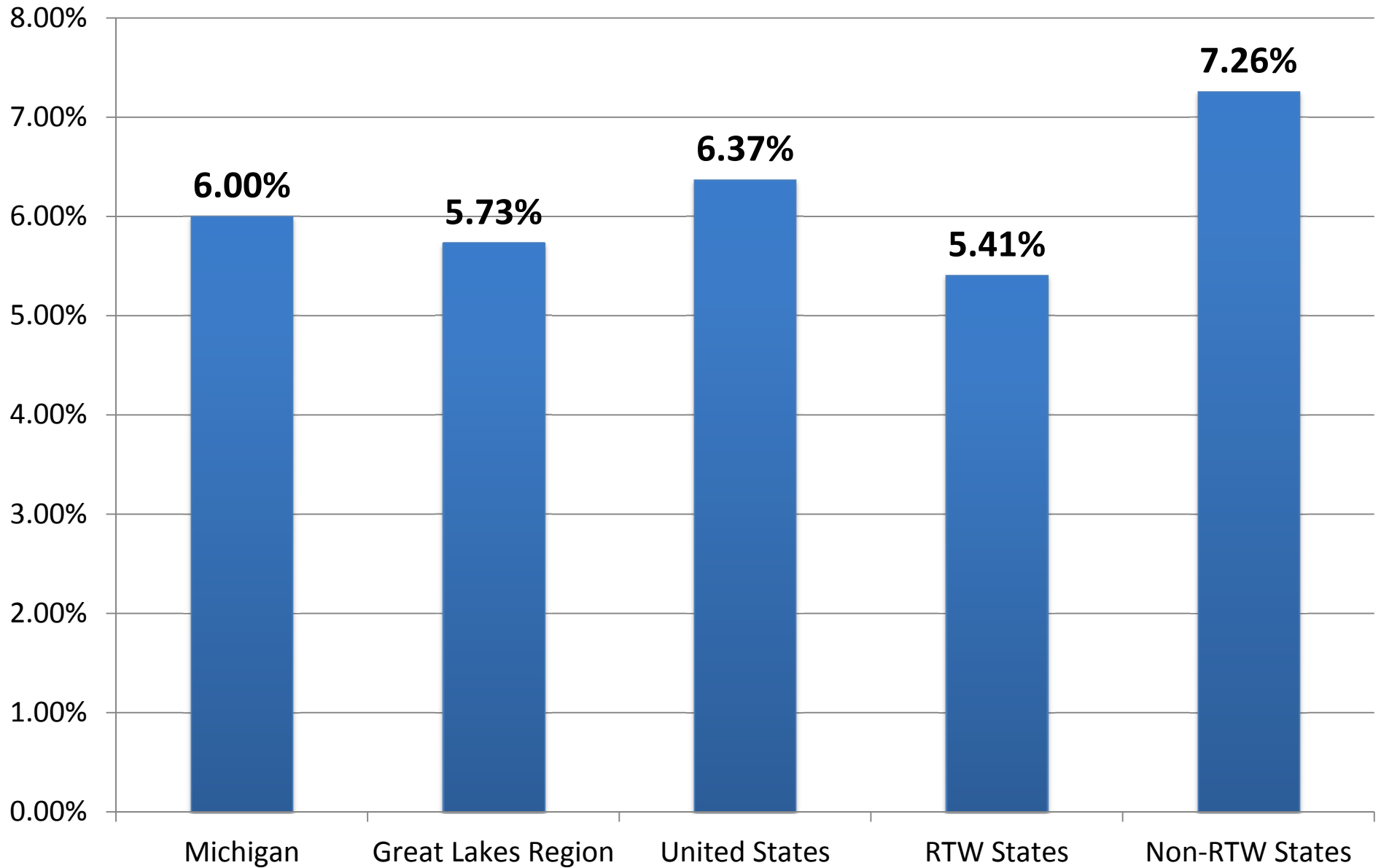
Source: Computed with data from Tax Foundation (2012)

Exhibit 44: Average State and Local Corporate Tax Rate (2015)

Rank 22	Alabama	6.50%	Rank 26	Montana	6.75%
47	Alaska	9.40%	35	Nebraska	7.81%
14	Arizona	6.00%	1	Nevada	0.00%
22	Arkansas	6.50%	40	New Hampshire	8.50%
43	California	8.84%	45	New Jersey	9.00%
8	Colorado	4.63%	27	New Mexico	6.90%
45	Connecticut	9.00%	31	New York	7.10%
42	Delaware	8.70%	9	North Carolina	5.00%
13	Florida	5.50%	7	North Dakota	4.53%
14	Georgia	6.00%	1	Ohio	0.00%
21	Hawaii	6.40%	14	Oklahoma	6.00%
32	Idaho	7.40%	33	Oregon	7.60%
34	Illinois	7.75%	49	Pennsylvania	9.99%
28	Indiana	7.00%	28	Rhode Island	7.00%
50	Iowa	12.00%	9	South Carolina	5.00%
28	Kansas	7.00%	1	South Dakota	0.00%
14	Kentucky	6.00%	22	Tennessee	6.50%
37	Louisiana	8.00%	5	Texas	1.00%
44	Maine	8.93%	9	Utah	5.00%
39	Maryland	8.25%	40	Vermont	8.50%
37	Massachusetts	8.00%	14	Virginia	6.00%
14	Michigan	6.00%	5	Washington	1.00%
48	Minnesota	9.80%	22	West Virginia	6.50%
9	Mississippi	5.00%	36	Wisconsin	7.90%
20	Missouri	6.25%	1	Wyoming	0.00%

Source: Tax Foundation (2015)

Exhibit 45: Average State and Local Corporate Tax Rate (2015)



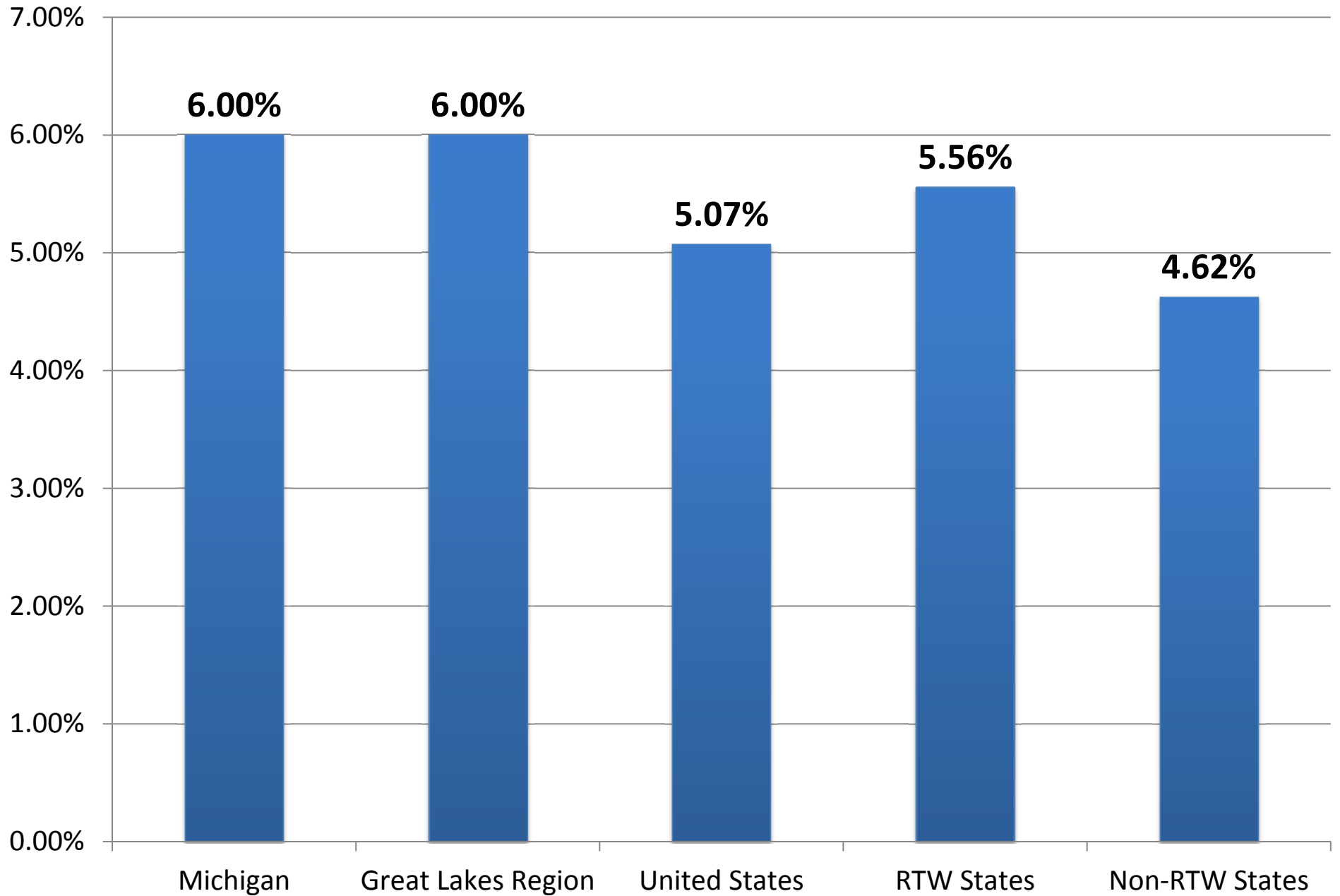
Source: Computed with data from Tax Foundation (2015)

Exhibit 46: Average State Sales Tax Rate (2015)

Rank	7	Alabama	4.00%	Rank	1	Montana	0.00%
	1	Alaska	0.00%		21	Nebraska	5.50%
	23	Arizona	5.60%		43	Nevada	6.85%
	41	Arkansas	6.50%		1	New Hampshire	0.00%
	50	California	7.50%		45	New Jersey	7.00%
	6	Colorado	2.90%		19	New Mexico	5.13%
	40	Connecticut	6.35%		7	New York	4.00%
	1	Delaware	0.00%		16	North Carolina	4.75%
	26	Florida	6.00%		17	North Dakota	5.00%
	7	Georgia	4.00%		24	Ohio	5.75%
	7	Hawaii	4.00%		15	Oklahoma	4.50%
	26	Idaho	6.00%		1	Oregon	0.00%
	37	Illinois	6.25%		26	Pennsylvania	6.00%
	45	Indiana	7.00%		45	Rhode Island	7.00%
	26	Iowa	6.00%		26	South Carolina	6.00%
	36	Kansas	6.15%		7	South Dakota	4.00%
	26	Kentucky	6.00%		45	Tennessee	7.00%
	7	Louisiana	4.00%		37	Texas	6.25%
	21	Maine	5.50%		25	Utah	5.95%
	26	Maryland	6.00%		26	Vermont	6.00%
	37	Massachusetts	6.25%		20	Virginia	5.30%
	26	Michigan	6.00%		41	Washington	6.50%
	44	Minnesota	6.88%		26	West Virginia	6.00%
	45	Mississippi	7.00%		17	Wisconsin	5.00%
	14	Missouri	4.23%		7	Wyoming	4.00%

Source: Tax Foundation (2015)

Exhibit 47 : State Sales Tax Rate (2015)



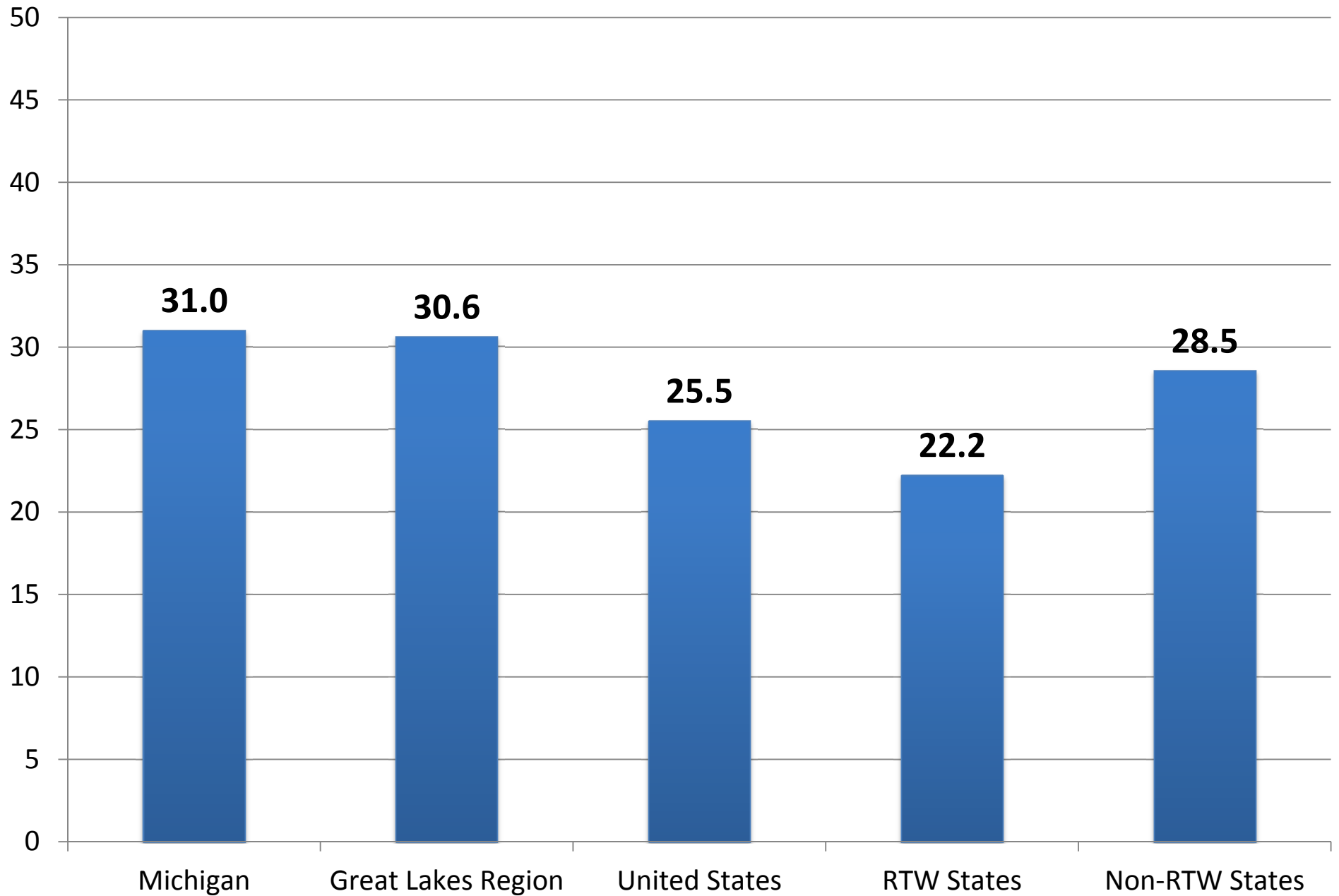
Source: Computed with data from Tax Foundation (2015)

Exhibit 48: Property Tax Burden Ranking (2012 - 2013)

Alabama	8	Montana	7
Alaska	13	Nebraska	38
Arizona	5	Nevada	16
Arkansas	19	New Hampshire	43
California	17	New Jersey	49
Colorado	9	New Mexico	1
Connecticut	50	New York	45
Delaware	14	North Carolina	36
Florida	25	North Dakota	4
Georgia	30	Ohio	34
Hawaii	15	Oklahoma	12
Idaho	2	Oregon	10
Illinois	44	Pennsylvania	42
Indiana	11	Rhode Island	46
Iowa	37	South Carolina	21
Kansas	28	South Dakota	20
Kentucky	18	Tennessee	41
Louisiana	23	Texas	32
Maine	39	Utah	3
Maryland	40	Vermont	48
Massachusetts	47	Virginia	27
Michigan	31	Washington	22
Minnesota	26	West Virginia	24
Mississippi	29	Wisconsin	33
Missouri	6	Wyoming	35

Source: Tax Foundation (2012-2013)

Exhibit 49: Property Tax Burden Ranking (2012 - 2013)



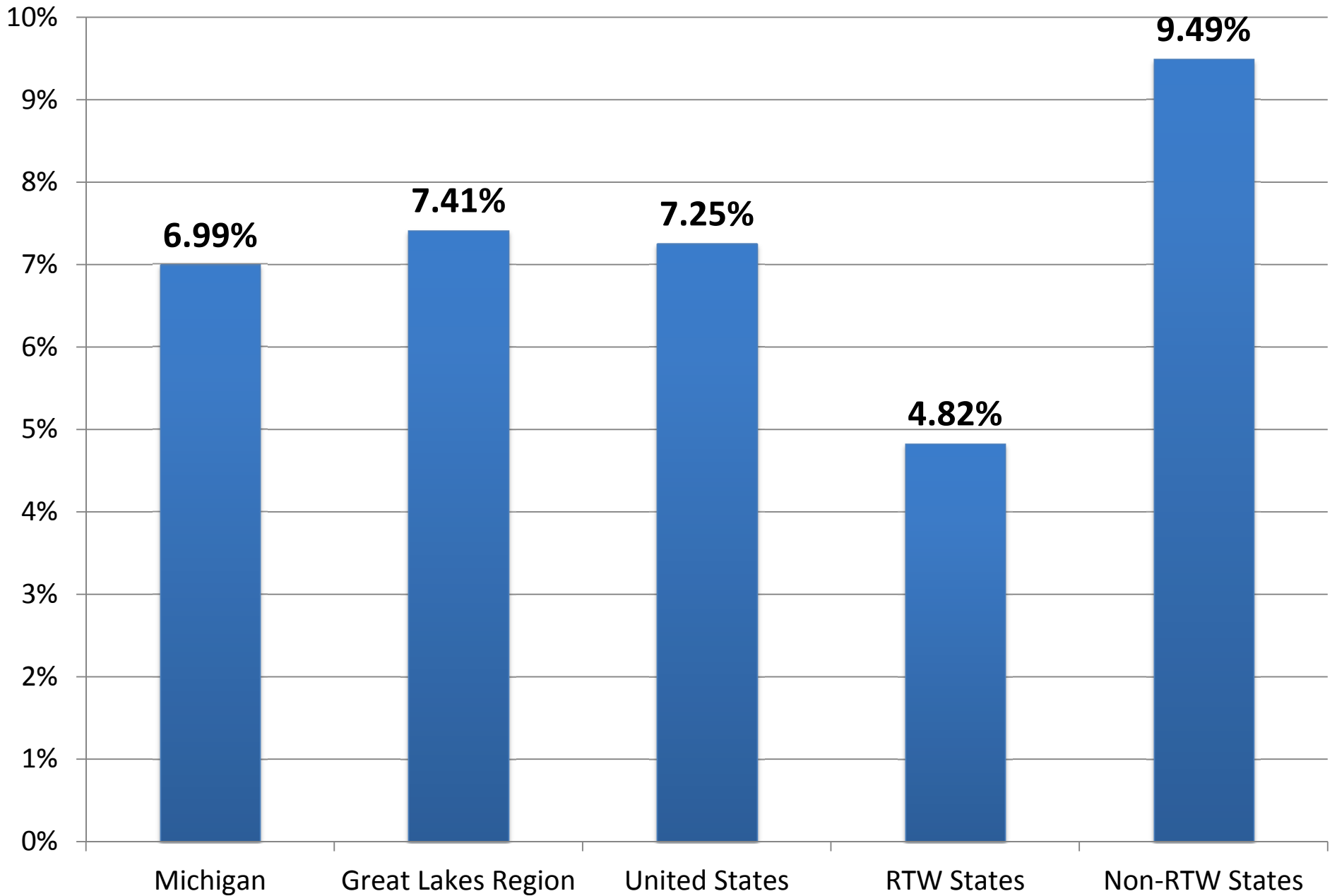
Source: Computed with data from Tax Foundation (2012 - 2013)

Exhibit 50: State Debt Per GDP (2013)

Rank 12	Alabama	4.65%	Rank 37	Montana	8.27%
43	Alaska	10.86%	1	Nebraska	1.69%
15	Arizona	5.00%	5	Nevada	2.82%
7	Arkansas	3.33%	47	New Hampshire	12.76%
24	California	6.88%	46	New Jersey	11.96%
18	Colorado	5.66%	33	New Mexico	7.96%
48	Connecticut	13.11%	41	New York	10.14%
39	Delaware	9.46%	10	North Carolina	4.08%
13	Florida	4.73%	8	North Dakota	3.59%
6	Georgia	2.91%	19	Ohio	5.89%
44	Hawaii	11.08%	17	Oklahoma	5.39%
20	Idaho	5.97%	22	Oregon	6.64%
38	Illinois	8.78%	28	Pennsylvania	7.34%
27	Indiana	7.25%	50	Rhode Island	17.95%
9	Iowa	3.99%	34	South Carolina	8.07%
14	Kansas	4.79%	31	South Dakota	7.67%
36	Kentucky	8.16%	2	Tennessee	2.13%
30	Louisiana	7.54%	4	Texas	2.54%
40	Maine	9.84%	16	Utah	5.22%
32	Maryland	7.68%	45	Vermont	11.55%
49	Massachusetts	17.25%	21	Virginia	6.16%
26	Michigan	6.99%	29	Washington	7.48%
11	Minnesota	4.42%	42	West Virginia	10.42%
23	Mississippi	6.83%	35	Wisconsin	8.14%
25	Missouri	6.98%	3	Wyoming	2.44%

Source: Computed with data from United States Census Bureau (2013)

Exhibit 51: State Debt Per GPD (2013)



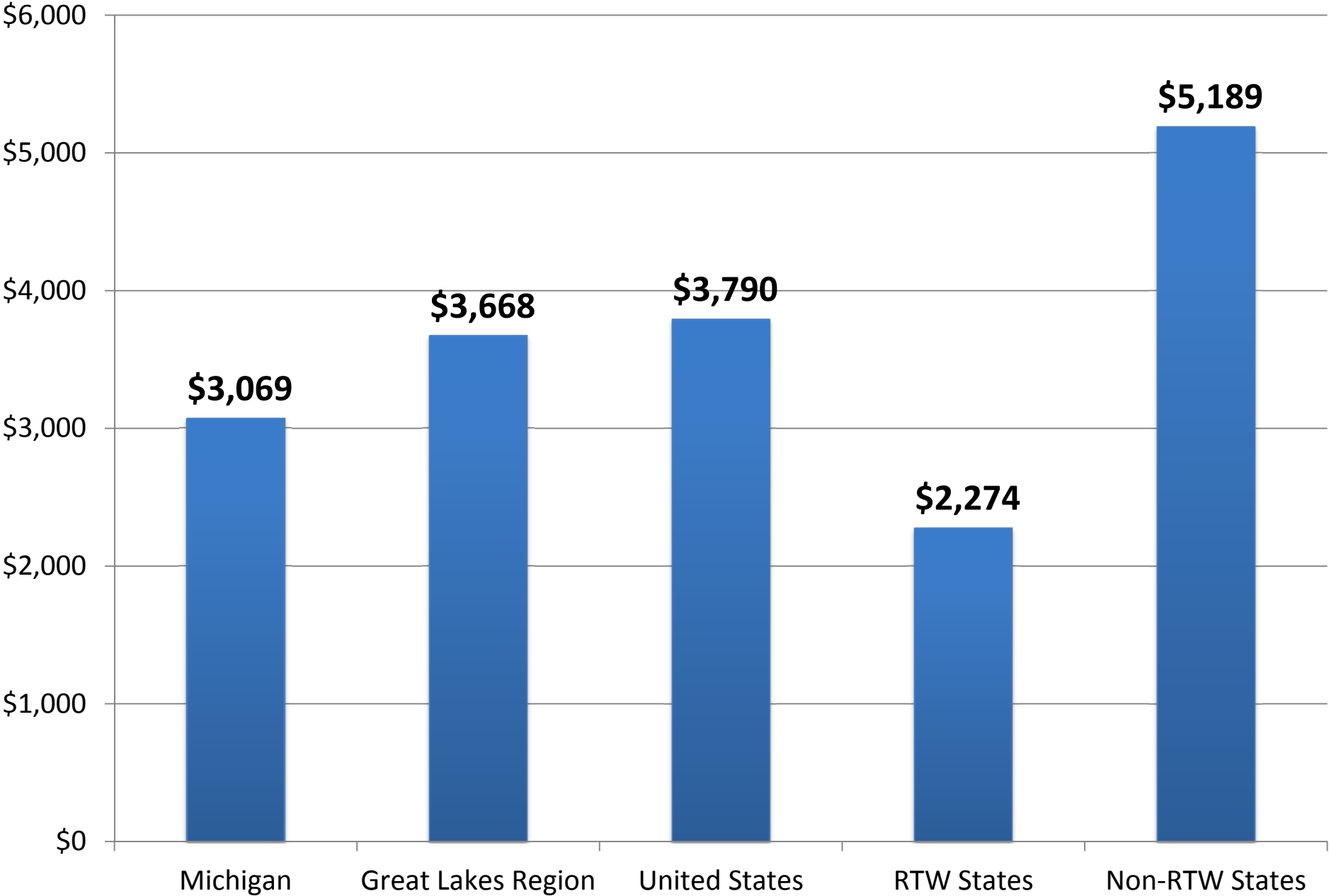
Source: Computed with data from United States Census Bureau (2013)

Exhibit 52: State Debt Per Capita (2013)

Rank 8	Alabama	\$1,873	Rank 30	Montana	\$3,506
47	Alaska	\$8,434	2	Nebraska	\$988
11	Arizona	\$2,068	3	Nevada	\$1,293
5	Arkansas	\$1,334	44	New Hampshire	\$6,626
32	California	\$3,960	46	New Jersey	\$7,211
23	Colorado	\$3,094	29	New Mexico	\$3,466
48	Connecticut	\$8,990	45	New York	\$6,906
43	Delaware	\$6,220	10	North Carolina	\$1,935
9	Florida	\$1,933	19	North Dakota	\$2,534
4	Georgia	\$1,330	20	Ohio	\$2,863
42	Hawaii	\$5,904	17	Oklahoma	\$2,469
13	Idaho	\$2,262	28	Oregon	\$3,462
40	Illinois	\$4,939	31	Pennsylvania	\$3,679
27	Indiana	\$3,434	49	Rhode Island	\$9,084
12	Iowa	\$2,150	22	South Carolina	\$3,085
14	Kansas	\$2,357	37	South Dakota	\$4,051
26	Kentucky	\$3,406	1	Tennessee	\$953
34	Louisiana	\$4,016	6	Texas	\$1,495
36	Maine	\$4,045	16	Utah	\$2,429
39	Maryland	\$4,389	41	Vermont	\$5,313
50	Massachusetts	\$11,352	25	Virginia	\$3,388
21	Michigan	\$3,069	38	Washington	\$4,370
18	Minnesota	\$2,503	33	West Virginia	\$3,968
15	Mississippi	\$2,377	35	Wisconsin	\$4,038
24	Missouri	\$3,194	7	Wyoming	\$1,750

Source: Computed with data from United States Census Bureau (2013)

Exhibit 53: State Debt Per Capita (2013)



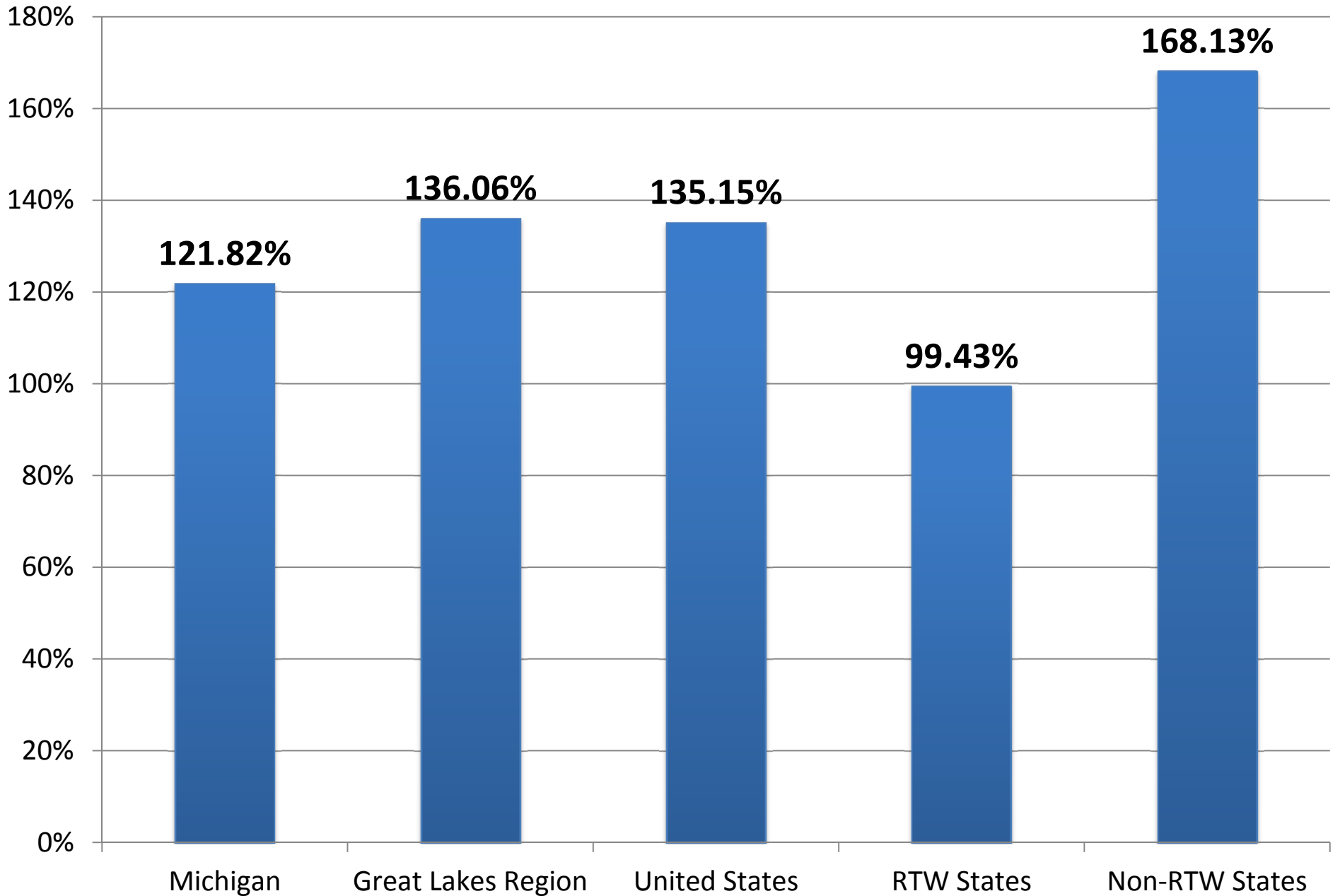
Source: Computed with data from United States Census Bureau (2013)

Exhibit 54: State Debt as a Share of Tax Revenue (2013)

Rank 14	Alabama	97.71%	Rank 26	Montana	134.55%
23	Alaska	121.15%	2	Nebraska	39.13%
15	Arizona	101.87%	6	Nevada	51.37%
3	Arkansas	45.97%	50	New Hampshire	372.96%
20	California	114.27%	46	New Jersey	221.01%
35	Colorado	145.03%	32	New Mexico	139.05%
44	Connecticut	199.86%	43	New York	184.63%
41	Delaware	171.97%	11	North Carolina	80.17%
18	Florida	107.11%	1	North Dakota	34.62%
8	Georgia	74.70%	22	Ohio	120.41%
27	Hawaii	136.53%	17	Oklahoma	106.99%
16	Idaho	101.92%	37	Oregon	148.44%
39	Illinois	164.37%	30	Pennsylvania	138.44%
25	Indiana	133.27%	49	Rhode Island	325.40%
10	Iowa	79.38%	40	South Carolina	168.82%
12	Kansas	89.57%	47	South Dakota	223.35%
31	Kentucky	138.53%	5	Tennessee	50.07%
45	Louisiana	201.54%	9	Texas	76.62%
29	Maine	138.36%	19	Utah	111.45%
34	Maryland	143.87%	21	Vermont	115.68%
48	Massachusetts	318.65%	36	Virginia	146.05%
24	Michigan	121.82%	38	Washington	163.25%
7	Minnesota	64.53%	28	West Virginia	136.77%
13	Mississippi	96.08%	33	Wisconsin	140.42%
42	Missouri	173.33%	4	Wyoming	46.68%

Source: Computed with data from United States Census Bureau (2013)

Exhibit 55: State Debt as a Share of Tax Revenue (2013)



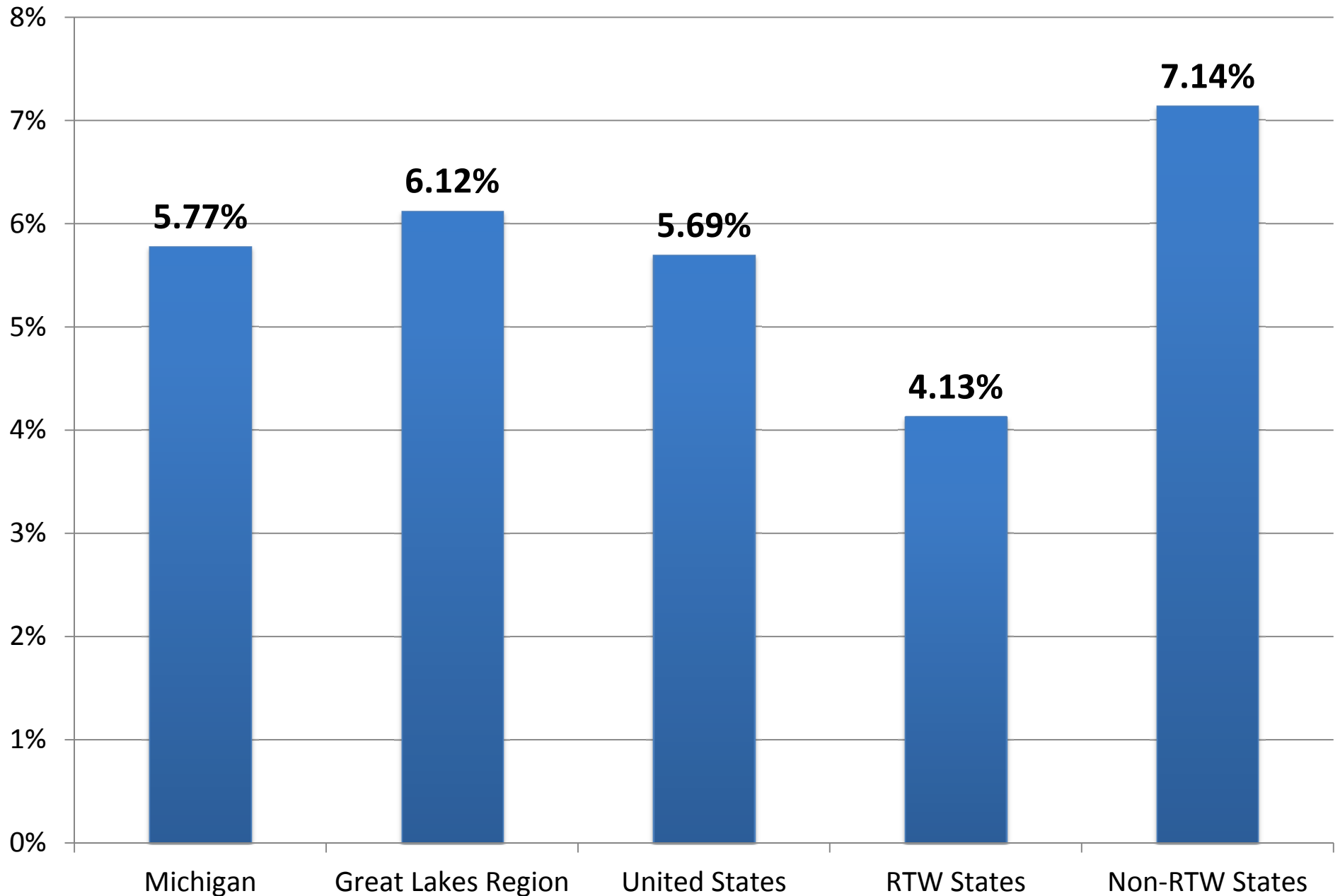
Source: Computed with data from United States Census Bureau (2013)

Exhibit 56: Debt Service as a Share of Tax Revenue (2013)

Rank 17	Alabama	3.83%	Rank 25	Montana	5.33%
24	Alaska	5.22%	1	Nebraska	1.48%
13	Arizona	3.71%	8	Nevada	2.73%
2	Arkansas	1.60%	49	New Hampshire	15.20%
27	California	5.63%	39	New Jersey	7.44%
42	Colorado	7.65%	26	New Mexico	5.54%
44	Connecticut	8.87%	43	New York	7.78%
47	Delaware	10.55%	7	North Carolina	2.61%
14	Florida	3.71%	3	North Dakota	1.84%
16	Georgia	3.74%	20	Ohio	4.48%
30	Hawaii	5.73%	34	Oklahoma	6.07%
21	Idaho	4.52%	22	Oregon	4.63%
45	Illinois	9.05%	18	Pennsylvania	4.26%
29	Indiana	5.68%	50	Rhode Island	16.12%
10	Iowa	2.93%	41	South Carolina	7.46%
9	Kansas	2.82%	40	South Dakota	7.45%
36	Kentucky	6.40%	4	Tennessee	2.14%
46	Louisiana	9.21%	12	Texas	3.34%
32	Maine	6.00%	19	Utah	4.28%
35	Maryland	6.08%	11	Vermont	3.27%
48	Massachusetts	13.66%	33	Virginia	6.04%
31	Michigan	5.77%	37	Washington	6.91%
5	Minnesota	2.29%	23	West Virginia	4.72%
15	Mississippi	3.72%	28	Wisconsin	5.63%
38	Missouri	7.10%	6	Wyoming	2.34%

Source: Computed with data from United States Census Bureau (2013)

Exhibit 57: Debt Service as a Share of Tax Revenue (2013)



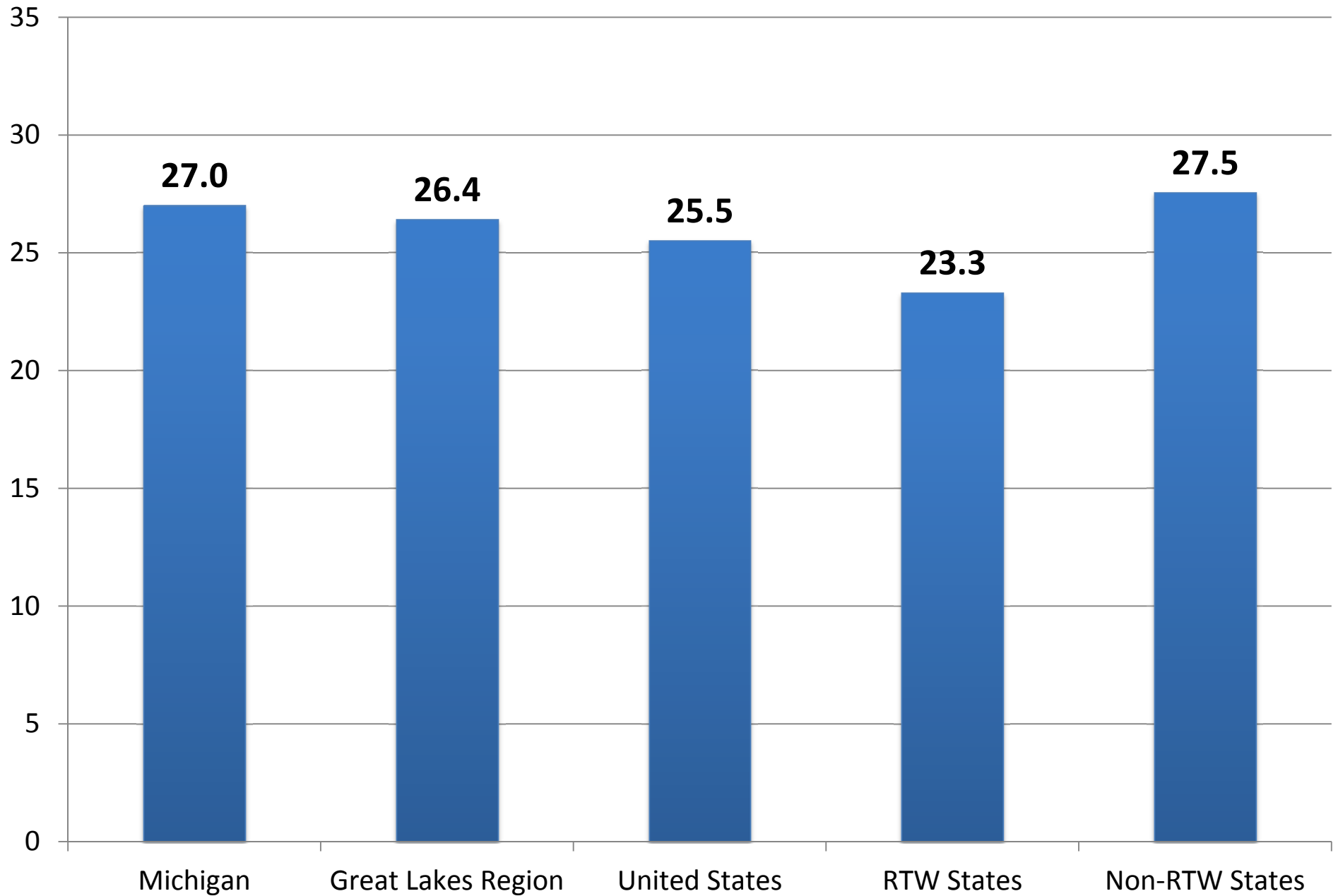
Source: Computed with data from United States Census Bureau (2013)

Exhibit 58: State Liability System Ranking (2012)

Alabama	43	Montana	45
Alaska	13	Nebraska	2
Arizona	17	Nevada	37
Arkansas	35	New Hampshire	21
California	47	New Jersey	32
Colorado	23	New Mexico	44
Connecticut	25	New York	18
Delaware	1	North Carolina	20
Florida	41	North Dakota	8
Georgia	24	Ohio	30
Hawaii	29	Oklahoma	42
Idaho	6	Oregon	28
Illinois	46	Pennsylvania	40
Indiana	14	Rhode Island	31
Iowa	10	South Carolina	39
Kansas	5	South Dakota	11
Kentucky	38	Tennessee	26
Louisiana	49	Texas	36
Maine	12	Utah	9
Maryland	33	Vermont	16
Massachusetts	19	Virginia	7
Michigan	27	Washington	22
Minnesota	4	West Virginia	50
Mississippi	48	Wisconsin	15
Missouri	34	Wyoming	3

Source: Computed with data from United States Chamber of Commerce (2012)

Exhibit 59: State Liability System Ranking (2012)



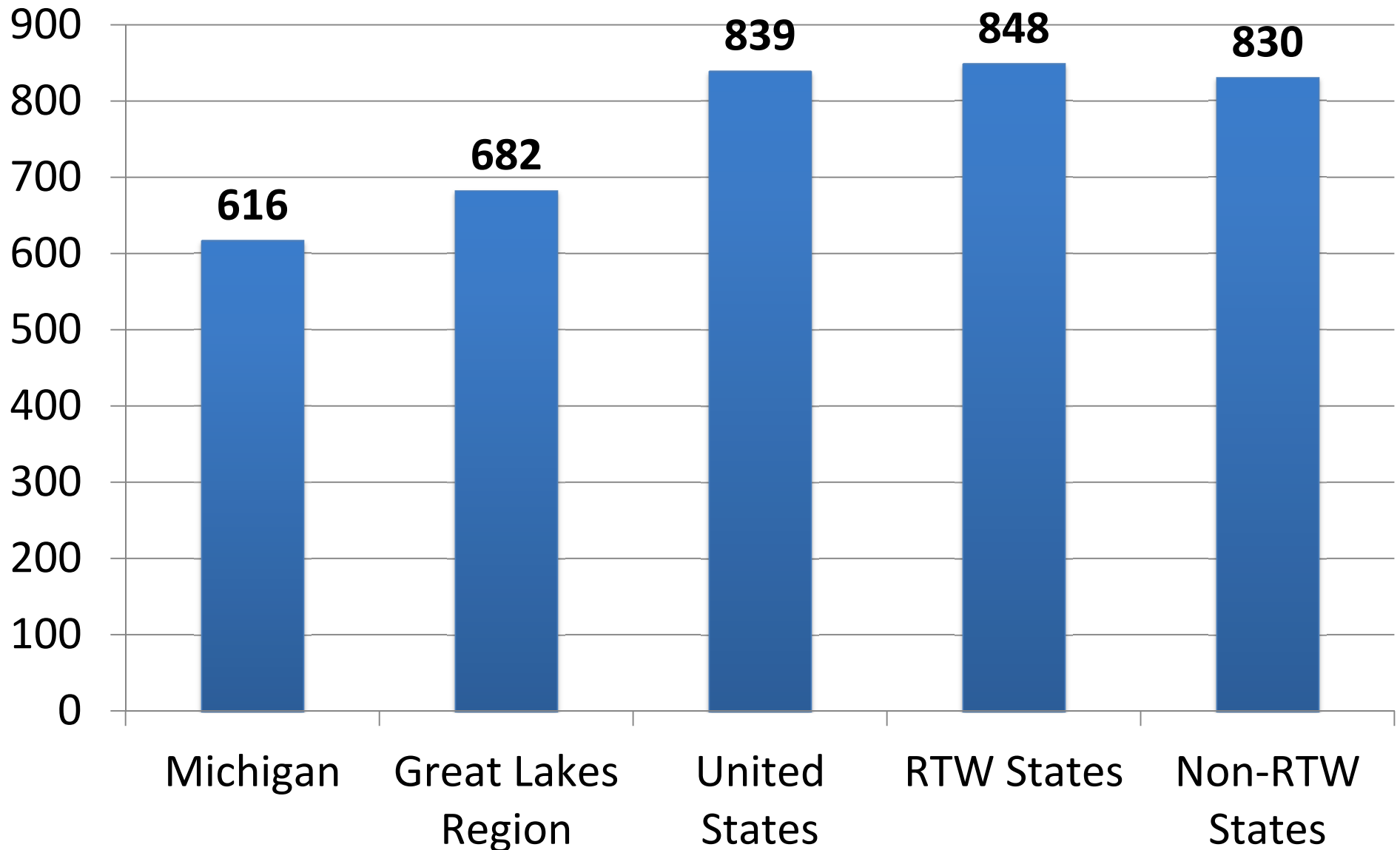
Source: Computed with data from United States Chamber of Commerce (2012)

Exhibit 60: Total Government Employees per 10,000 People (2014)

Rank 28	Alabama	829	Rank 39	Montana	934
50	Alaska	1,452	38	Nebraska	928
5	Arizona	666	2	Nevada	598
24	Arkansas	795	15	New Hampshire	714
6	California	674	13	New Jersey	696
35	Colorado	883	44	New Mexico	1,013
16	Connecticut	722	17	New York	741
25	Delaware	803	34	North Carolina	874
1	Florida	593	47	North Dakota	1,191
20	Georgia	766	11	Ohio	686
48	Hawaii	1,296	42	Oklahoma	959
22	Idaho	787	14	Oregon	704
8	Illinois	681	3	Pennsylvania	616
7	Indiana	675	9	Rhode Island	681
33	Iowa	866	29	South Carolina	837
45	Kansas	1,024	43	South Dakota	992
31	Kentucky	850	12	Tennessee	687
27	Louisiana	817	18	Texas	745
26	Maine	805	30	Utah	838
41	Maryland	957	40	Vermont	939
10	Massachusetts	684	46	Virginia	1,050
4	Michigan	616	36	Washington	893
21	Minnesota	771	32	West Virginia	853
37	Mississippi	927	19	Wisconsin	752
23	Missouri	787	49	Wyoming	1,299

Source: Computed with data from Bureau of Economic Analysis (2014)

Exhibit 61: Total Government Employees per 10,000 People (2014)



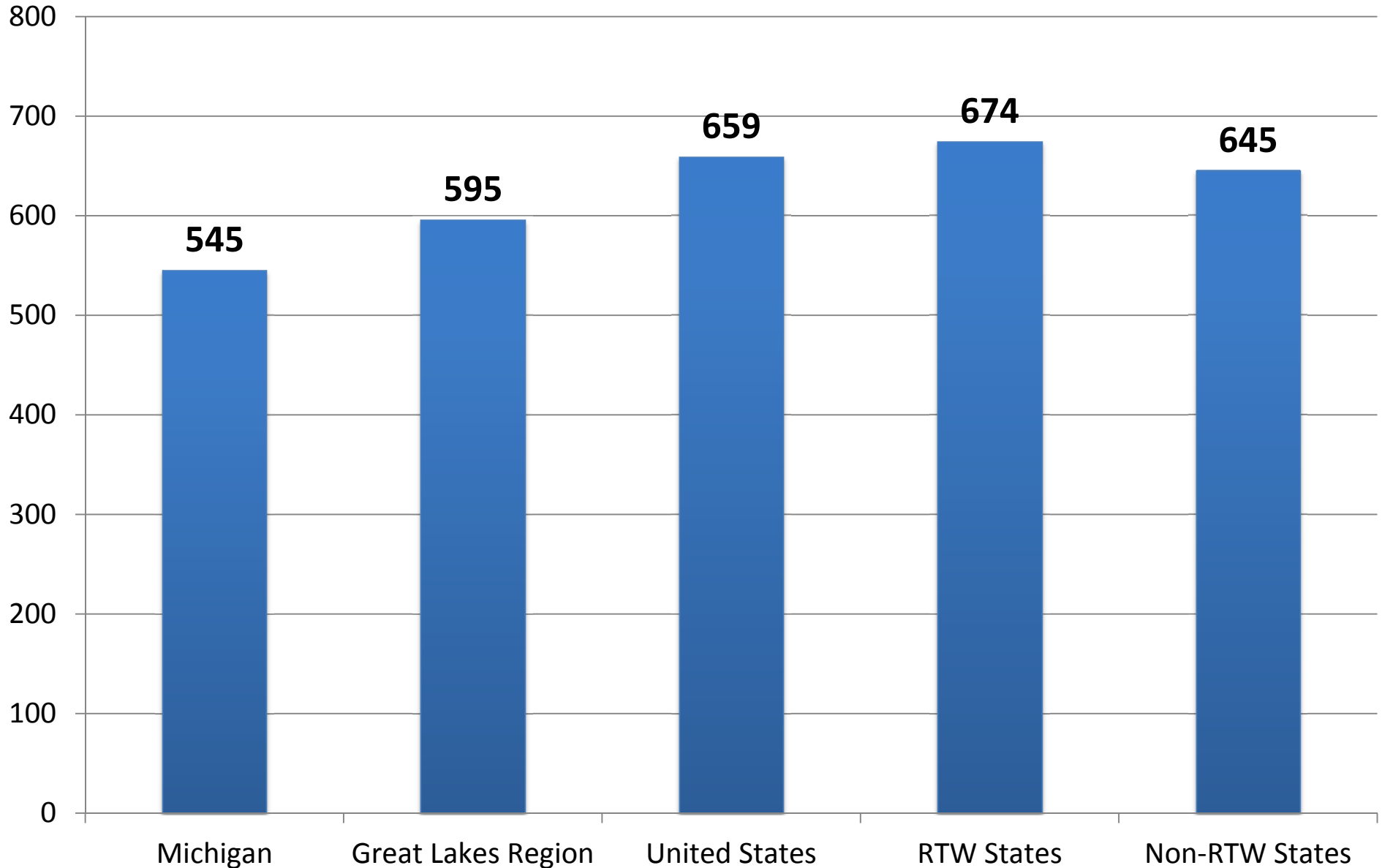
Source: Computed with data from Bureau of Economic Analysis (2014)

Exhibit 62: State and Local Government Employees per 10,000 people (2013)

Rank 28	Alabama	653	Rank 39	Montana	723
48	Alaska	869	45	Nebraska	771
5	Arizona	532	1	Nevada	466
31	Arkansas	663	18	New Hampshire	623
7	California	554	17	New Jersey	612
38	Colorado	679	46	New Mexico	779
20	Connecticut	633	27	New York	651
22	Delaware	644	33	North Carolina	665
2	Florida	476	49	North Dakota	900
8	Georgia	568	14	Ohio	589
25	Hawaii	648	41	Oklahoma	744
26	Idaho	651	16	Oregon	603
11	Illinois	585	3	Pennsylvania	512
13	Indiana	586	4	Rhode Island	513
44	Iowa	768	29	South Carolina	653
47	Kansas	810	42	South Dakota	763
21	Kentucky	640	9	Tennessee	576
32	Louisiana	665	15	Texas	603
23	Maine	645	30	Utah	662
10	Maryland	580	43	Vermont	763
12	Massachusetts	585	24	Virginia	647
6	Michigan	545	35	Washington	674
36	Minnesota	675	37	West Virginia	676
40	Mississippi	743	34	Wisconsin	673
19	Missouri	629	50	Wyoming	1,064

Source: Computed with data from Bureau of Economic Analysis (2013)

Exhibit 63: State and Local Government Employees per 10,000 people (2013)



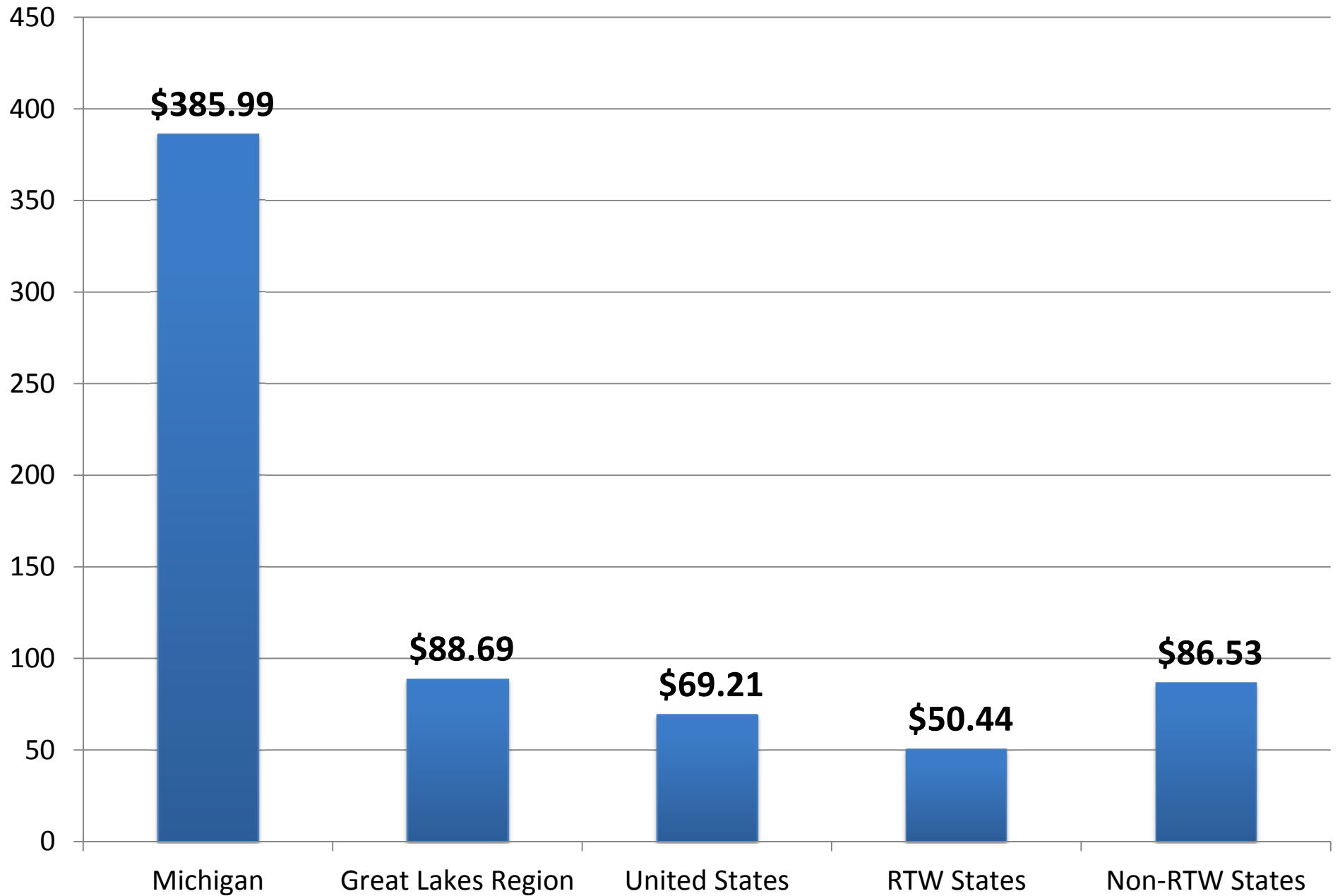
Source: Computed with data from Bureau of Economic Analysis (2013)

Exhibit 64: Bailout Funds Per Capita (July 22, 2015 bailout funds; 2014 population)

Rank 42	Alabama	\$59.19	Rank 1	Montana	\$0.81
10	Alaska	\$4.33	3	Nebraska	\$2.72
8	Arizona	\$4.17	31	Nevada	\$18.00
26	Arkansas	\$9.16	13	New Hampshire	\$5.12
24	California	\$7.92	28	New Jersey	\$11.10
9	Colorado	\$4.30	15	New Mexico	\$5.74
44	Connecticut	\$118.41	47	New York	\$218.20
50	Delaware	\$1,574.70	45	North Carolina	\$126.59
6	Florida	\$3.58	37	North Dakota	\$29.02
34	Georgia	\$22.13	36	Ohio	\$27.76
39	Hawaii	\$31.93	12	Oklahoma	\$5.08
18	Idaho	\$6.31	30	Oregon	\$17.40
20	Illinois	\$6.74	33	Pennsylvania	\$20.40
11	Indiana	\$4.73	40	Rhode Island	\$34.88
41	Iowa	\$56.24	22	South Carolina	\$7.41
4	Kansas	\$2.89	35	South Dakota	\$23.77
17	Kentucky	\$6.23	23	Tennessee	\$7.75
14	Louisiana	\$5.48	5	Texas	\$3.35
25	Maine	\$8.79	46	Utah	\$135.34
7	Maryland	\$3.83	2	Vermont	\$1.74
38	Massachusetts	\$29.07	48	Virginia	\$274.99
49	Michigan	\$385.99	21	Washington	\$7.38
43	Minnesota	\$62.62	29	West Virginia	\$15.62
27	Mississippi	\$10.62	32	Wisconsin	\$18.22
19	Missouri	\$6.55	16	Wyoming	\$6.05

Source: Computed with data from Propublica (July, 2015)

Exhibit 65: Bailout Funds Per Capita (July, 2015)



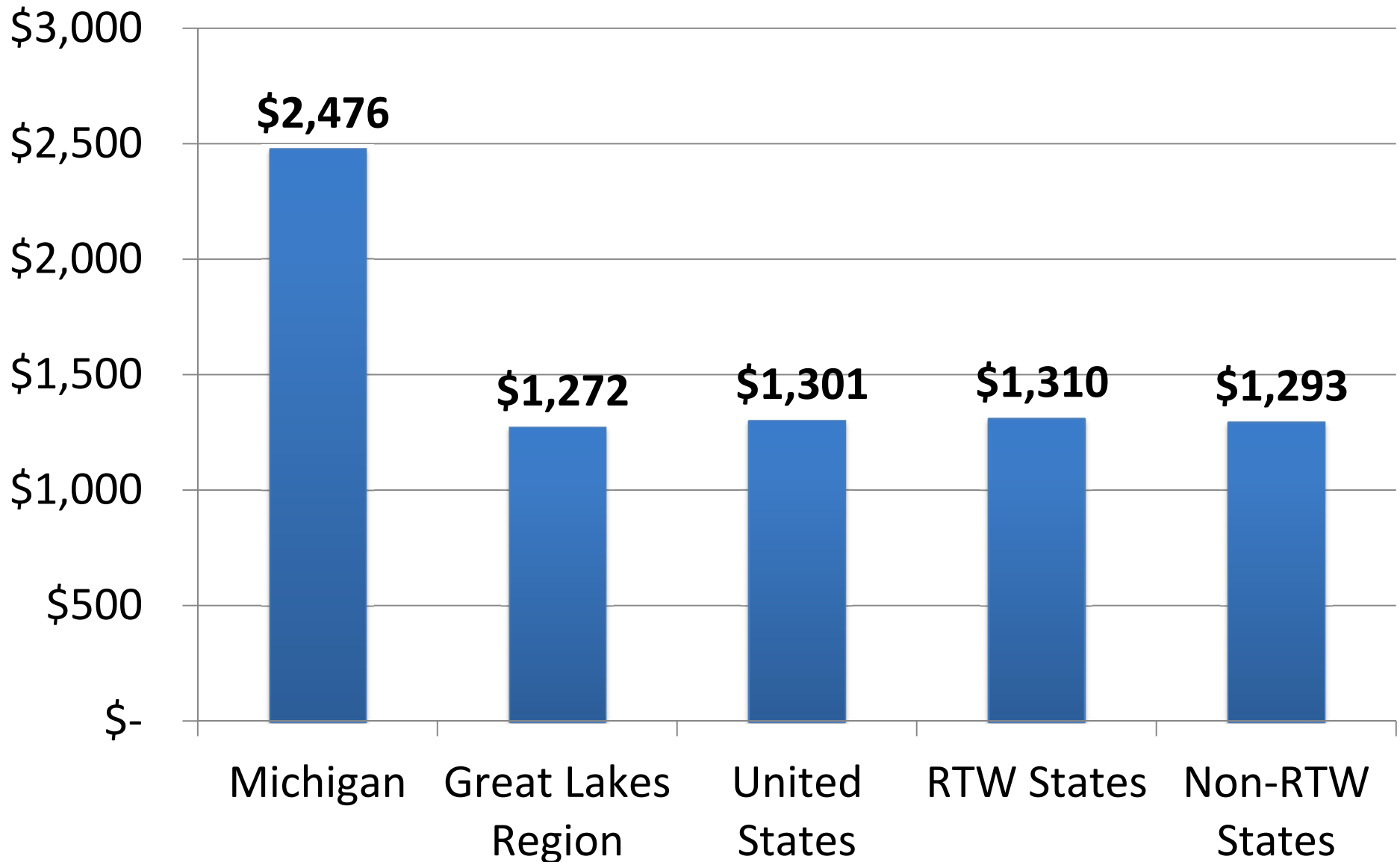
Source: Computed with data from Propublica (July, 2015)

Exhibit 66: Average Price of Annual Car Insurance Policy (2015)

Rank 30	Alabama	\$1,320	Rank 49	Montana	\$1,886
34	Alaska	\$1,410	14	Nebraska	\$1,086
15	Arizona	\$1,103	27	Nevada	\$1,248
25	Arkansas	\$1,239	5	New Hampshire	\$905
43	California	\$1,643	42	New Jersey	\$1,595
26	Colorado	\$1,245	24	New Mexico	\$1,237
45	Connecticut	\$1,690	10	New York	\$1,013
39	Delaware	\$1,542	8	North Carolina	\$986
47	Florida	\$1,742	33	North Dakota	\$1,377
38	Georgia	\$1,519	2	Ohio	\$843
18	Hawaii	\$1,114	37	Oklahoma	\$1,496
3	Idaho	\$877	22	Oregon	\$1,211
13	Illinois	\$1,079	29	Pennsylvania	\$1,304
11	Indiana	\$1,033	44	Rhode Island	\$1,656
4	Iowa	\$886	21	South Carolina	\$1,210
19	Kansas	\$1,147	20	South Dakota	\$1,180
31	Kentucky	\$1,341	28	Tennessee	\$1,263
48	Louisiana	\$1,774	35	Texas	\$1,449
1	Maine	\$805	12	Utah	\$1,059
41	Maryland	\$1,590	7	Vermont	\$957
36	Massachusetts	\$1,460	9	Virginia	\$1,008
50	Michigan	\$2,476	16	Washington	\$1,110
23	Minnesota	\$1,222	46	West Virginia	\$1,716
40	Mississippi	\$1,584	6	Wisconsin	\$930
17	Missouri	\$1,112	32	Wyoming	\$1,371

Source: CorInsuranceQuotes.com (2015)

Exhibit 67: Average Price of Annual Car Insurance Policy (2015)



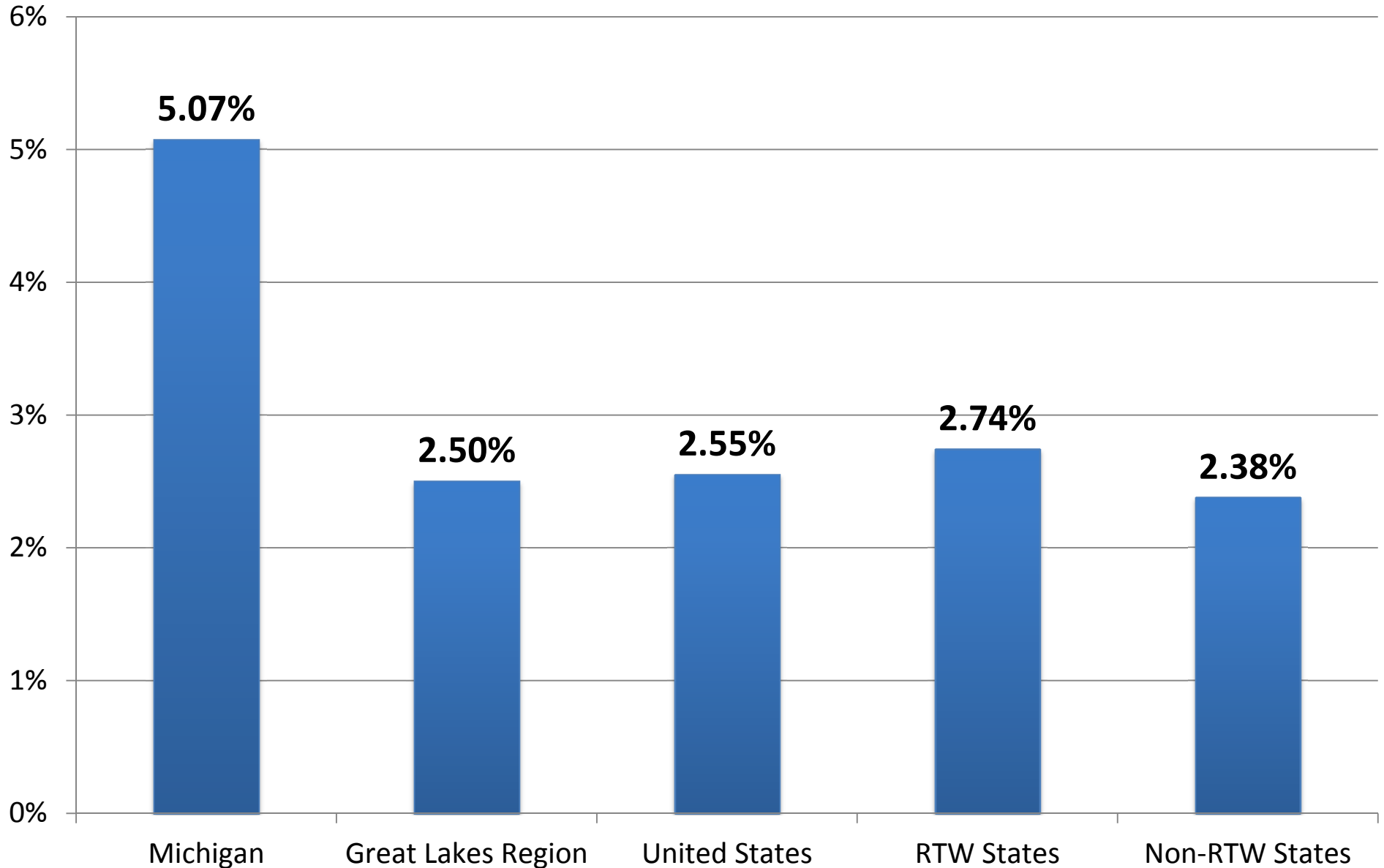
Source: Computed with data from CarInsuranceQuotes.com (2015)

Exhibit 68: % of Household Income to Purchase Car Insurance (2013 & 2015)

Rank 42	Alabama	3.190%	Rank 48	Montana	4.274%
23	Alaska	2.306%	16	Nebraska	2.020%
20	Arizona	2.180%	33	Nevada	2.751%
40	Arkansas	3.104%	1	New Hampshire	1.269%
35	California	2.856%	30	New Jersey	2.582%
14	Colorado	1.965%	37	New Mexico	2.936%
29	Connecticut	2.493%	12	New York	1.881%
38	Delaware	2.953%	25	North Carolina	2.393%
45	Florida	3.638%	31	North Dakota	2.604%
43	Georgia	3.202%	10	Ohio	1.817%
9	Hawaii	1.814%	44	Oklahoma	3.417%
7	Idaho	1.694%	18	Oregon	2.151%
13	Illinois	1.886%	26	Pennsylvania	2.417%
17	Indiana	2.043%	36	Rhode Island	2.864%
4	Iowa	1.615%	34	South Carolina	2.766%
22	Kansas	2.228%	19	South Dakota	2.167%
41	Kentucky	3.181%	39	Tennessee	2.972%
49	Louisiana	4.477%	32	Texas	2.733%
3	Maine	1.606%	5	Utah	1.682%
27	Maryland	2.436%	8	Vermont	1.745%
24	Massachusetts	2.319%	2	Virginia	1.491%
50	Michigan	5.074%	11	Washington	1.847%
15	Minnesota	2.006%	47	West Virginia	4.264%
46	Mississippi	3.878%	6	Wisconsin	1.683%
21	Missouri	2.210%	28	Wyoming	2.461%

Source: Computed with data from Bureau of Economic Analysis (2013) and CarInsuranceQuotes.com (2015)

Exhibit 69: % of Household Income to Purchase Car Insurance (2013 & 2015)



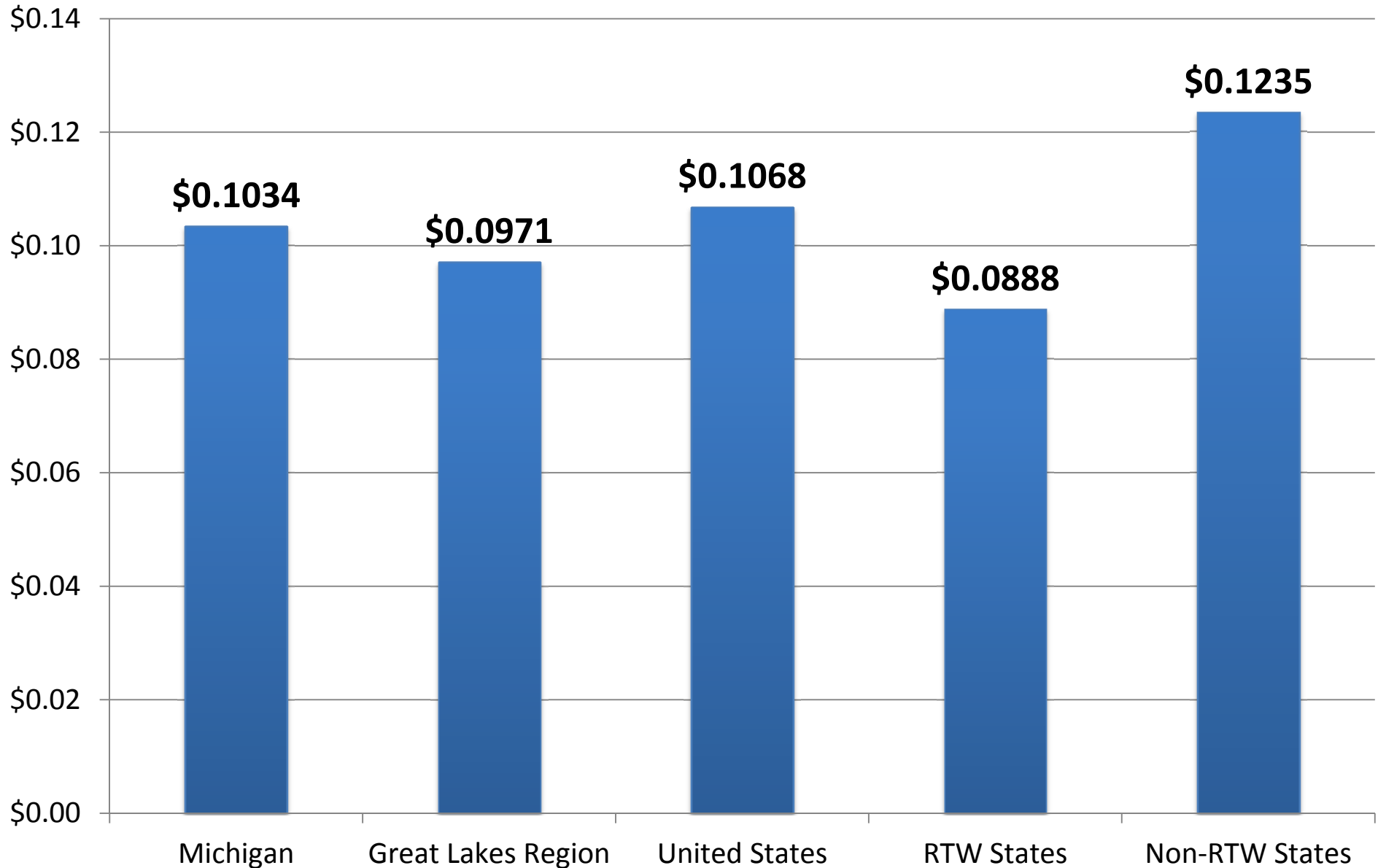
Source: Computed with data from Bureau of Economic Analysis (2013) and CarInsuranceQuotes.com (2015)

Exhibit 70: Average Retail Price For Electricity (cents/kWh)(May 2015)

Rank 20	Alabama	\$0.0906	Rank 48	Montana	\$0.0882
47	Alaska	\$0.1756	16	Nebraska	\$0.0876
33	Arizona	\$0.1007	33	Nevada	\$0.0906
6	Arkansas	\$0.0783	1	New Hampshire	\$0.1674
41	California	\$0.1269	30	New Jersey	\$0.1366
31	Colorado	\$0.0969	37	New Mexico	\$0.0926
49	Connecticut	\$0.1847	12	New York	\$0.1439
36	Delaware	\$0.1037	25	North Carolina	\$0.0918
37	Florida	\$0.1056	31	North Dakota	\$0.0912
17	Georgia	\$0.0895	10	Ohio	\$0.0951
50	Hawaii	\$0.2626	44	Oklahoma	\$0.0762
4	Idaho	\$0.0782	18	Oregon	\$0.0879
23	Illinois	\$0.0913	26	Pennsylvania	\$0.1010
16	Indiana	\$0.0885	36	Rhode Island	\$0.1790
7	Iowa	\$0.0795	34	South Carolina	\$0.0900
32	Kansas	\$0.1003	19	South Dakota	\$0.0916
4	Kentucky	\$0.0782	39	Tennessee	\$0.0913
2	Louisiana	\$0.0744	32	Texas	\$0.0839
40	Maine	\$0.1237	5	Utah	\$0.0814
39	Maryland	\$0.1207	8	Vermont	\$0.1430
46	Massachusetts	\$0.1734	2	Virginia	\$0.0901
35	Michigan	\$0.1034	11	Washington	\$0.0721
28	Minnesota	\$0.0938	47	West Virginia	\$0.0796
30	Mississippi	\$0.0954	6	Wisconsin	\$0.1072
12	Missouri	\$0.0847	28	Wyoming	\$0.0800

Source: U.S. Energy Information Administration (May 2015)

Exhibit 71: Average Retail Price For Electricity (cents/kWh)(May 2015)



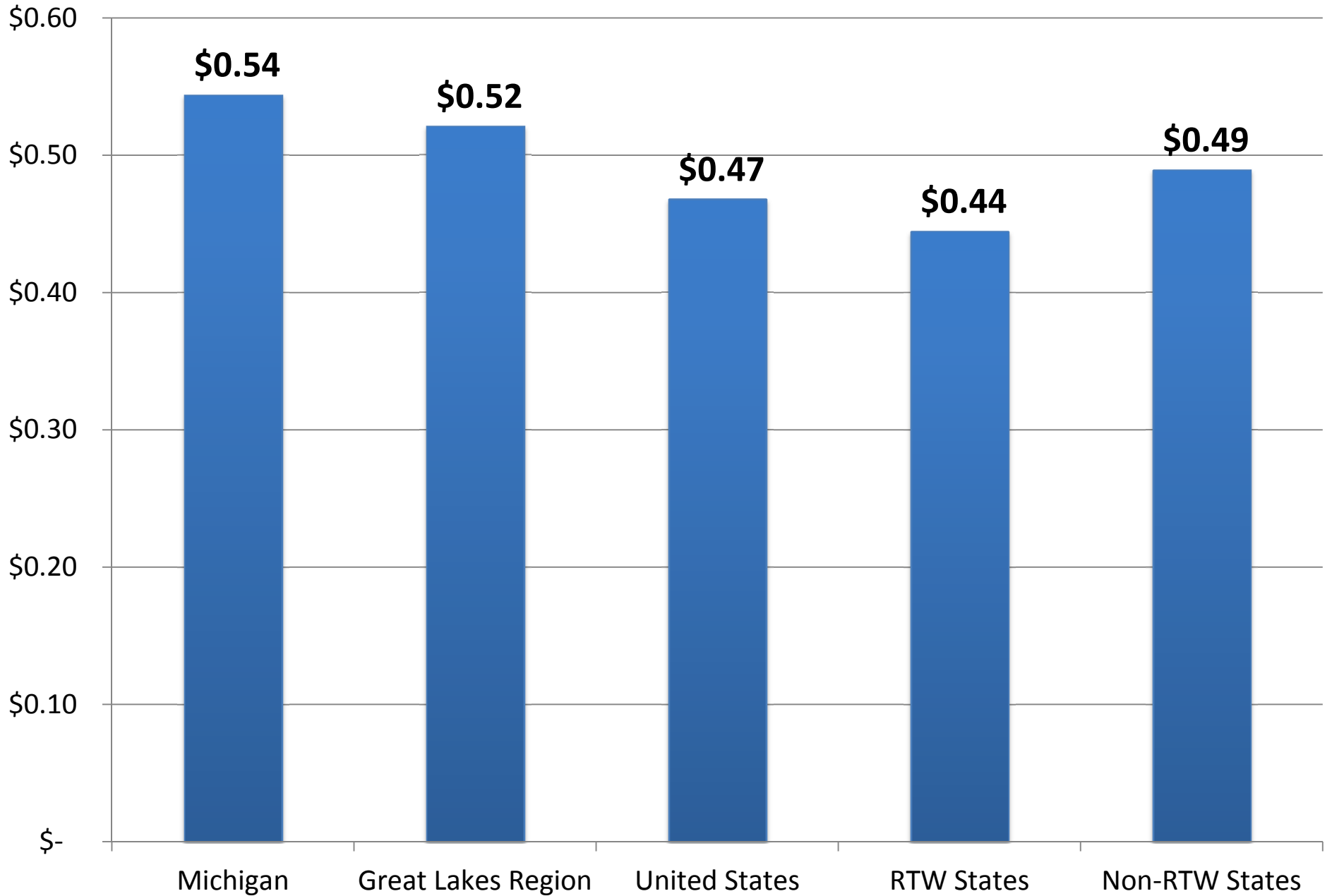
Source: Computed with information U.S. Energy Information Administration (May 2015)

Exhibit 72: Gas Taxes Per Gallon (2015)

Rank 11	Alabama	\$0.39	Rank 25	Montana	\$0.46
1	Alaska	\$0.31	24	Nebraska	\$0.45
8	Arizona	\$0.37	37	Nevada	\$0.52
13	Arkansas	\$0.40	18	New Hampshire	\$0.42
47	California	\$0.61	2	New Jersey	\$0.33
14	Colorado	\$0.40	7	New Mexico	\$0.37
46	Connecticut	\$0.59	49	New York	\$0.64
16	Delaware	\$0.41	43	North Carolina	\$0.55
44	Florida	\$0.55	16	North Dakota	\$0.41
35	Georgia	\$0.51	26	Ohio	\$0.46
48	Hawaii	\$0.64	4	Oklahoma	\$0.35
32	Idaho	\$0.50	31	Oregon	\$0.49
41	Illinois	\$0.54	50	Pennsylvania	\$0.70
40	Indiana	\$0.54	38	Rhode Island	\$0.52
32	Iowa	\$0.50	3	South Carolina	\$0.35
20	Kansas	\$0.42	28	South Dakota	\$0.48
22	Kentucky	\$0.44	12	Tennessee	\$0.40
10	Louisiana	\$0.38	9	Texas	\$0.38
29	Maine	\$0.48	21	Utah	\$0.43
34	Maryland	\$0.51	30	Vermont	\$0.49
23	Massachusetts	\$0.45	15	Virginia	\$0.41
41	Michigan	\$0.54	45	Washington	\$0.56
27	Minnesota	\$0.47	39	West Virginia	\$0.53
6	Mississippi	\$0.37	36	Wisconsin	\$0.51
5	Missouri	\$0.36	19	Wyoming	\$0.42

Source: American Petroleum Institute (2015)

Exhibit 73: Gas Taxes Per Gallon (2015)



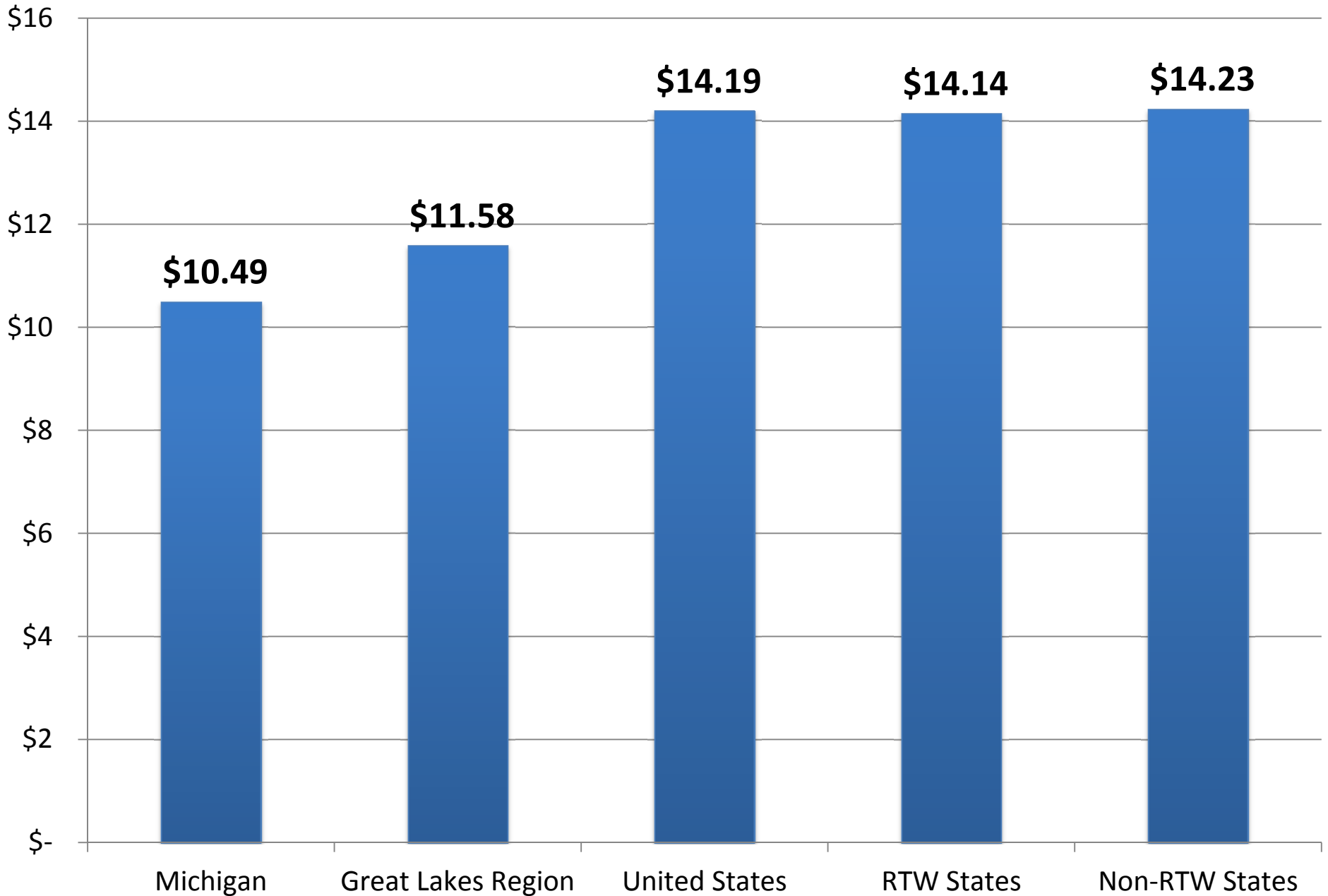
Source: Computed with data from American Petroleum Institute (2015)

Exhibit 74: Residential Natural Gas Prices (May 2015)

Rank 44	Alabama	\$17.52	Rank 2	Montana	\$8.42
15	Alaska	\$10.94	12	Nebraska	\$10.37
46	Arizona	\$19.33	28	Nevada	\$14.34
24	Arkansas	\$13.27	33	New Hampshire	\$15.20
17	California	\$11.36	8	New Jersey	\$9.61
1	Colorado	\$7.94	9	New Mexico	\$9.84
31	Connecticut	\$14.39	20	New York	\$12.70
39	Delaware	\$16.05	45	North Carolina	\$17.72
48	Florida	\$21.22	11	North Dakota	\$10.20
47	Georgia	\$20.56	23	Ohio	\$13.11
50	Hawaii	\$45.22	37	Oklahoma	\$15.80
4	Idaho	\$9.23	29	Oregon	\$14.35
18	Illinois	\$11.47	27	Pennsylvania	\$13.57
26	Indiana	\$13.45	35	Rhode Island	\$15.77
10	Iowa	\$10.02	49	South Carolina	\$21.39
32	Kansas	\$14.50	3	South Dakota	\$9.16
43	Kentucky	\$17.22	29	Tennessee	\$14.35
25	Louisiana	\$13.30	36	Texas	\$15.78
40	Maine	\$16.58	7	Utah	\$9.55
41	Maryland	\$16.69	38	Vermont	\$15.81
19	Massachusetts	\$12.66	34	Virginia	\$15.60
13	Michigan	\$10.49	16	Washington	\$11.34
14	Minnesota	\$10.64	21	West Virginia	\$12.80
22	Mississippi	\$12.89	5	Wisconsin	\$9.37
42	Missouri	\$17.02	6	Wyoming	\$9.43

Source: U.S. Energy Information Administration (May 2015)

Exhibit 75: Residential Natural Gas Prices (May 2015)



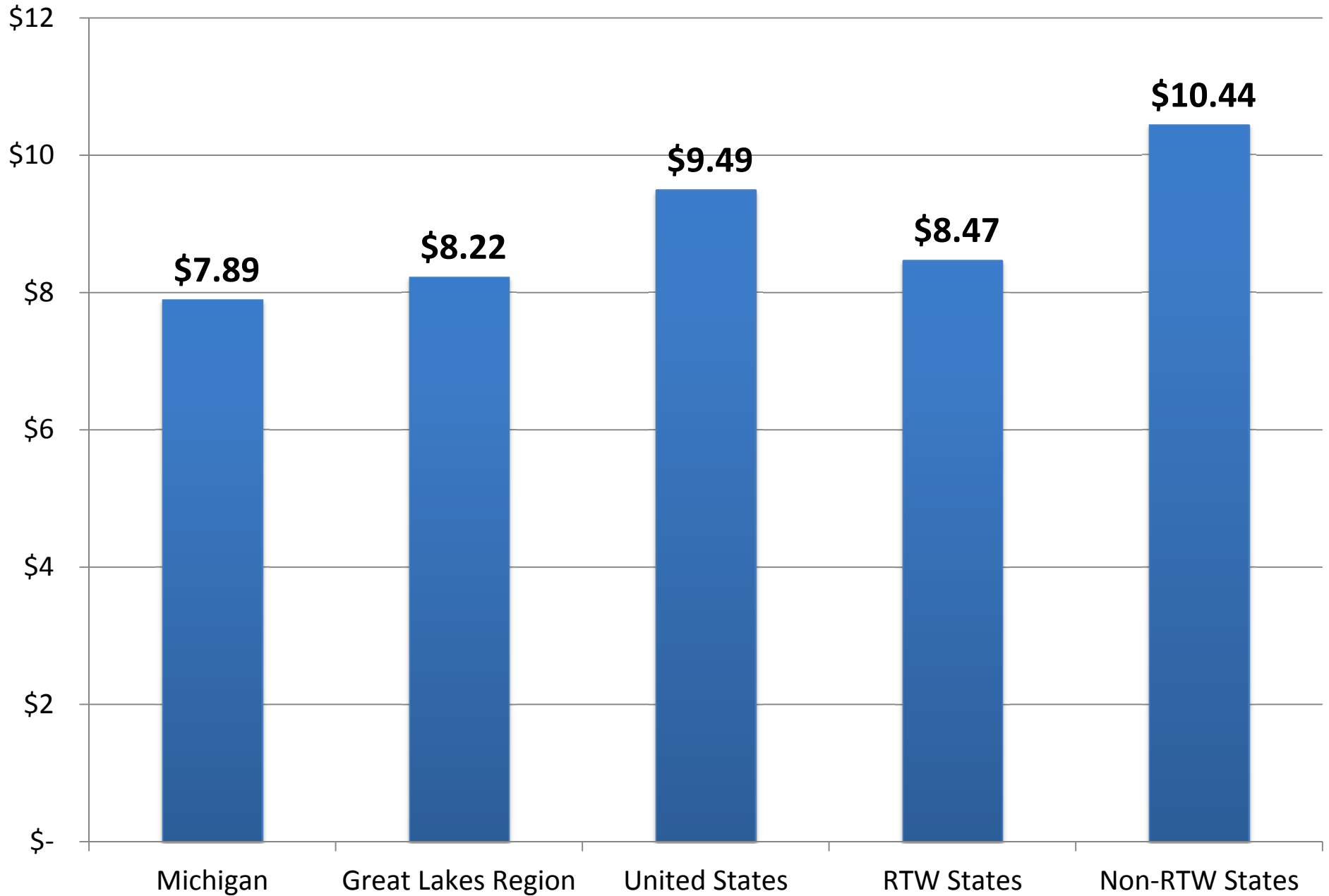
Source: Computed with data from U.S. Energy Information Administration (May 2015)

Exhibit 76: Commercial Natural Gas Prices (May 2015)

Rank 45	Alabama	\$11.48	Rank 23	Montana	\$8.18
16	Alaska	\$7.62	1	Nebraska	\$5.53
41	Arizona	\$10.83	31	Nevada	\$9.64
17	Arkansas	\$7.85	47	New Hampshire	\$12.26
9	California	\$7.00	19	New Jersey	\$7.86
10	Colorado	\$7.16	8	New Mexico	\$6.95
30	Connecticut	\$9.47	6	New York	\$6.66
46	Delaware	\$11.90	24	North Carolina	\$8.44
32	Florida	\$9.97	5	North Dakota	\$6.60
26	Georgia	\$8.63	11	Ohio	\$7.17
50	Hawaii	\$36.86	44	Oklahoma	\$11.36
21	Idaho	\$7.93	39	Oregon	\$10.77
34	Illinois	\$10.10	38	Pennsylvania	\$10.75
35	Indiana	\$10.31	48	Rhode Island	\$13.01
4	Iowa	\$6.51	22	South Carolina	\$7.96
40	Kansas	\$10.80	3	South Dakota	\$6.43
42	Kentucky	\$10.97	28	Tennessee	\$9.15
15	Louisiana	\$7.51	7	Texas	\$6.84
49	Maine	\$13.33	14	Utah	\$7.48
43	Maryland	\$11.28	25	Vermont	\$8.53
33	Massachusetts	\$10.09	27	Virginia	\$8.98
20	Michigan	\$7.89	29	Washington	\$9.46
13	Minnesota	\$7.34	37	West Virginia	\$10.63
17	Mississippi	\$7.85	2	Wisconsin	\$5.64
36	Missouri	\$10.32	12	Wyoming	\$7.21

Source: U.S. Energy Information Administration (May 2015)

Exhibit 77: Commercial Natural Gas Prices (May 2015)



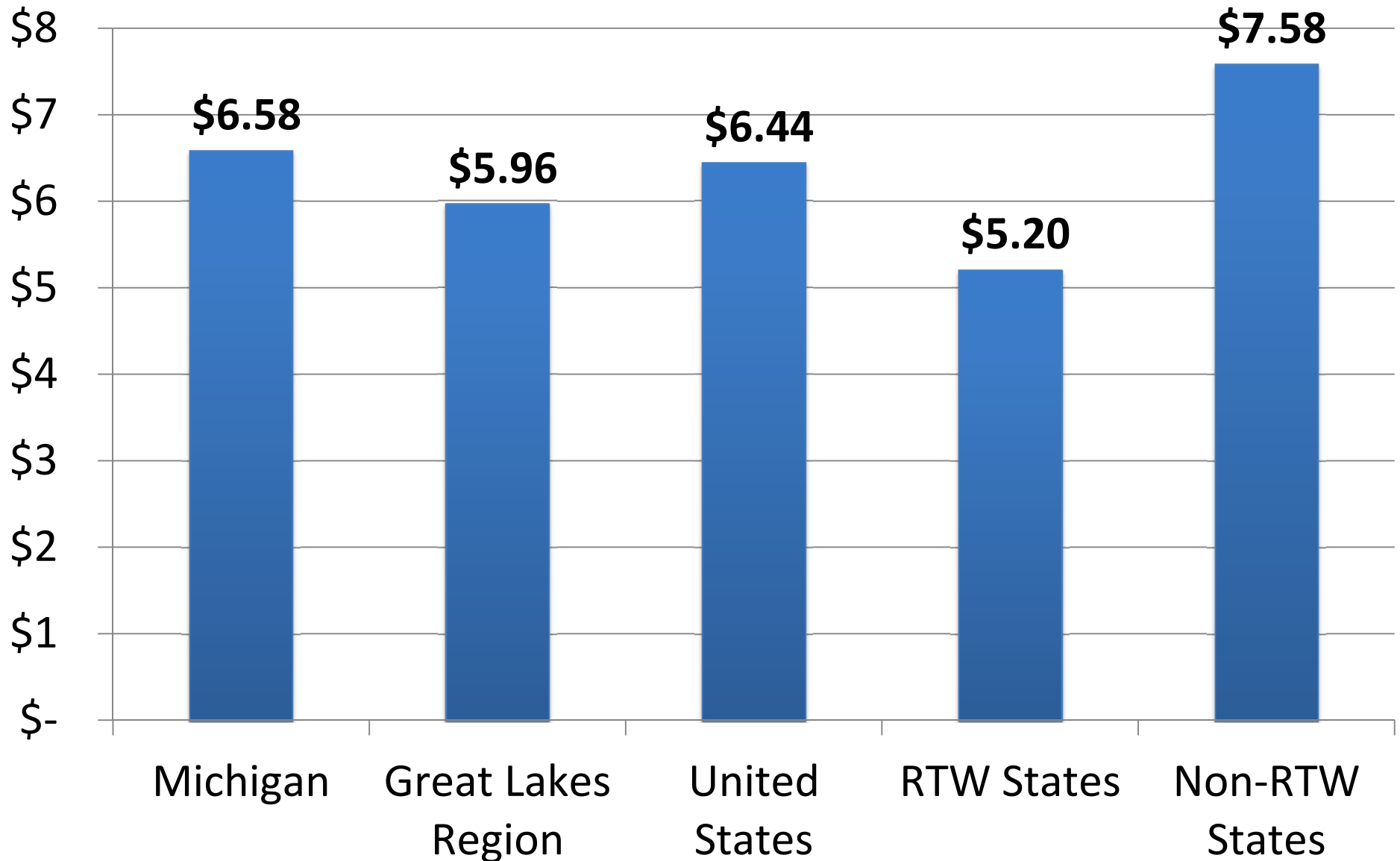
Source: Computed with data from U.S. Energy Information Administration (May 2015)

Exhibit 78: Industrial Natural Gas Prices (May 2015)

Rank 4	Alabama	\$3.52	Rank 32	Montana	\$6.42
37	Alaska	\$7.21	13	Nebraska	\$4.43
33	Arizona	\$6.58	45	Nevada	\$9.07
35	Arkansas	\$6.65	43	New Hampshire	\$8.70
20	California	\$5.52	38	New Jersey	\$7.43
16	Colorado	\$5.18	11	New Mexico	\$4.41
30	Connecticut	\$6.20	39	New York	\$7.51
47	Delaware	\$9.78	21	North Carolina	\$5.54
28	Florida	\$6.07	1	North Dakota	\$2.82
14	Georgia	\$4.55	36	Ohio	\$6.90
50	Hawaii	\$19.45	26	Oklahoma	\$6.03
25	Idaho	\$5.86	31	Oregon	\$6.38
23	Illinois	\$5.73	48	Pennsylvania	\$9.97
29	Indiana	\$6.18	46	Rhode Island	\$9.75
27	Iowa	\$6.04	6	South Carolina	\$3.98
10	Kansas	\$4.27	18	South Dakota	\$5.31
7	Kentucky	\$4.21	15	Tennessee	\$4.72
3	Louisiana	\$2.84	1	Texas	\$2.82
49	Maine	\$14.71	24	Utah	\$5.84
41	Maryland	\$8.29	17	Vermont	\$5.23
42	Massachusetts	\$8.62	19	Virginia	\$5.39
33	Michigan	\$6.58	44	Washington	\$8.97
7	Minnesota	\$4.21	5	West Virginia	\$3.95
9	Mississippi	\$4.26	12	Wisconsin	\$4.42
40	Missouri	\$7.96	22	Wyoming	\$5.55

Source: U.S. Energy Information Administration (May 2015)

Exhibit 79: Industrial Natural Gas Prices (May 2015)



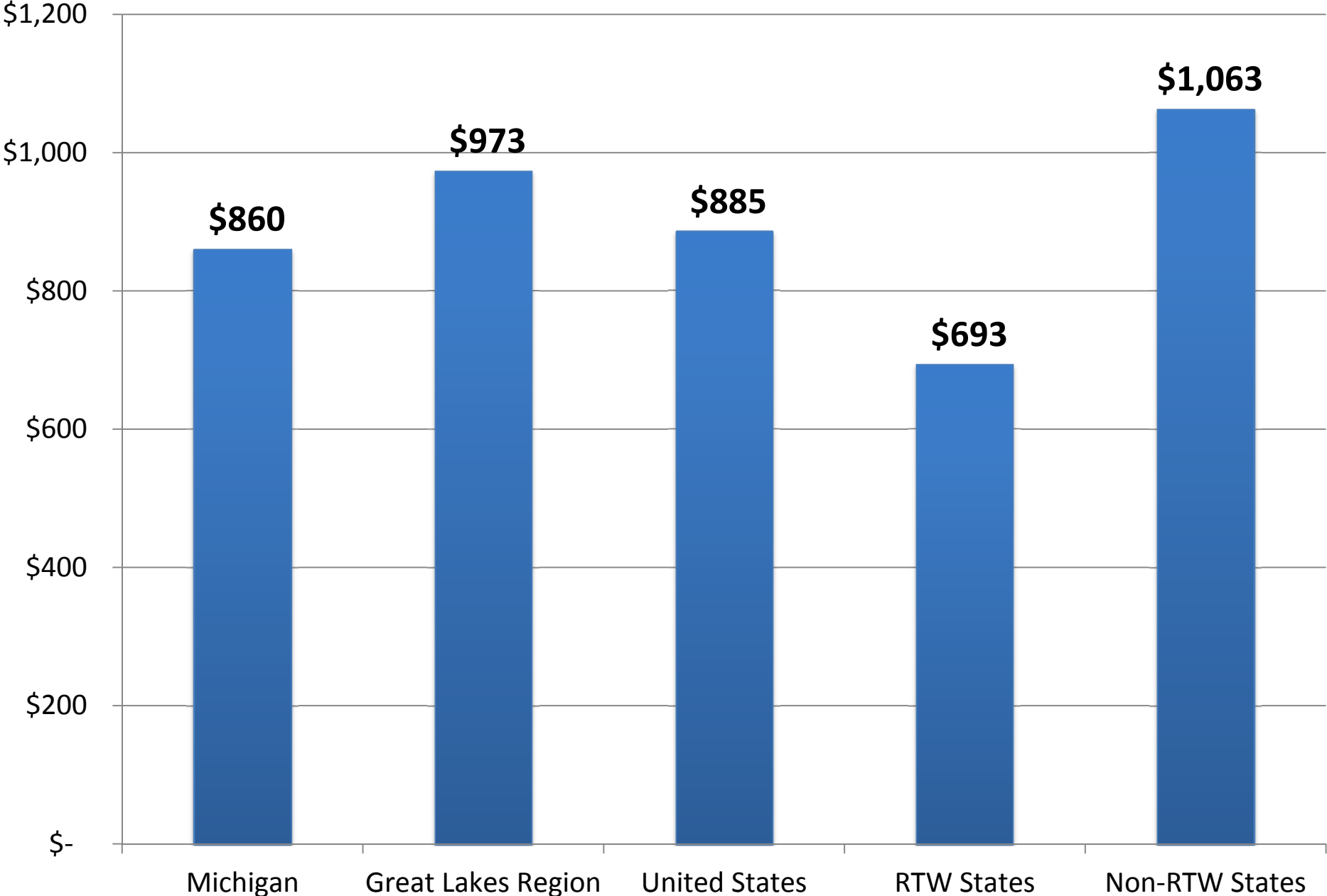
Source: Computed with data from U.S. Energy Information Administration (May 2015)

Exhibit 80: Insurance Trust Expenditures Per Capita (2013)

Rank 17	Alabama	\$690	Rank 32	Montana	\$918
50	Alaska	\$1,761	1	Nebraska	\$373
10	Arizona	\$630	30	Nevada	\$914
14	Arkansas	\$663	7	New Hampshire	\$563
44	California	\$1,281	49	New Jersey	\$1,631
37	Colorado	\$1,051	36	New Mexico	\$1,047
46	Connecticut	\$1,342	43	New York	\$1,223
24	Delaware	\$790	20	North Carolina	\$757
3	Florida	\$469	28	North Dakota	\$862
16	Georgia	\$675	48	Ohio	\$1,420
33	Hawaii	\$975	13	Oklahoma	\$656
12	Idaho	\$650	45	Oregon	\$1,302
40	Illinois	\$1,094	39	Pennsylvania	\$1,072
4	Indiana	\$509	47	Rhode Island	\$1,397
23	Iowa	\$789	21	South Carolina	\$773
15	Kansas	\$663	5	South Dakota	\$551
35	Kentucky	\$1,001	2	Tennessee	\$424
31	Louisiana	\$914	11	Texas	\$638
25	Maine	\$790	9	Utah	\$572
19	Maryland	\$750	8	Vermont	\$572
41	Massachusetts	\$1,211	6	Virginia	\$553
27	Michigan	\$860	38	Washington	\$1,053
29	Minnesota	\$899	22	West Virginia	\$780
26	Mississippi	\$832	34	Wisconsin	\$982
18	Missouri	\$730	42	Wyoming	\$1,218

Source: United States Census Bureau (2013)

Exhibit 81: Insurance Trust Expenditure Per Capita (2013)



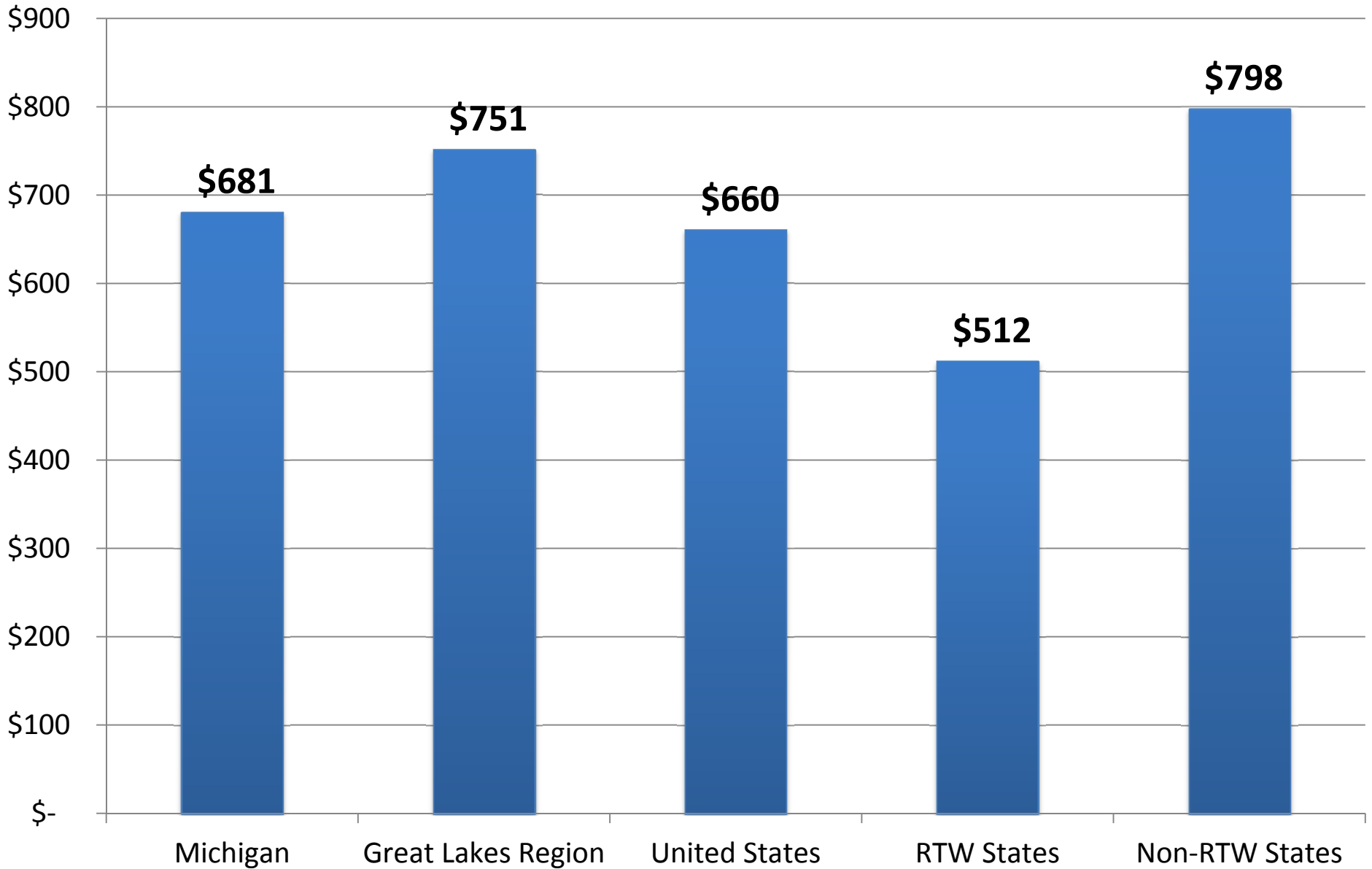
Source: Computed with data from United States Census Bureau (2013)

Exhibit 82: Average Insurance Trust Expenditures Per Capita (2000-2013)

Rank 14	Alabama	\$499	Rank 30	Montana	\$671
50	Alaska	\$1,402	1	Nebraska	\$257
13	Arizona	\$489	27	Nevada	\$635
10	Arkansas	\$462	5	New Hampshire	\$399
43	California	\$890	49	New Jersey	\$1,143
37	Colorado	\$763	32	New Mexico	\$695
45	Connecticut	\$930	42	New York	\$880
25	Delaware	\$583	22	North Carolina	\$562
7	Florida	\$414	17	North Dakota	\$531
12	Georgia	\$484	48	Ohio	\$1,133
35	Hawaii	\$758	19	Oklahoma	\$538
16	Idaho	\$527	47	Oregon	\$1,114
34	Illinois	\$753	39	Pennsylvania	\$793
6	Indiana	\$400	46	Rhode Island	\$1,051
21	Iowa	\$557	26	South Carolina	\$609
15	Kansas	\$501	4	South Dakota	\$396
33	Kentucky	\$724	2	Tennessee	\$328
28	Louisiana	\$668	11	Texas	\$478
24	Maine	\$570	9	Utah	\$451
20	Maryland	\$538	8	Vermont	\$436
40	Massachusetts	\$854	3	Virginia	\$392
31	Michigan	\$681	44	Washington	\$900
36	Minnesota	\$762	29	West Virginia	\$669
23	Mississippi	\$564	38	Wisconsin	\$789
18	Missouri	\$534	41	Wyoming	\$854

Source: Computed with data from United States Census Bureau (2013)

Exhibit 83: Average Insurance Trust Expenditure Per Capita (2000-2013)



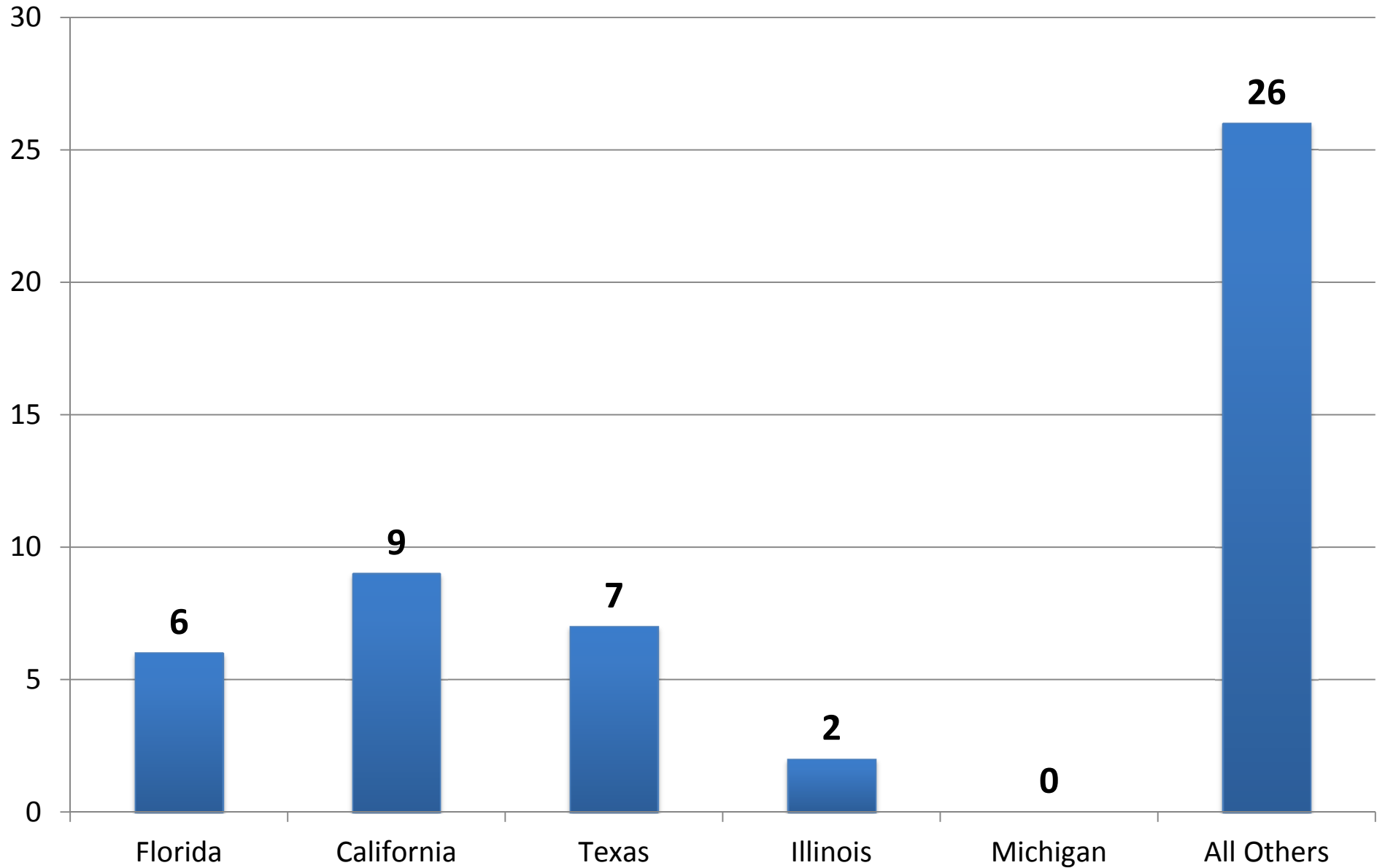
Source: Computed with data from United States Census Bureau (2013)

Exhibit 84: Number of Cities in the Top 50 Destinations (2014)

Rank 25	Alabama	0	Rank 25	Montana	0
25	Alaska	0	25	Nebraska	0
4	Arizona	3	9	Nevada	1
25	Arkansas	0	25	New Hampshire	0
1	California	9	25	New Jersey	0
9	Colorado	1	25	New Mexico	0
25	Connecticut	0	9	New York	1
25	Delaware	0	9	North Carolina	1
3	Florida	6	25	North Dakota	0
9	Georgia	1	9	Ohio	1
25	Hawaii	0	25	Oklahoma	0
25	Idaho	0	9	Oregon	1
5	Illinois	2	9	Pennsylvania	1
9	Indiana	1	25	Rhode Island	0
25	Iowa	0	25	South Carolina	0
25	Kansas	0	25	South Dakota	0
9	Kentucky	1	9	Tennessee	1
9	Louisiana	1	2	Texas	7
25	Maine	0	9	Utah	1
5	Maryland	2	25	Vermont	0
9	Massachusetts	1	5	Virginia	2
25	Michigan	0	9	Washington	1
9	Minnesota	1	25	West Virginia	0
25	Mississippi	0	25	Wisconsin	0
5	Missouri	2	25	Wyoming	0

Source: CNBC (2014)

Exhibit 85: Number of Cities in the Top 50 Destinations (2014)



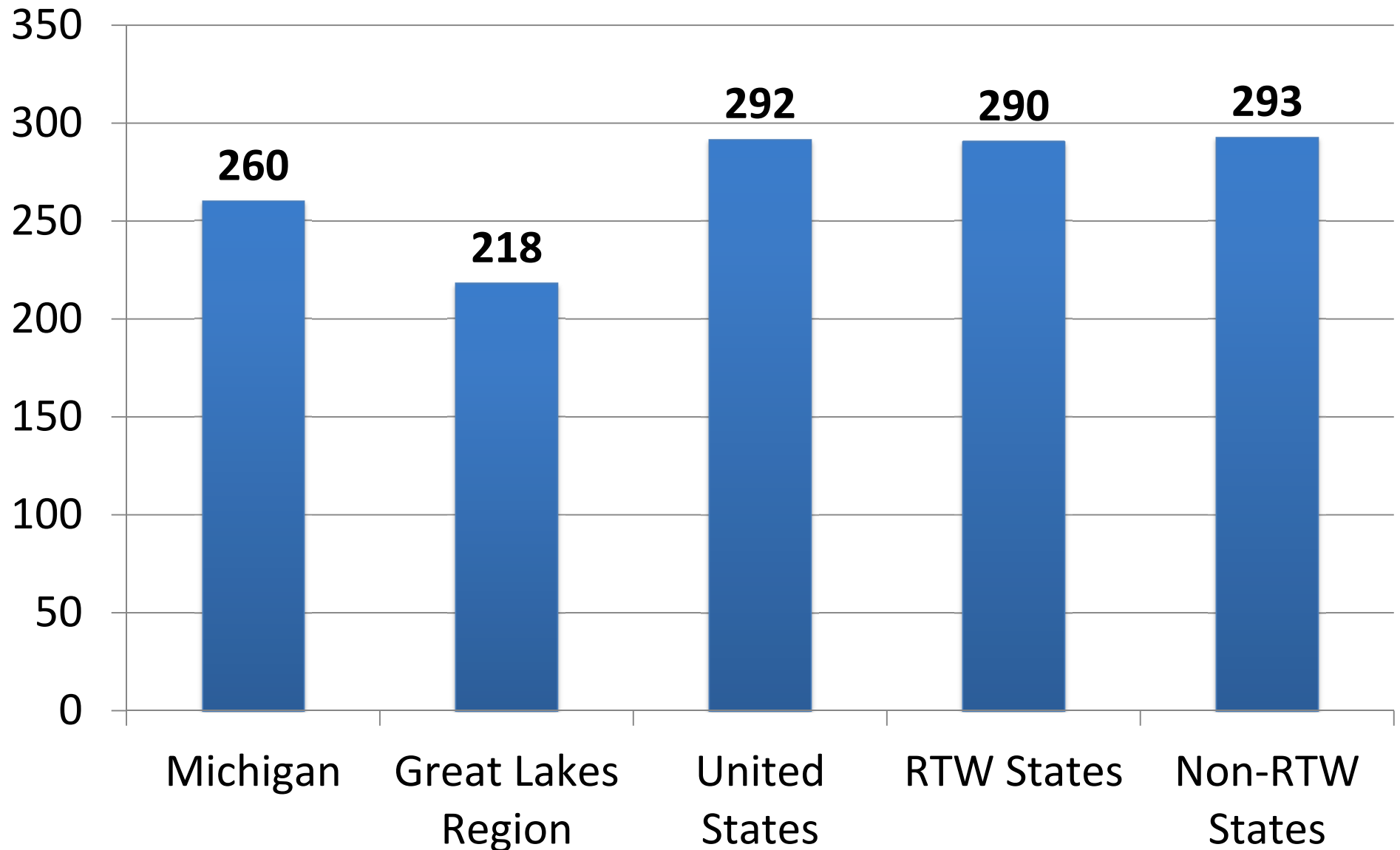
Source: Computed with data from CNBC (2014)

Exhibit 86: Kauffman Index of Entrepreneurial Activity (2015)

Rank 40	Alabama	220	Rank 1	Montana	540
2	Alaska	450	32	Nebraska	250
20	Arizona	310	6	Nevada	370
32	Arkansas	250	32	New Hampshire	250
5	California	390	35	New Jersey	240
9	Colorado	350	3	New Mexico	400
23	Connecticut	290	15	New York	330
23	Delaware	290	20	North Carolina	310
9	Florida	350	29	North Dakota	270
23	Georgia	290	44	Ohio	210
9	Hawaii	350	7	Oklahoma	360
15	Idaho	330	29	Oregon	270
40	Illinois	220	45	Pennsylvania	200
39	Indiana	230	45	Rhode Island	200
48	Iowa	180	18	South Carolina	320
40	Kansas	220	13	South Dakota	340
9	Kentucky	350	35	Tennessee	240
15	Louisiana	330	7	Texas	360
23	Maine	290	22	Utah	300
35	Maryland	240	3	Vermont	400
23	Massachusetts	290	40	Virginia	220
31	Michigan	260	35	Washington	240
49	Minnesota	170	45	West Virginia	200
13	Mississippi	340	49	Wisconsin	170
28	Missouri	280	18	Wyoming	320

Source: The Kauffman Foundation (2015)

Exhibit 87: Kauffman Index of Entrepreneurial Activity (2015)



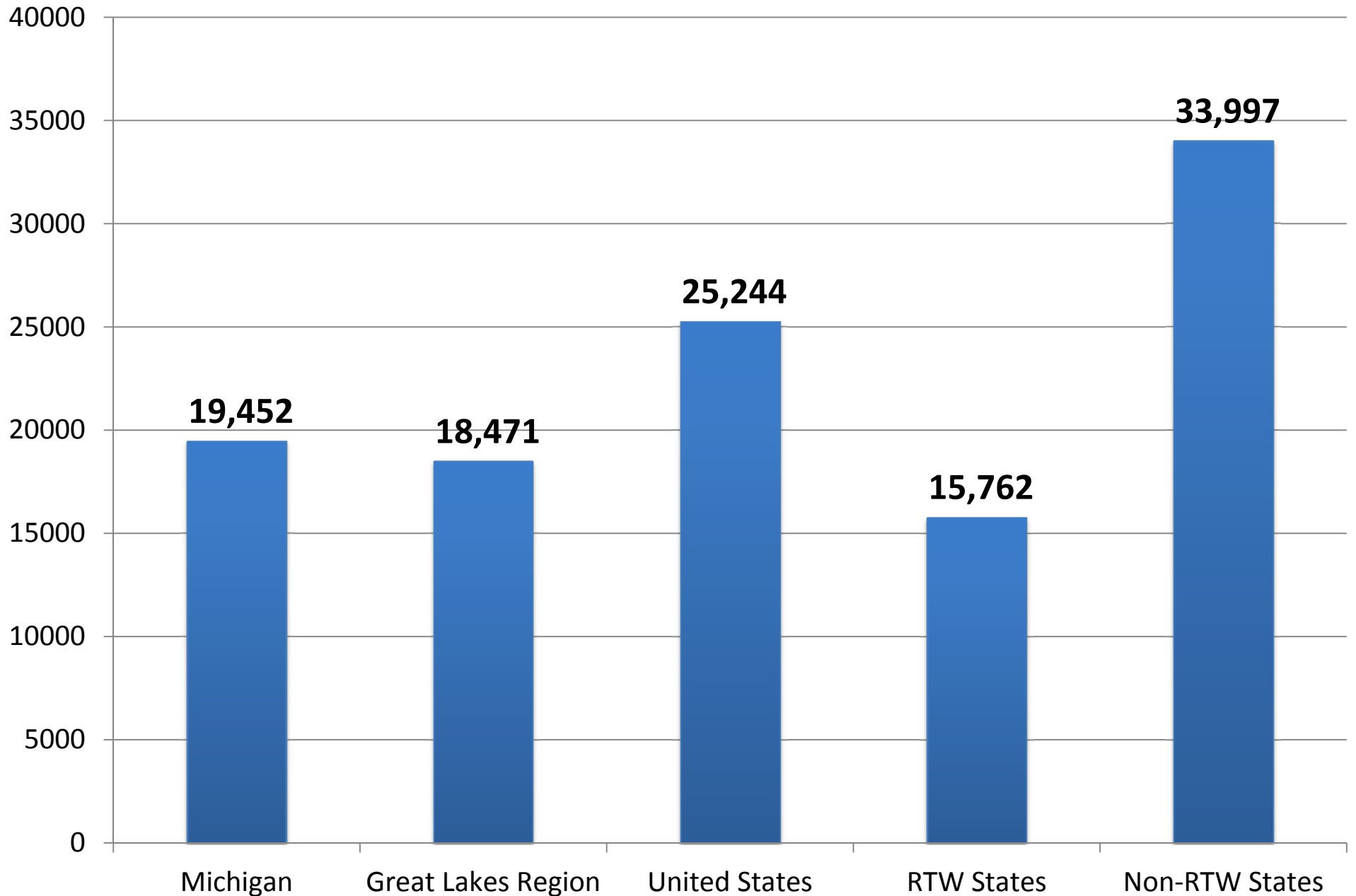
Source: Computed with data from The Kauffman Foundation (2015)

Exhibit 88: Business Births (Seasonally Adjusted, 2013)

Rank 30	Alabama	9,394	Rank 41	Montana	3,824
50	Alaska	1,841	24	Nebraska	11,321
17	Arizona	14,915	31	Nevada	8,780
35	Arkansas	7,233	39	New Hampshire	4,441
1	California	470,334	9	New Jersey	27,150
15	Colorado	19,267	38	New Mexico	4,989
32	Connecticut	8,311	5	New York	57,252
45	Delaware	3,145	12	North Carolina	22,882
2	Florida	73,975	43	North Dakota	3,618
11	Georgia	25,900	13	Ohio	20,705
46	Hawaii	3,129	29	Oklahoma	9,656
36	Idaho	5,935	22	Oregon	11,878
10	Illinois	26,672	8	Pennsylvania	28,425
21	Indiana	12,009	42	Rhode Island	3,654
33	Iowa	7,830	28	South Carolina	10,297
34	Kansas	7,426	47	South Dakota	2,434
27	Kentucky	10,303	20	Tennessee	12,834
26	Louisiana	10,379	3	Texas	64,271
40	Maine	3,909	25	Utah	10,985
18	Maryland	14,890	49	Vermont	1,886
6	Massachusetts	41,779	16	Virginia	19,201
14	Michigan	19,452	4	Washington	58,503
23	Minnesota	11,747	44	West Virginia	3,244
37	Mississippi	5,134	19	Wisconsin	13,515
7	Missouri	29,122	48	Wyoming	2,424

Source: Bureau of Labor Statistics (2013)

Exhibit 89: Business Births (Seasonally Adjusted, 2013)



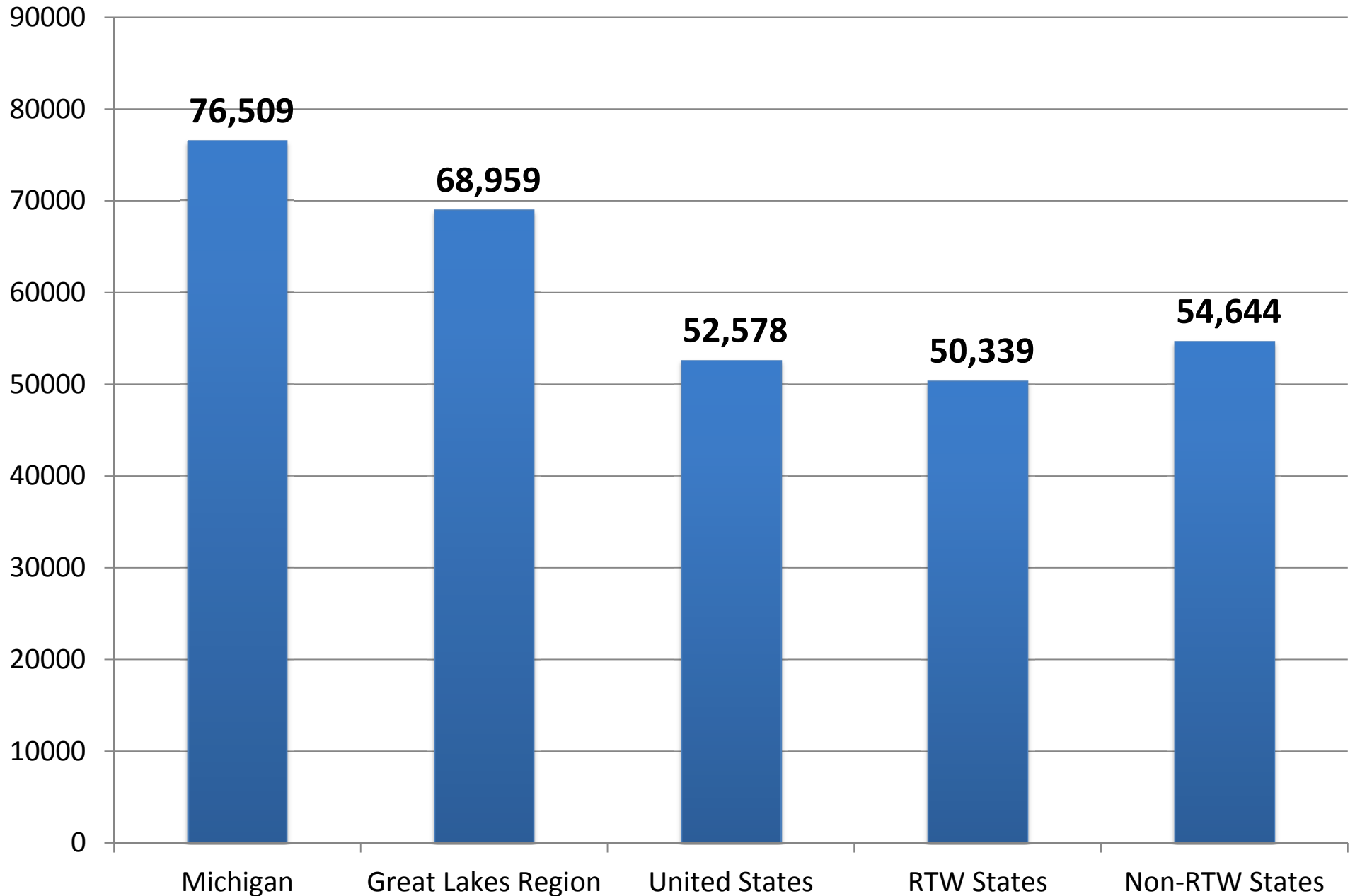
Source: Computed with data from the Bureau of Labor Statistics (2013)

Exhibit 90: Business Deaths (Seasonally Adjusted, 2013)

Rank 27	Alabama	32,221	Rank 9	Montana	3,449
2	Alaska	1,951	13	Nebraska	14,212
34	Arizona	50,800	18	Nevada	22,392
20	Arkansas	23,045	12	New Hampshire	11,758
50	California	373,845	44	New Jersey	94,367
37	Colorado	51,798	15	New Mexico	17,162
21	Connecticut	24,426	47	New York	185,829
6	Delaware	2,654	41	North Carolina	80,110
49	Florida	252,271	5	North Dakota	2,592
43	Georgia	89,571	42	Ohio	82,773
7	Hawaii	3,045	26	Oklahoma	32,116
14	Idaho	15,172	25	Oregon	30,604
46	Illinois	104,671	45	Pennsylvania	101,999
30	Indiana	43,374	8	Rhode Island	3,169
17	Iowa	21,291	24	South Carolina	29,320
22	Kansas	25,538	3	South Dakota	2,167
23	Kentucky	28,429	33	Tennessee	48,367
29	Louisiana	40,191	48	Texas	192,448
10	Maine	3,721	19	Utah	22,994
36	Maryland	51,011	1	Vermont	1,831
38	Massachusetts	54,459	39	Virginia	69,512
40	Michigan	76,509	35	Washington	50,997
31	Minnesota	44,978	11	West Virginia	6,458
16	Mississippi	19,734	28	Wisconsin	37,466
32	Missouri	47,888	4	Wyoming	2,194

Source: Bureau of Labor Statistics (2013)

Exhibit 91: Business Deaths (Seasonally Adjusted, 2013)



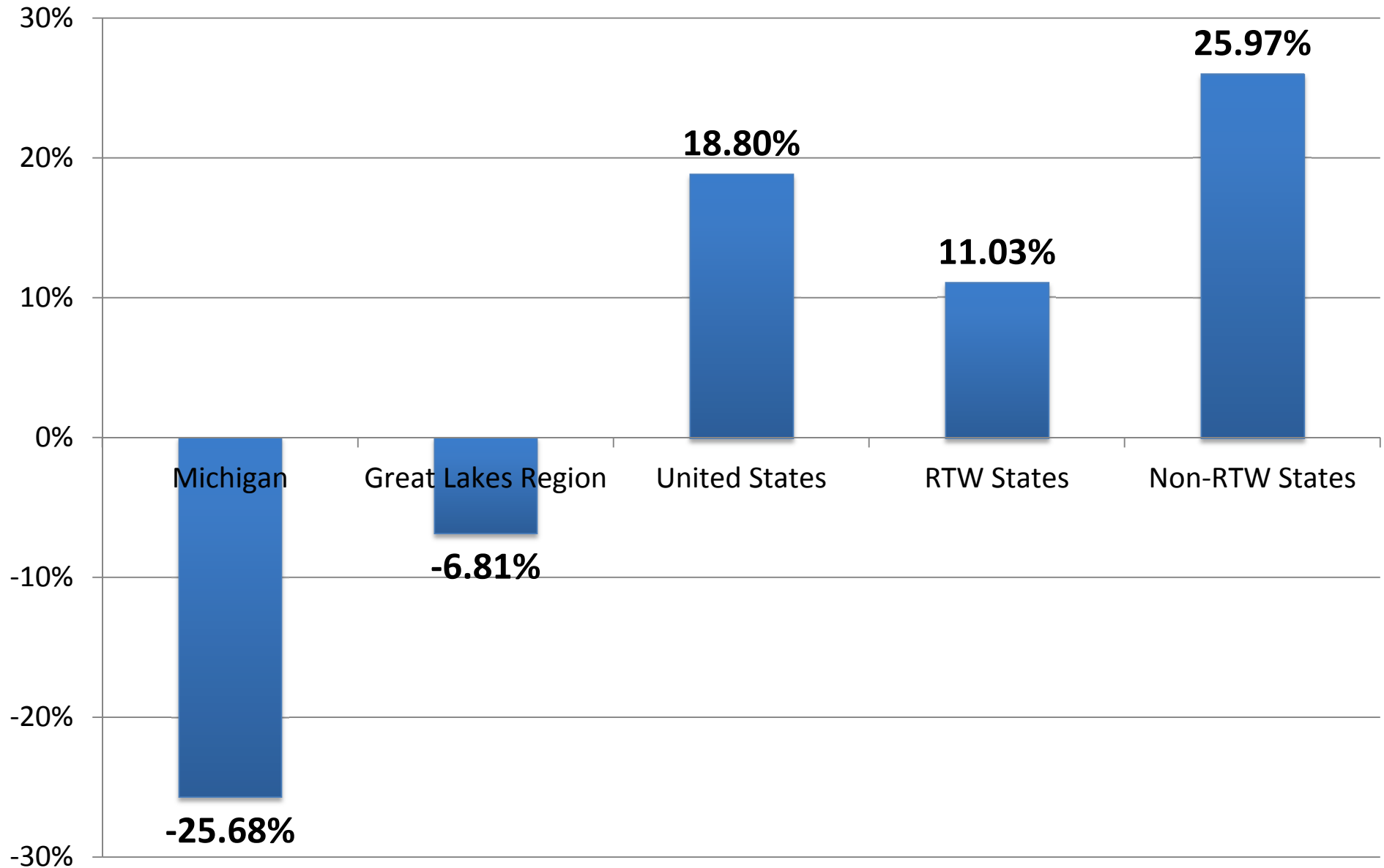
Source: Computed with data from the Bureau of Labor Statistics (2013)

Exhibit 92: Growth in Establishment Births (Seasonally Adjusted 2000-2013)

Rank 34	Alabama	-7.61%	Rank 15	Montana	9.16%
29	Alaska	-6.12%	3	Nebraska	144.62%
27	Arizona	-4.59%	14	Nevada	9.78%
23	Arkansas	-0.69%	43	New Hampshire	-14.23%
1	California	366.43%	44	New Jersey	-16.21%
31	Colorado	-7.12%	30	New Mexico	-6.19%
42	Connecticut	-13.65%	40	New York	-12.36%
39	Delaware	-11.16%	18	North Carolina	3.68%
10	Florida	16.62%	4	North Dakota	125.56%
48	Georgia	-19.79%	41	Ohio	-13.53%
32	Hawaii	-7.40%	13	Oklahoma	9.94%
16	Idaho	9.08%	28	Oregon	-6.04%
38	Illinois	-10.68%	35	Pennsylvania	-8.55%
36	Indiana	-9.52%	19	Rhode Island	3.05%
12	Iowa	11.52%	33	South Carolina	-7.46%
45	Kansas	-16.49%	20	South Dakota	2.01%
9	Kentucky	24.60%	22	Tennessee	-0.21%
26	Louisiana	-4.12%	7	Texas	25.42%
37	Maine	-10.47%	11	Utah	15.29%
21	Maryland	0.03%	25	Vermont	-3.63%
6	Massachusetts	121.09%	24	Virginia	-2.16%
50	Michigan	-25.68%	2	Washington	191.67%
49	Minnesota	-21.38%	47	West Virginia	-19.06%
46	Mississippi	-17.41%	8	Wisconsin	25.37%
5	Missouri	121.56%	17	Wyoming	7.02%

Source: Computed with data from the Bureau of Labor Statistics (2000-2013)

Exhibit 93: Growth in Establishment Births (Seasonally Adjusted, 2000-2013)



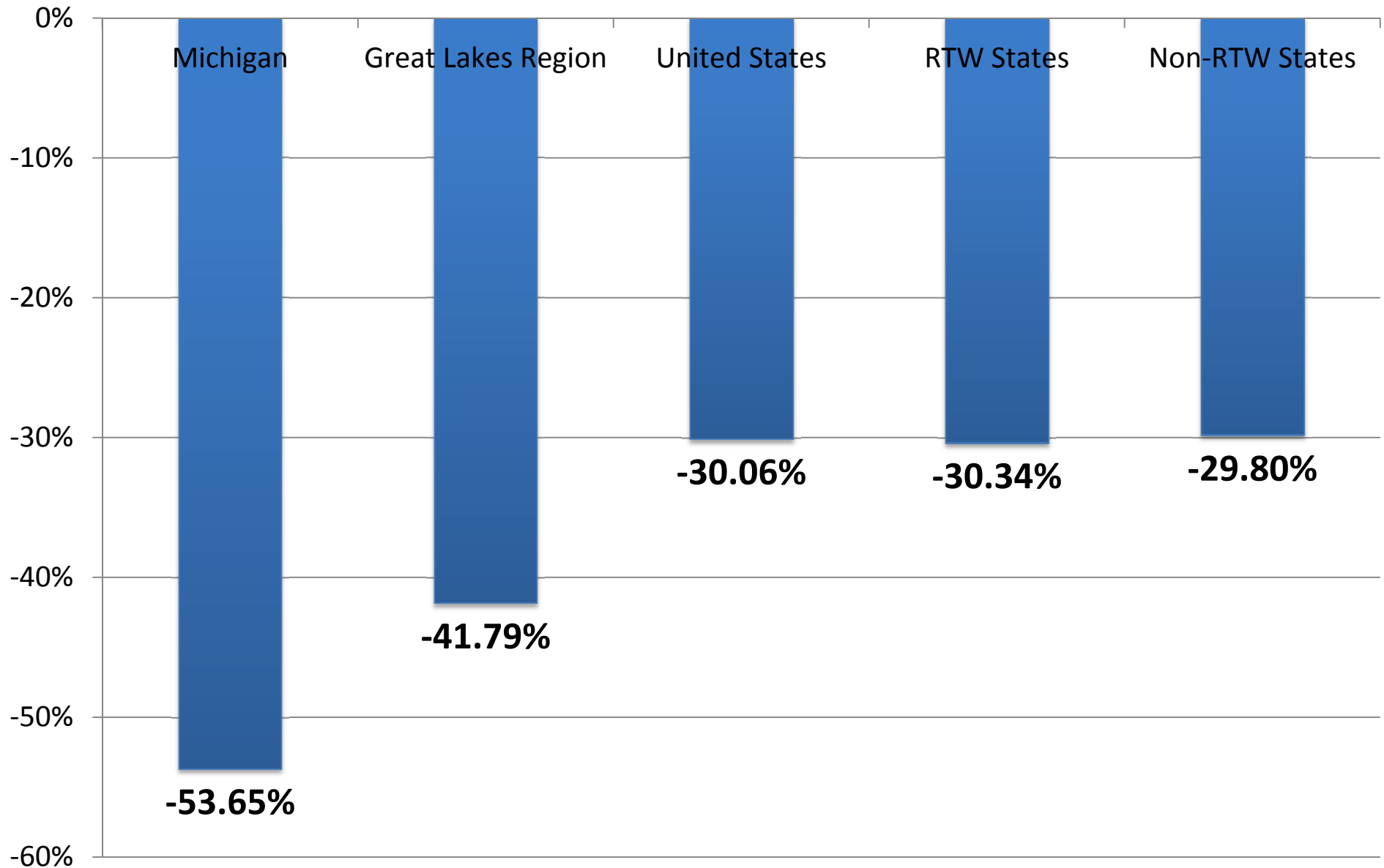
Source: Computed with data from the Bureau of Labor Statistics (2000-2013)

Exhibit 94: Growth in Establishment Deaths (Seasonally Adjusted 2000-2013)

Rank 28	Alabama	-36.80%	Rank 48	Montana	7.28%
40	Alaska	-4.55%	41	Nebraska	-3.80%
10	Arizona	-47.09%	27	Nevada	-37.10%
37	Arkansas	-23.35%	16	New Hampshire	-42.52%
23	California	-38.46%	6	New Jersey	-52.08%
36	Colorado	-24.03%	35	New Mexico	-26.19%
7	Connecticut	-51.53%	11	New York	-46.97%
43	Delaware	-0.71%	30	North Carolina	-33.83%
39	Florida	-20.84%	50	North Dakota	48.45%
5	Georgia	-53.32%	19	Ohio	-40.80%
47	Hawaii	4.64%	17	Oklahoma	-41.73%
38	Idaho	-21.38%	12	Oregon	-46.53%
33	Illinois	-26.87%	34	Pennsylvania	-26.68%
8	Indiana	-50.87%	42	Rhode Island	-3.59%
15	Iowa	-43.47%	3	South Carolina	-54.67%
9	Kansas	-48.83%	44	South Dakota	0.32%
25	Kentucky	-38.00%	14	Tennessee	-44.44%
18	Louisiana	-41.72%	31	Texas	-30.50%
45	Maine	1.20%	26	Utah	-37.78%
22	Maryland	-38.80%	46	Vermont	3.33%
20	Massachusetts	-39.71%	32	Virginia	-27.54%
4	Michigan	-53.65%	2	Washington	-54.88%
13	Minnesota	-45.46%	1	West Virginia	-68.03%
21	Mississippi	-39.19%	29	Wisconsin	-36.79%
24	Missouri	-38.06%	49	Wyoming	14.99%

Source: Computed with data from the Bureau of Labor Statistics (2000-2013)

Exhibit 95: Growth in Establishment Deaths (Seasonally Adjusted, 2000-2013)



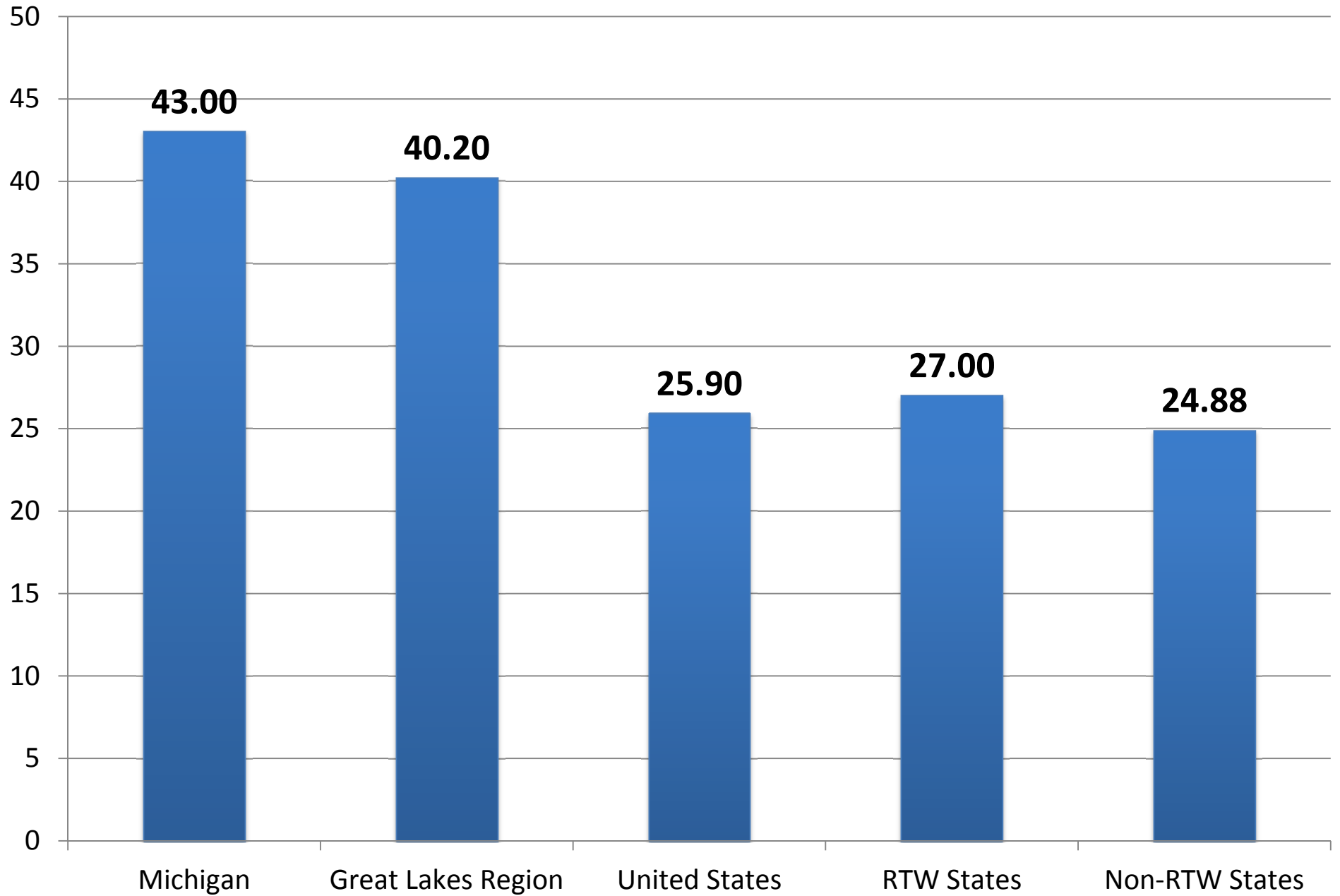
Source: Computed with data from the Bureau of Labor Statistics (2000-2013)

Exhibit 96: Happiness (2014)

Alabama	46	Montana	5
Alaska	1	Nebraska	7
Arizona	16	Nevada	32
Arkansas	44	New Hampshire	17
California	10	New Jersey	36
Colorado	6	New Mexico	12
Connecticut	24	New York	34
Delaware	38	North Carolina	21
Florida	26	North Dakota	23
Georgia	30	Ohio	48
Hawaii	2	Oklahoma	40
Idaho	25	Oregon	27
Illinois	39	Pennsylvania	33
Indiana	49	Rhode Island	37
Iowa	19	South Carolina	20
Kansas	35	South Dakota	3
Kentucky	50	Tennessee	45
Louisiana	41	Texas	9
Maine	14	Utah	8
Maryland	29	Vermont	13
Massachusetts	18	Virginia	15
Michigan	43	Washington	28
Minnesota	11	West Virginia	51
Mississippi	47	Wisconsin	22
Missouri	42	Wyoming	4

Source: Mainstreet.com (2014)

Exhibit 97: Happiness (2014)



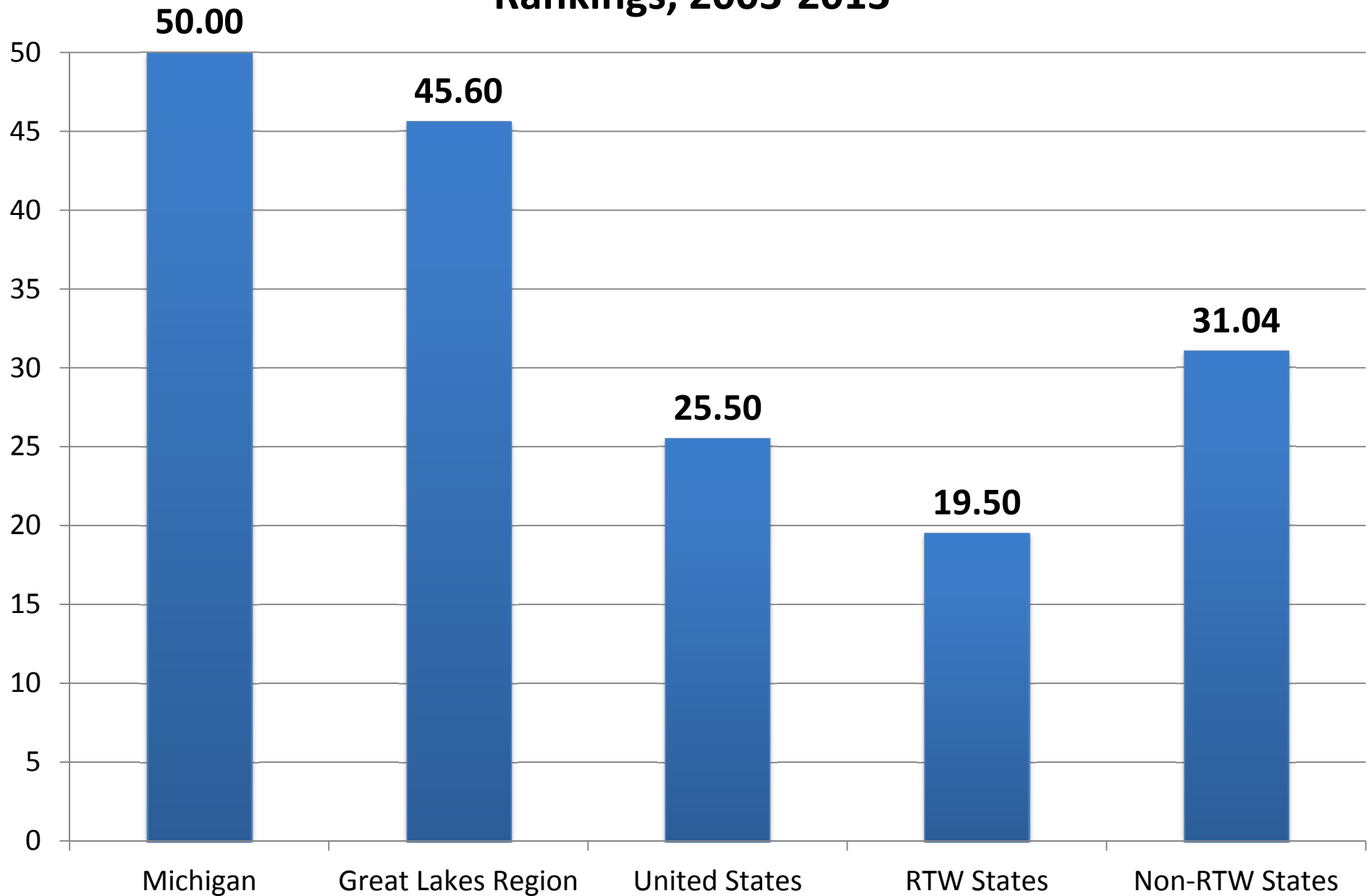
Source: Computed with data from Mainstreet.com (2014)

Exhibit 98: ALEC-Laffer State Economic Performance Rankings, 2003- 2013

Alabama	29	Montana	8
Alaska	11	Nebraska	17
Arizona	12	Nevada	15
Arkansas	22	New Hampshire	36
California	37	New Jersey	48
Colorado	9	New Mexico	26
Connecticut	45	New York	34
Delaware	32	North Carolina	10
Florida	23	North Dakota	2
Georgia	25	Ohio	49
Hawaii	18	Oklahoma	4
Idaho	13	Oregon	7
Illinois	46	Pennsylvania	39
Indiana	40	Rhode Island	47
Iowa	21	South Carolina	20
Kansas	28	South Dakota	14
Kentucky	27	Tennessee	24
Louisiana	33	Texas	1
Maine	44	Utah	3
Maryland	31	Vermont	38
Massachusetts	35	Virginia	16
Michigan	50	Washington	6
Minnesota	30	West Virginia	19
Mississippi	41	Wisconsin	43
Missouri	42	Wyoming	5

Source: ALEC's Rich States, Poor States (2015)

Exhibit 99: ALEC-Laffer State Economic Performance Rankings, 2003-2013



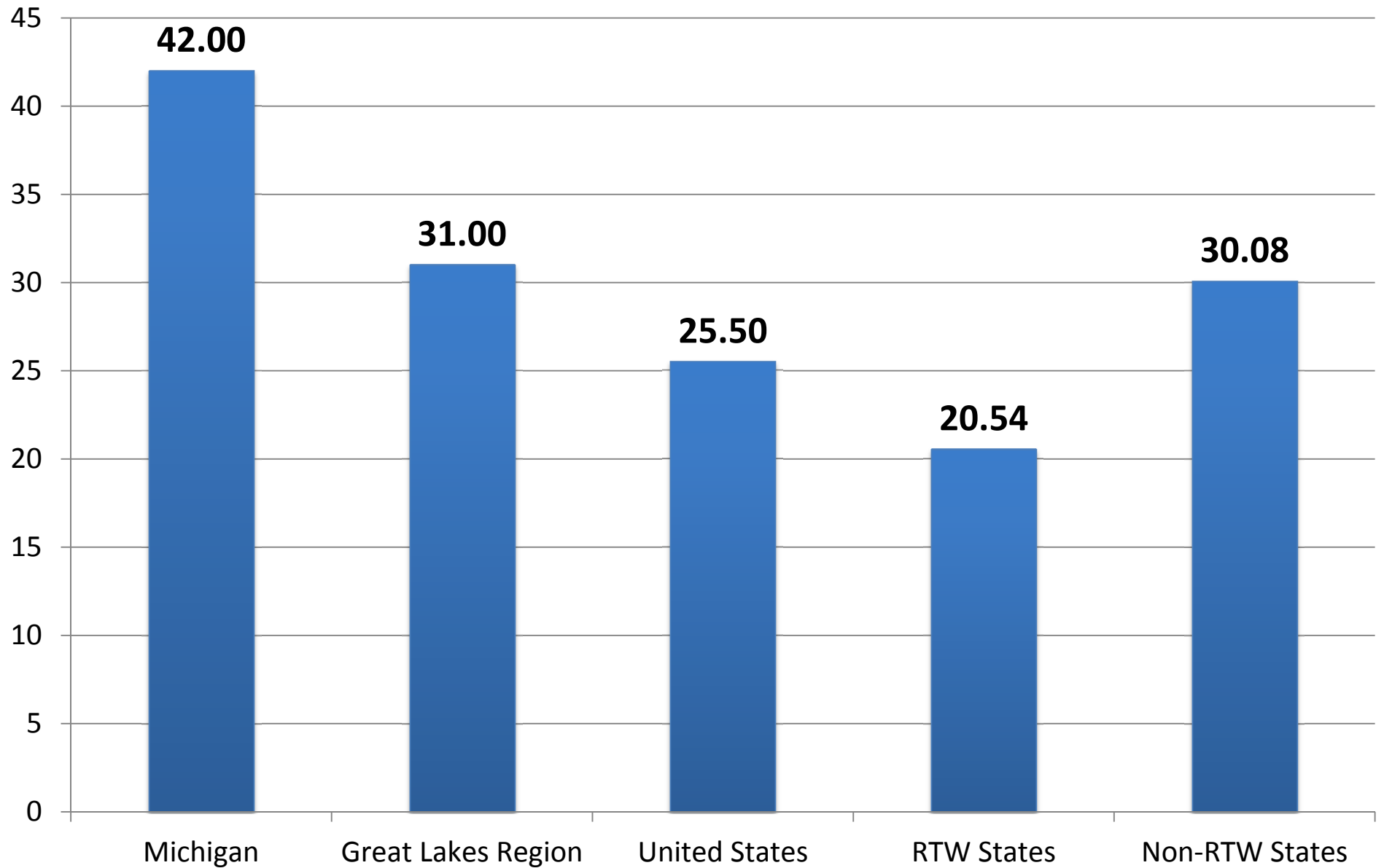
Source: Computed with data from ALEC's Rich States, Poor States (2015)

Exhibit 100: Forbes Best States for Business Rank (2014)

Alabama	44	Montana	24
Alaska	38	Nebraska	7
Arizona	22	Nevada	34
Arkansas	39	New Hampshire	35
California	37	New Jersey	41
Colorado	5	New Mexico	47
Connecticut	36	New York	17
Delaware	11	North Carolina	3
Florida	19	North Dakota	2
Georgia	16	Ohio	26
Hawaii	45	Oklahoma	10
Idaho	28	Oregon	18
Illinois	40	Pennsylvania	30
Indiana	15	Rhode Island	46
Iowa	12	South Carolina	23
Kansas	25	South Dakota	14
Kentucky	33	Tennessee	21
Louisiana	29	Texas	6
Maine	49	Utah	1
Maryland	20	Vermont	43
Massachusetts	13	Virginia	4
Michigan	42	Washington	8
Minnesota	9	West Virginia	48
Mississippi	50	Wisconsin	32
Missouri	31	Wyoming	27

Source: Forbes (2014)

Exhibit 101: Forbes Best States for Business Ranking (2014)



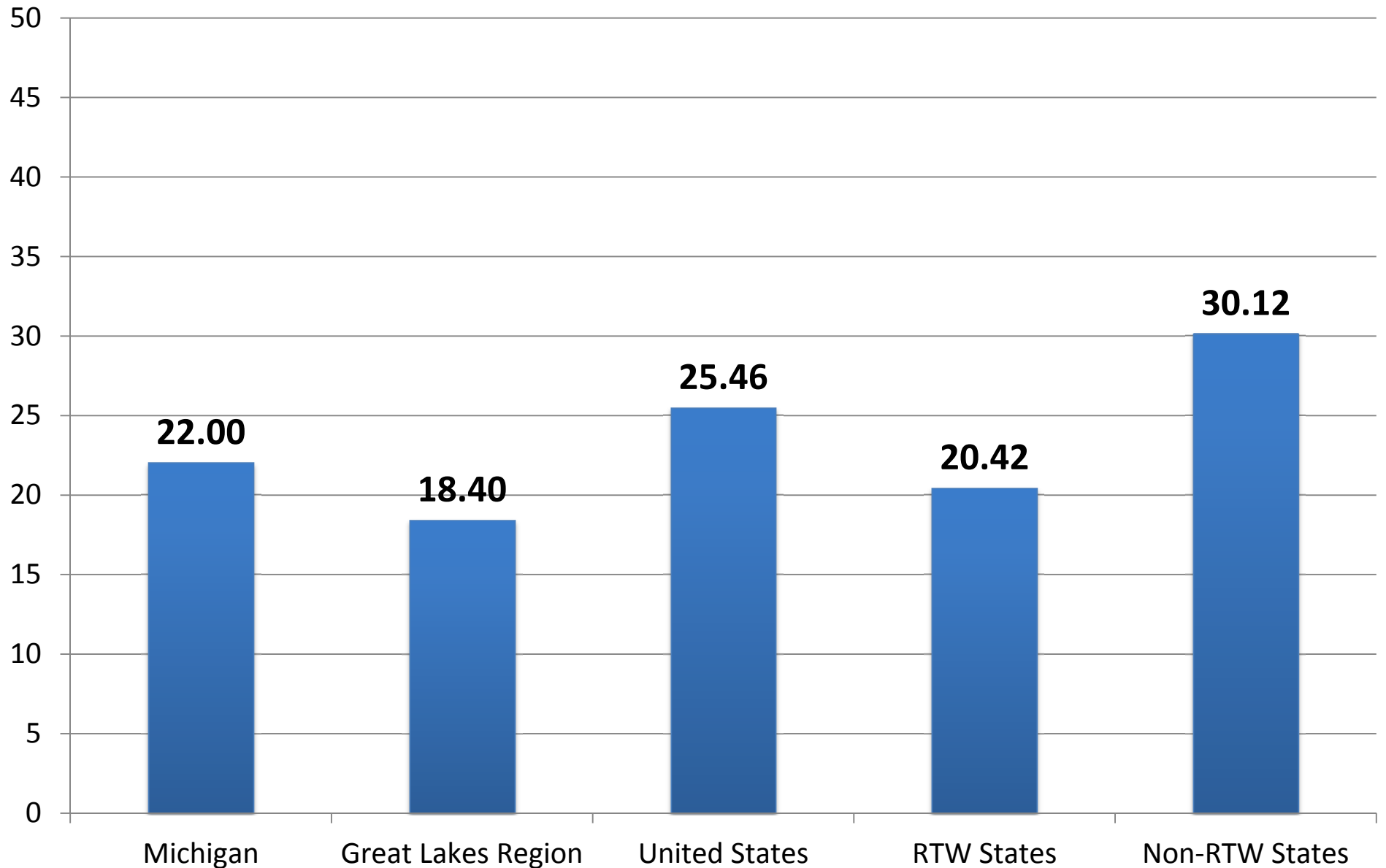
Source: Computed with data from Forbes (2014)

Exhibit 102: CNBC's America's Top States for Business (2015)

Alabama	41	Montana	28
Alaska	47	Nebraska	7
Arizona	34	Nevada	45
Arkansas	32	New Hampshire	30
California	27	New Jersey	39
Colorado	4	New Mexico	24
Connecticut	33	New York	35
Delaware	38	North Carolina	9
Florida	16	North Dakota	6
Georgia	5	Ohio	23
Hawaii	50	Oklahoma	31
Idaho	14	Oregon	21
Illinois	19	Pennsylvania	40
Indiana	13	Rhode Island	48
Iowa	10	South Carolina	29
Kansas	24	South Dakota	11
Kentucky	36	Tennessee	17
Louisiana	46	Texas	2
Maine	44	Utah	3
Maryland	36	Vermont	42
Massachusetts	20	Virginia	12
Michigan	22	Washington	8
Minnesota	1	West Virginia	49
Mississippi	43	Wisconsin	15
Missouri	26	Wyoming	18

Source: CNBC (2015)

Exhibit 103: CNBC's America's Top States for Business (2015)



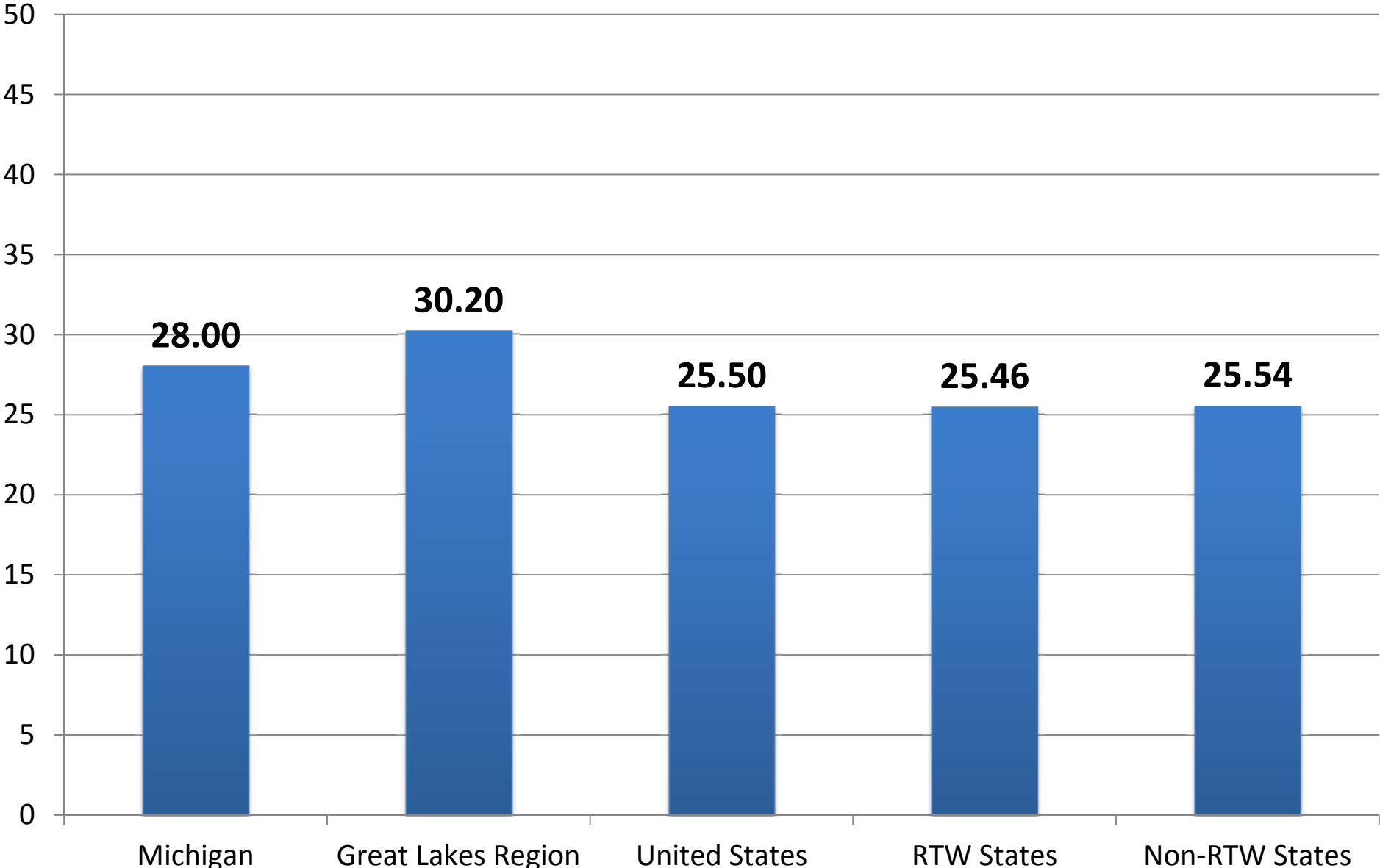
Source: Computed with data from CNBC (2015)

Exhibit 104: Beacon Hill Institute Competitiveness Rankings (2014)

Alabama	47	Montana	41
Alaska	32	Nebraska	7
Arizona	27	Nevada	45
Arkansas	46	New Hampshire	6
California	26	New Jersey	49
Colorado	4	New Mexico	48
Connecticut	40	New York	24
Delaware	14	North Carolina	13
Florida	21	North Dakota	2
Georgia	25	Ohio	30
Hawaii	23	Oklahoma	43
Idaho	15	Oregon	19
Illinois	37	Pennsylvania	35
Indiana	38	Rhode Island	22
Iowa	3	South Carolina	36
Kansas	11	South Dakota	8
Kentucky	39	Tennessee	33
Louisiana	42	Texas	9
Maine	17	Utah	16
Maryland	29	Vermont	20
Massachusetts	1	Virginia	12
Michigan	28	Washington	10
Minnesota	5	West Virginia	44
Mississippi	50	Wisconsin	18
Missouri	31	Wyoming	34

Source: The Beacon Hill Institute (2014)

Exhibit 105: Beacon Hill Institute Competitiveness Rankings (2014)



Source: Computed with data from The Beacon Hill Institute (2014)

Exhibit 106: State Business Tax Climate Index 2015

State	Overall Index Rank	Corporate Tax	Individual Income Tax	Sales Tax	Unemp. Insurance Tax	Property Tax
Wyoming	1	1	1	13	34	35
South Dakota	2	1	1	35	41	18
Nevada	3	1	1	39	43	9
Alaska	4	30	1	5	24	32
Florida	5	14	1	12	3	16
Montana	6	18	20	3	18	8
New Hampshire	7	48	9	2	44	43
Indiana	8	22	10	10	7	5
Utah	9	5	12	19	22	4
Texas	10	39	6	36	15	36
Great Lakes Region						
Michigan	13	10	14	7	47	27
Illinois	31	47	11	34	38	44
Ohio	44	26	47	32	5	20
Wisconsin	43	33	43	14	27	31

Source: Tax Foundation (2015)

Exhibit 107: Northwood's State Competitiveness Index Rank (2000 - 2015)

Alabama	32	Montana	21
Alaska	27	Nebraska	6
Arizona	11	Nevada	17
Arkansas	19	New Hampshire	26
California	35	New Jersey	48
Colorado	4	New Mexico	38
Connecticut	49	New York	45
Delaware	40	North Carolina	18
Florida	33	North Dakota	3
Georgia	12	Ohio	30
Hawaii	47	Oklahoma	7
Idaho	9	Oregon	20
Illinois	39	Pennsylvania	42
Indiana	24	Rhode Island	50
Iowa	14	South Carolina	28
Kansas	23	South Dakota	16
Kentucky	43	Tennessee	13
Louisiana	25	Texas	1
Maine	44	Utah	2
Maryland	41	Vermont	37
Massachusetts	46	Virginia	8
Michigan	29	Washington	15
Minnesota	34	West Virginia	10
Mississippi	31	Wisconsin	36
Missouri	22	Wyoming	5

Exhibit 108: Northwood's State Competitiveness Index (2000 - 2015)

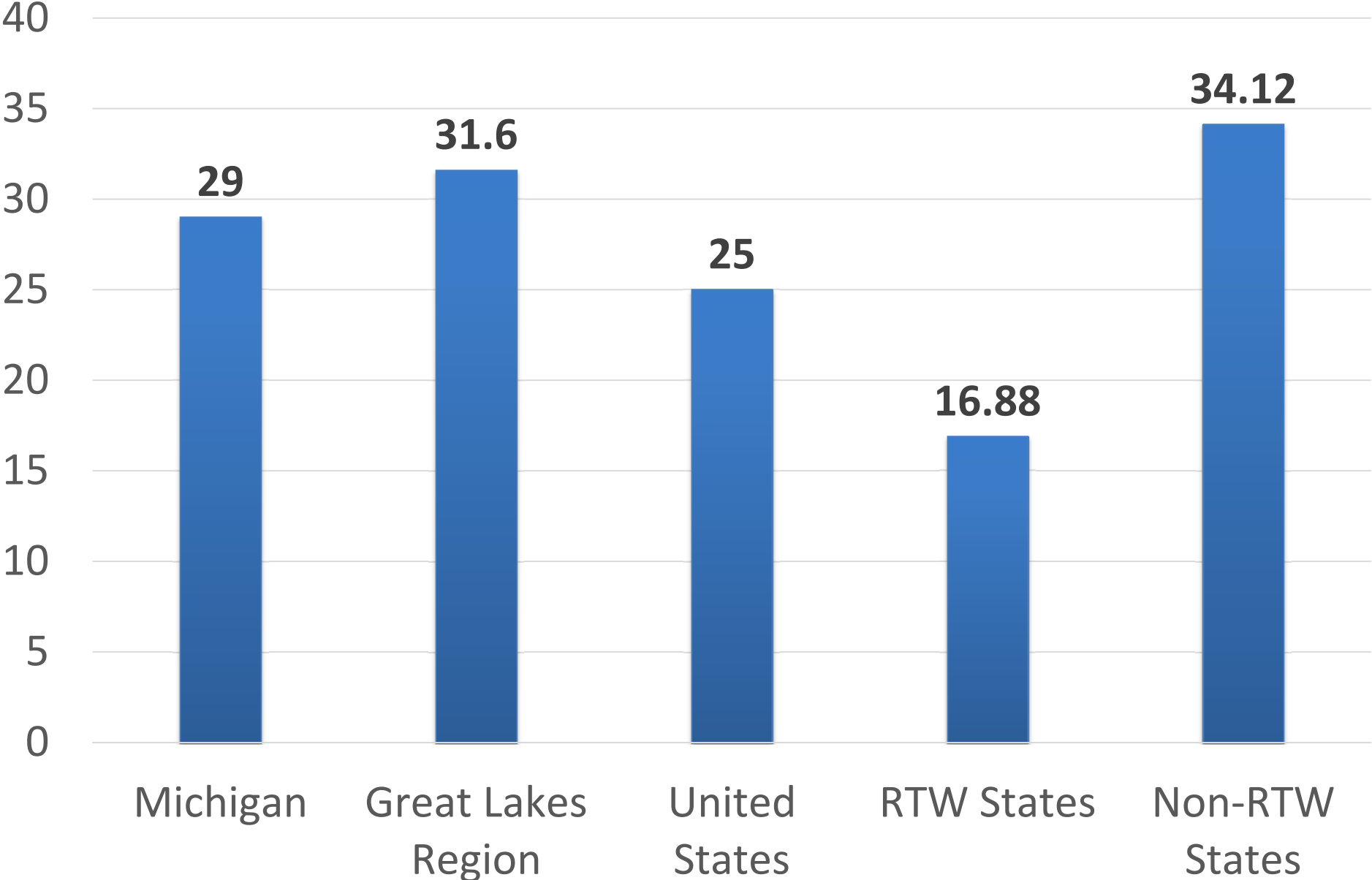


Exhibit 109 : Factor 1 – General Macroeconomic Environment Rank

Alabama	42	Montana	33
Alaska	36	Nebraska	37
Arizona	18	Nevada	38
Arkansas	49	New Hampshire	12
California	16	New Jersey	40
Colorado	6	New Mexico	47
Connecticut	22	New York	31
Delaware	41	North Carolina	39
Florida	8	North Dakota	10
Georgia	17	Ohio	16
Hawaii	29	Oklahoma	27
Idaho	34	Oregon	21
Illinois	35	Pennsylvania	15
Indiana	24	Rhode Island	48
Iowa	26	South Carolina	43
Kansas	28	South Dakota	19
Kentucky	45	Tennessee	23
Louisiana	32	Texas	1
Maine	50	Utah	2
Maryland	14	Vermont	44
Massachusetts	3	Virginia	5
Michigan	11	Washington	4
Minnesota	20	West Virginia	9
Mississippi	46	Wisconsin	30
Missouri	25	Wyoming	7

Exhibit 110 : Factor 1 – General Macroeconomic Environment

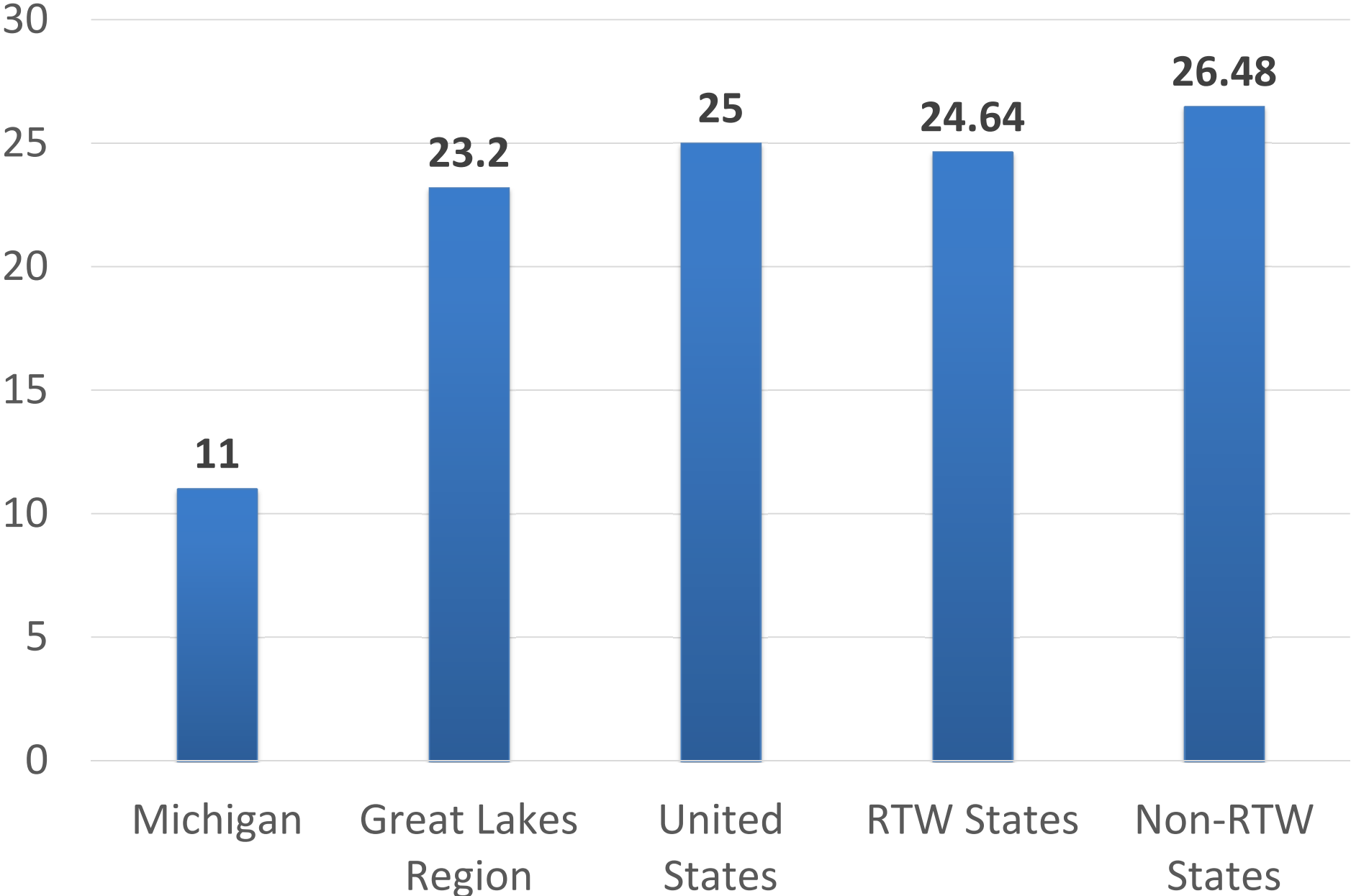


Exhibit 111 : Factor 2 – State Debt and Taxation Rank

Alabama	4	Montana	14
Alaska	42	Nebraska	16
Arizona	5	Nevada	2
Arkansas	18	New Hampshire	38
California	36	New Jersey	48
Colorado	22	New Mexico	26
Connecticut	49	New York	46
Delaware	37	North Carolina	23
Florida	12	North Dakota	3
Georgia	9	Ohio	24
Hawaii	32	Oklahoma	10
Idaho	19	Oregon	27
Illinois	45	Pennsylvania	43
Indiana	30	Rhode Island	50
Iowa	33	South Carolina	25
Kansas	21	South Dakota	17
Kentucky	31	Tennessee	8
Louisiana	29	Texas	6
Maine	40	Utah	7
Maryland	41	Vermont	44
Massachusetts	47	Virginia	28
Michigan	13	Washington	39
Minnesota	35	West Virginia	20
Mississippi	11	Wisconsin	34
Missouri	15	Wyoming	1

Exhibit 112 : Factor 2 – State Debt and Taxation

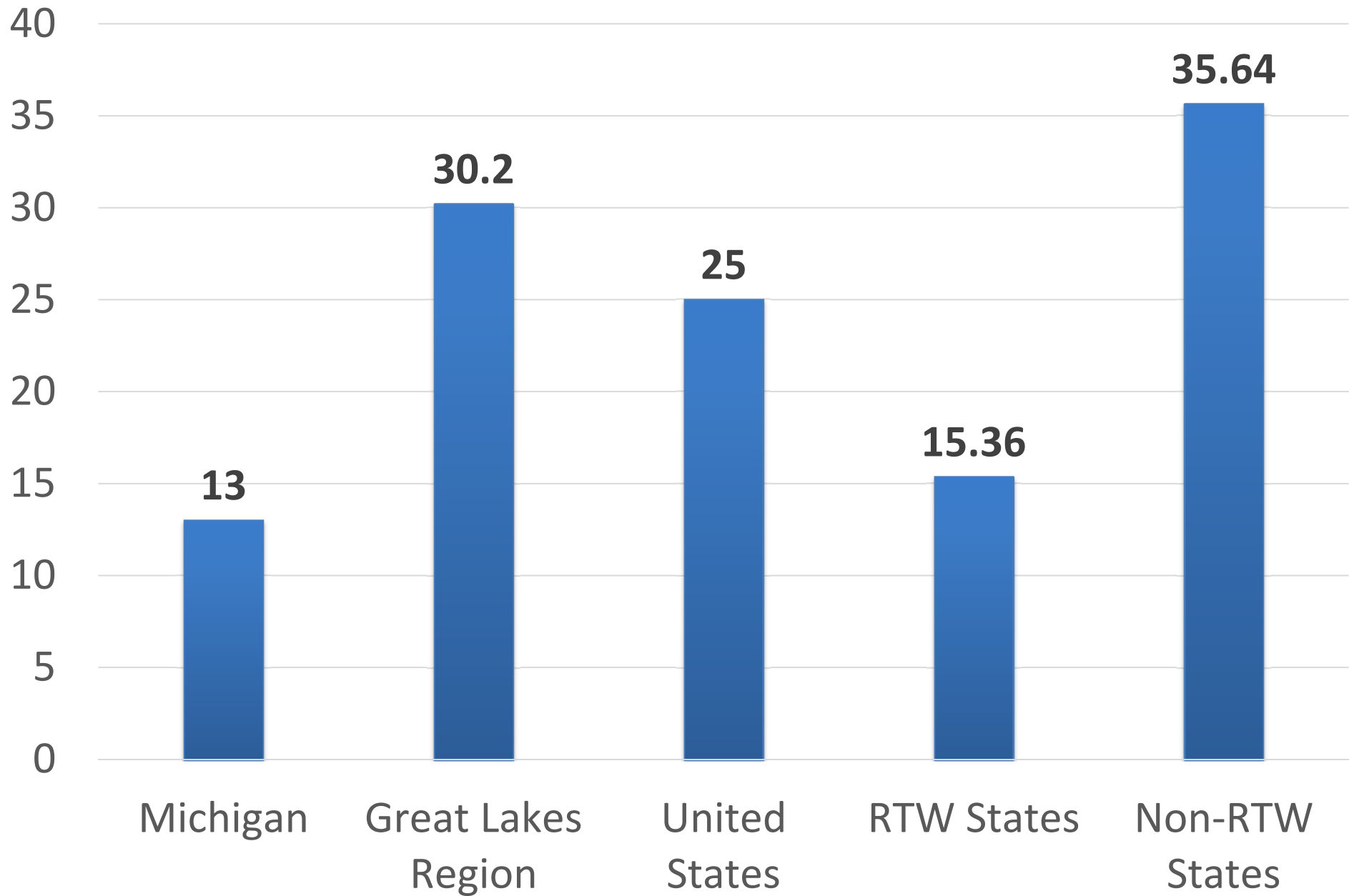


Exhibit 113 : Factor 3 – Workforce Compensation and Cost Rank

Alabama	38	Montana	37
Alaska	20	Nebraska	26
Arizona	5	Nevada	25
Arkansas	34	New Hampshire	21
California	35	New Jersey	36
Colorado	16	New Mexico	44
Connecticut	27	New York	42
Delaware	11	North Carolina	33
Florida	10	North Dakota	12
Georgia	15	Ohio	50
Hawaii	48	Oklahoma	31
Idaho	7	Oregon	29
Illinois	41	Pennsylvania	47
Indiana	17	Rhode Island	40
Iowa	19	South Carolina	2
Kansas	13	South Dakota	1
Kentucky	49	Tennessee	22
Louisiana	8	Texas	14
Maine	30	Utah	3
Maryland	45	Vermont	6
Massachusetts	24	Virginia	4
Michigan	39	Washington	18
Minnesota	23	West Virginia	46
Mississippi	9	Wisconsin	43
Missouri	32	Wyoming	28

Exhibit 114 : Factor 3 – Workforce Compensation and Cost

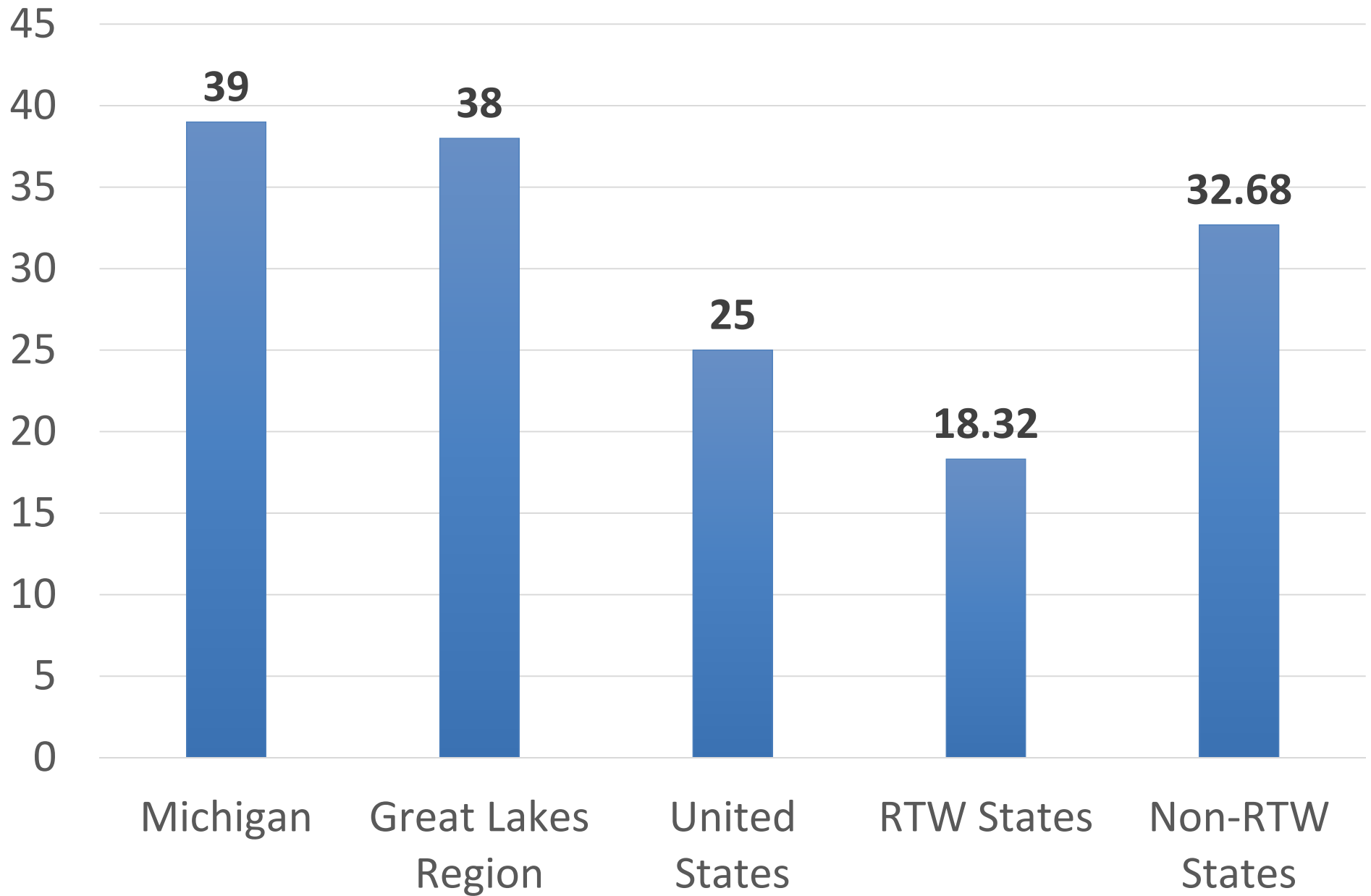


Exhibit 115 : Factor 4 – Labor and Capital Formation Rank

Alabama	45	Montana	2
Alaska	30	Nebraska	20
Arizona	11	Nevada	48
Arkansas	43	New Hampshire	27
California	50	New Jersey	41
Colorado	19	New Mexico	37
Connecticut	40	New York	10
Delaware	12	North Carolina	21
Florida	1	North Dakota	4
Georgia	23	Ohio	35
Hawaii	33	Oklahoma	8
Idaho	15	Oregon	16
Illinois	46	Pennsylvania	39
Indiana	31	Rhode Island	17
Iowa	42	South Carolina	24
Kansas	49	South Dakota	3
Kentucky	26	Tennessee	44
Louisiana	9	Texas	6
Maine	14	Utah	7
Maryland	32	Vermont	5
Massachusetts	38	Virginia	28
Michigan	36	Washington	22
Minnesota	13	West Virginia	47
Mississippi	34	Wisconsin	29
Missouri	25	Wyoming	18

Exhibit 116 : Factor 4 – Labor and Capital Formation

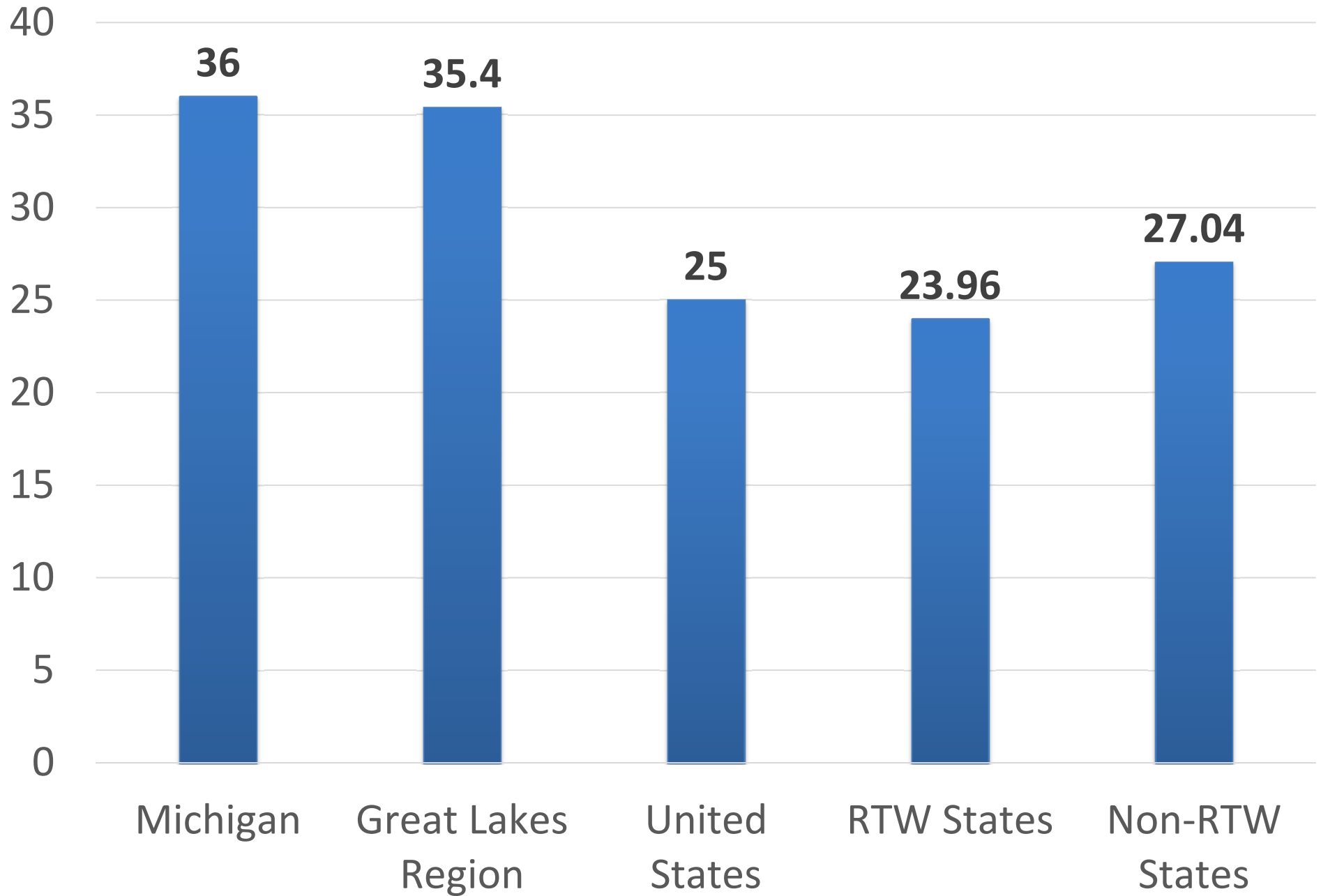


Exhibit 117: Factor 5 – Regulatory Environment Rank

Alabama	43	Montana	35
Alaska	31	Nebraska	11
Arizona	23	Nevada	34
Arkansas	39	New Hampshire	19
California	30	New Jersey	41
Colorado	3	New Mexico	46
Connecticut	36	New York	49
Delaware	15	North Carolina	12
Florida	9	North Dakota	1
Georgia	14	Ohio	32
Hawaii	48	Oklahoma	29
Idaho	16	Oregon	27
Illinois	42	Pennsylvania	40
Indiana	22	Rhode Island	45
Iowa	8	South Carolina	37
Kansas	7	South Dakota	6
Kentucky	44	Tennessee	20
Louisiana	33	Texas	2
Maine	47	Utah	4
Maryland	28	Vermont	38
Massachusetts	17	Virginia	5
Michigan	25	Washington	18
Minnesota	10	West Virginia	50
Mississippi	26	Wisconsin	21
Missouri	24	Wyoming	13

Exhibit 118: Factor 5 – Regulatory Environment

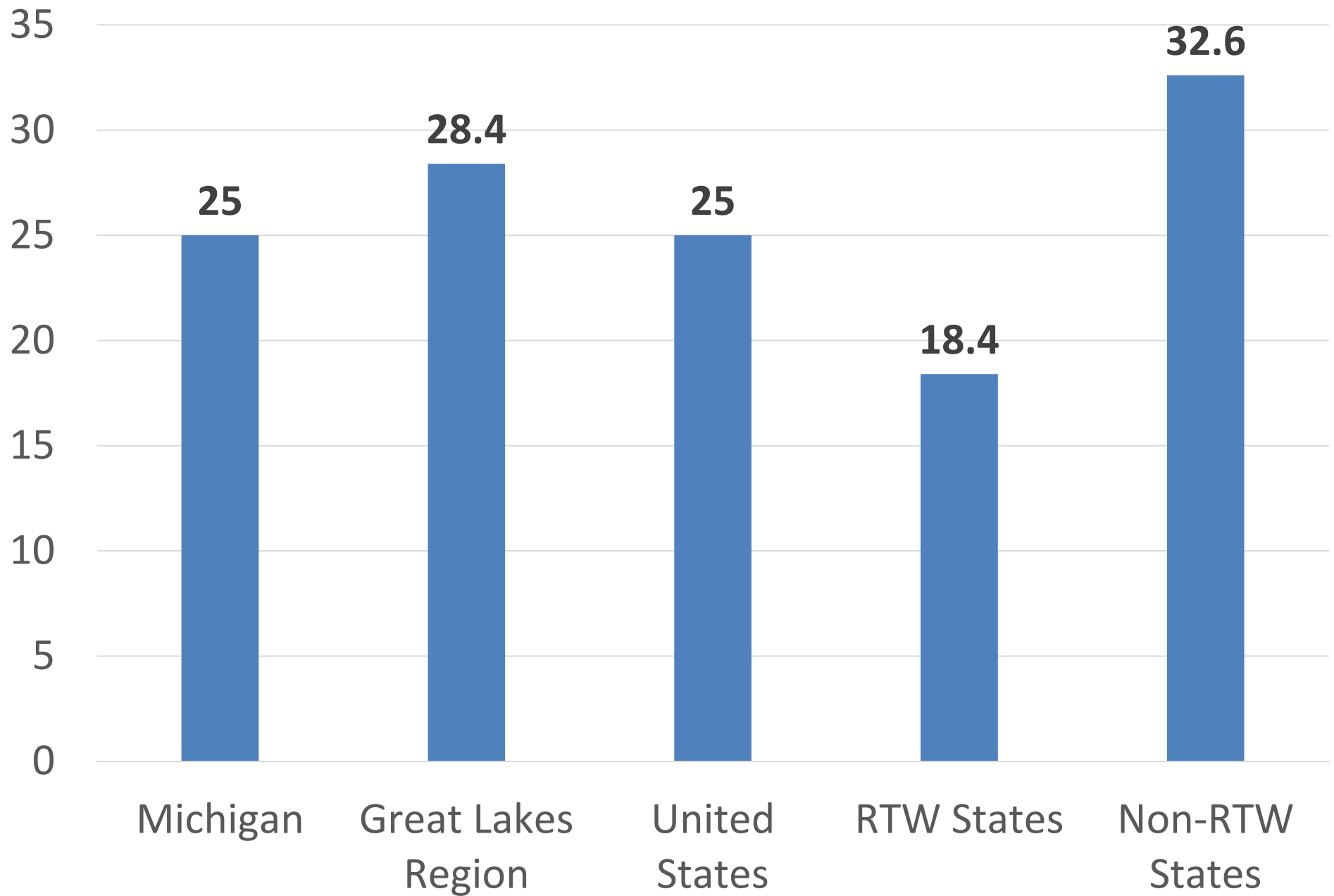


Exhibit 119: Michigan's Economic Performance Ranking

(2012-2015)

	2015	2014	2013	2012
NU State Competitiveness Index: Michigan	29	30	39	47
Factor 1 – General Macroeconomic Environment	11	20	31	48
Factor 2 – State Debt and Taxation	13	12	14	10
Factor 3 – Workforce Composition and Cost	39	38	43	45
Factor 4 – Labor and Capital Formation	36	38	44	45
Factor 5 – Regulatory Environment	25	23	26	24

Exhibit 120: Michigan's Economic Performance Ranking (2012-2014)

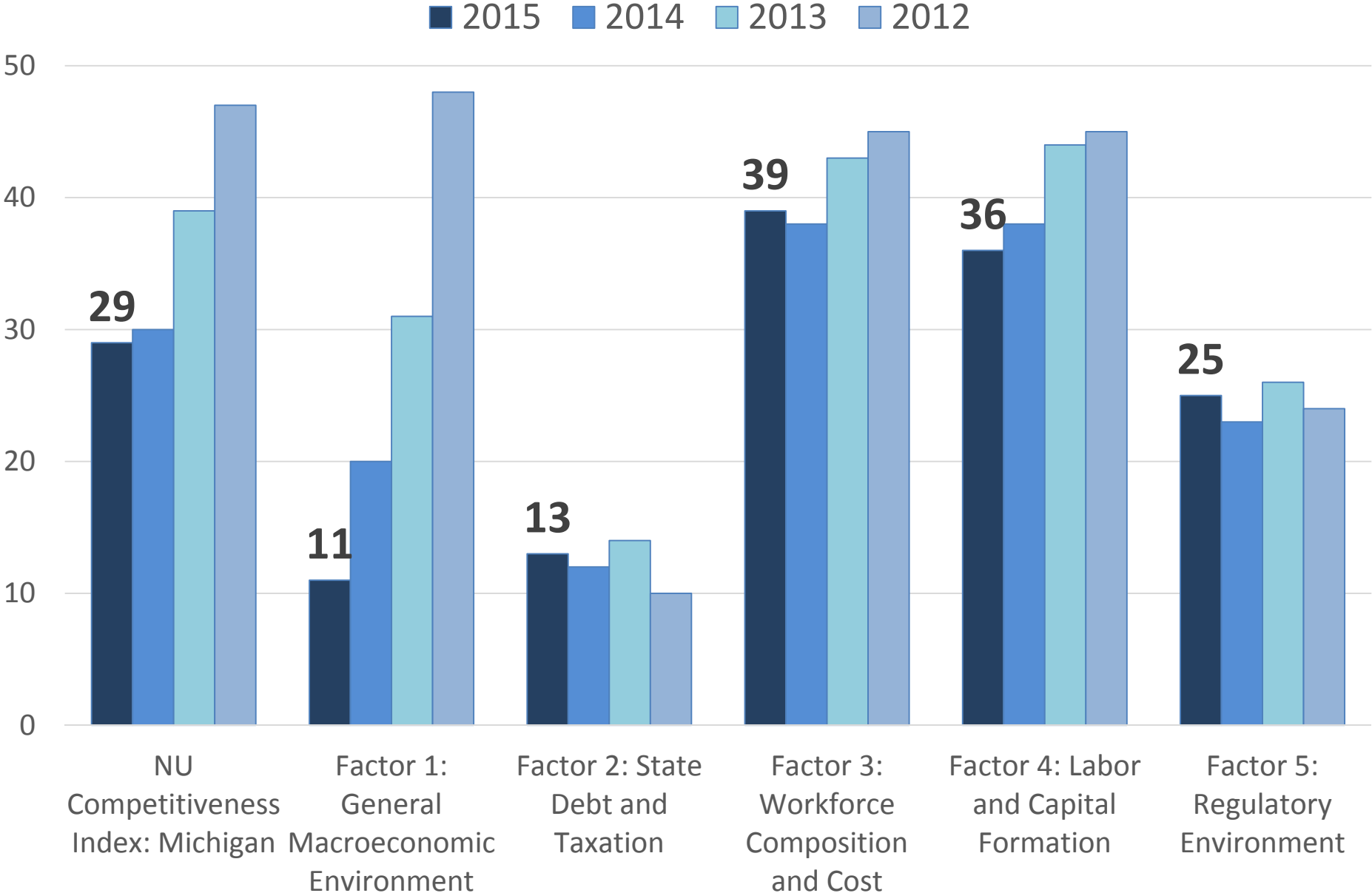


Exhibit 121: An Economic Snapshot of Key Great Lakes Region Cities

	Metro Compounded Annual GDP Growth Rate (2000-2011)	Metro Compounded Annual GDP Growth Rate (2008-2011)	Metro Compounded Annual GDP Growth Rate (2009-2014)	Metro GDP (2014)	Rank Metro GDP (2011)	Rank Metro GDP (2014)	Number of Employers	City Population (City Proper) (2014)	City Median Household Income/State (2009-2013)
Chicago	0.64	-0.15	1.83	\$611 B	3	3	255,502	2,722,389	\$47,270/\$56,797
Cleveland	-0.15	-0.97	2.32	\$118 B	27	27	26,208	389,521	\$26,217/\$48,308
Columbus	0.53	-0.28	3.6	\$118 B	32	30	56,957	835,957	\$44,072/\$48,308
Detroit	-1.12	-1.25	3.4	\$237 B	14	13	50,588	680,250	\$26,325/\$48,411
Grand Rapids	0.10	0.63	4.06	\$52 B	66	56	15,528	193,791	\$39,227/\$48,411
Indianapolis	1.14	-0.32	2.6	\$126 B	28	26	63,805	848,788	\$41,962/\$48,248
Lansing	0.10	-0.30	2.1	\$21 B	112	112	8,363	114,620	\$36,054/\$48,411
Milwaukee	1.10	0.14	1.4	\$97 B	35	36	31,769	599,942	\$35,467/\$52,413
U.S. Metro Areas	1.48	0.24	2.0	\$14.3 T					

Exhibit 122: Comparison of Key Michigan Data from 2012 - 2015 Studies

	2012 Study	2013 Study	2014 Study	2015 Study
Average Personal Income Per Capita Growth	2000-2010 20.3%	2000-2012 27.5%	2000-2013 30.0%	2000-2014 35.1%
Gross State Product Growth	1998-2011 26.5%	1998-2012 31.5%	1998-2013 42.1%	1998-2014 48.3%
U.S. Population Net Migration	2001-2010 -554,374	2001-2012 -590,635	2001-2013 -619,174	2000-2014 -647,853
U.S. Employment Growth	2001-2010 -16.90%	2001-2011 -13.90%	2001-2012 -5.8%	2000-2013 -4.3%
Total Government Employees Per 10,000 People	2010 657	2012 618	2013 630	2014 616
The Kauffman Index of Entrepreneurial Activity	2011 220	2012 180	2013 290	2015 260
Industrial Natural Gas Prices	2010 \$8.23	2012 \$7.42	2013 \$7.92	2015 \$6.58
Median Price of Annual Car Insurance Policy	2012 \$4,490.00	2013 \$2,520.00	2014 \$2,551.00	2015 \$2,476.00
Northwood University Competitiveness Index	2012 47	2013 39	2014 30	2015 29

Exhibit 123: Percent Increase in Michigan Based Fortune 500 Company Stock Price (Non-Automotive) (03/09 – 11/15)

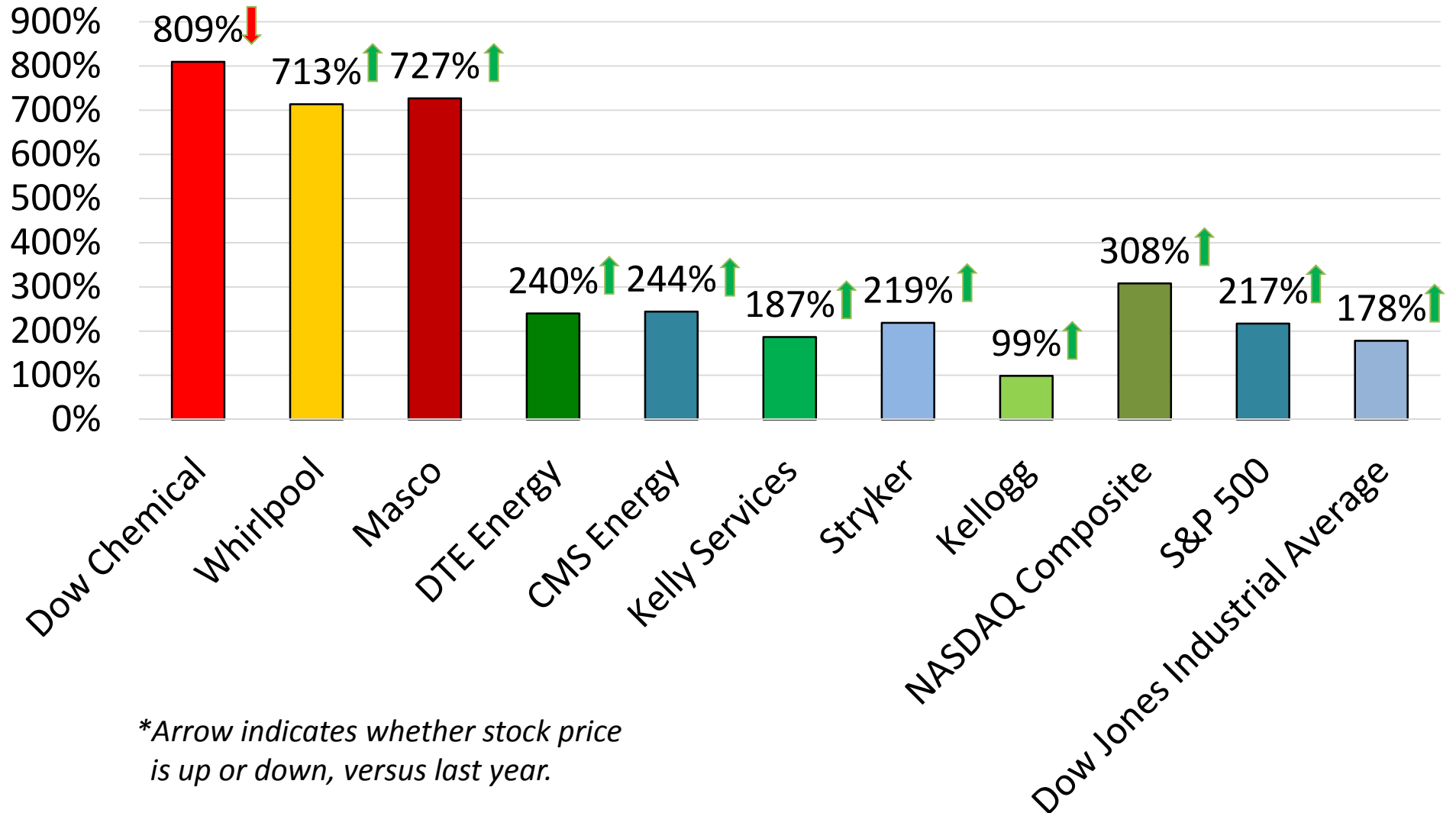


Exhibit 124: Cobb-Douglas Production Function

To examine the link between whether right to work improves competitiveness, we started with the Cobb-Douglas production function as follows:

$$Y = K^{\alpha_1} L^{\alpha_2} T^{\alpha_3}$$

Next, take log of this equation.

$$\ln Y = \alpha_1 \ln K + \alpha_2 \ln L + \alpha_3 T$$

Cobb-Douglas Production Function (Cont.)

This equation can be re-specified as

$$\frac{Y'}{Y} = \alpha_1 \left(\frac{K'}{K} \right) + \alpha_2 \left(\frac{L'}{L} \right) + \alpha_3 \left(\frac{T'}{T} \right)$$

Growth in organizational births and statewide employment were used as proxies for K'/K and L'/L . From this, we estimated the growth in technology by taking the difference between the growth in state gross domestic product and the growth in the capital and labor in the state.

$$\text{Model 1: } \hat{Y} = \hat{\alpha}_1 K_i + \hat{\alpha}_2 L_i + \hat{\varepsilon}_i$$

\hat{Y} is the percentage change in a state's gross domestic product, K is the percentage change in capital formation, and L is the percentage change in labor formation.

Exhibit 125: State-by-State Business Competitiveness

We then regressed our estimate of competitiveness on whether a state is right to work as follows:

$$\text{Model 2: } \frac{T'}{T} = \hat{\beta}_1 * RTW_i + \hat{\omega}_i$$

State-by-State Business Competitiveness (Cont.)

This model was then elaborated upon to consider state-wide unionization and its overall tax burden as follows:

$$\text{Model 3: } \hat{\varepsilon}_i = \hat{\beta}_1 * RTW_i + \hat{\beta}_2 * union + \hat{\beta}_3 * tax\ burden + \hat{\omega}_i$$

State-by-State Business Competitiveness (Cont.)

To assess whether the type of union, corporate tax rates, and total government expenditures affects competitiveness, this model was further elaborated upon as follows:

$$\text{Model 4: } \hat{\varepsilon}_i = \hat{\beta}_1 * RTW_i + \hat{\beta}_2 * union_i + \hat{\beta}_3 * tax\ burden_i + \hat{\beta}_4 * public_i \\ + \hat{\beta}_5 * private_i + \hat{\beta}_6 * private\ man_i + \hat{\beta}_7 * corp_i + \hat{\beta}_7 * gov_i + \hat{\omega}_i$$

Results: Model 1

	Model 1
Employment Growth	0.315*** (0.210)
Organizational Births	0.007*** (0.002)
N	50
r ²	0.542
aic	357.048
bic	360.872

Standard errors in parentheses

* p<0.10 ** p<0.05 *** p<0.01

Results: Models 2, 3, and 4

	Model 2	Model 3	Model 4
Right-to-Work	9.909*** (1.323)	5.343*** (0.695)	4.856*** (0.751)
Union Membership		0.218*** (0.086)	0.114 (0.472)
Tax Burden		0.002*** (0.001)	-0.001 (0.001)
Membership Private			0.121 (0.500)
Membership Public			0.018 (0.067)
Membership Private Manu			-0.061* (0.083)
Corporate Tax			-0.015 (0.125)
Government Expenditures			0.001*** (0.000)
N	50	50	50
r2	0.534	0.931	0.944
aic	325.402	233.593	233.838
bic	327.314	239.329	249.134

Standard errors in parentheses

* p<0.10 ** p<0.05 *** p<0.01

Exhibit 126: Gross State Product by Metropolitan Area (2014)

Michigan Cities/Metropolitan Areas	Michigan Rank	2014 GMP Billions of Dollars	2014 GMP Growth Rate	2014 GMP National Rank
Ann Arbor	4	\$20.40	1.5%	177
Battle Creek	10	\$5.70	2.5%	276
Bay City	14	\$3.14	1.7%	367
Detroit-Warren-Livonia	1	\$235.50	4.0%	13
Flint	6	\$13.20	1.6%	164
Grand Rapid-Wyoming	2	\$51.92	6.4%	56
Jackson	9	\$5.80	4.5%	270
Kalamazoo-Portage	5	\$14.27	2.7%	153
Lansing-East Lansing	3	\$21.00	3.7%	112
Monroe	12	\$4.61	2.8%	327
Midland	13	\$4.03	5.6%	342
Muskegon-Norton Shores	11	\$5.54	3.7%	280
Niles-Benton Harbor	8	\$6.29	3.1%	258
Saginaw-Saginaw Township North	7	\$7.59	2.1%	228

Source: Bureau of Economic Analysis (2015)

Exhibit 127: Visualizing Metropolitan GDP Growth in the U.S.

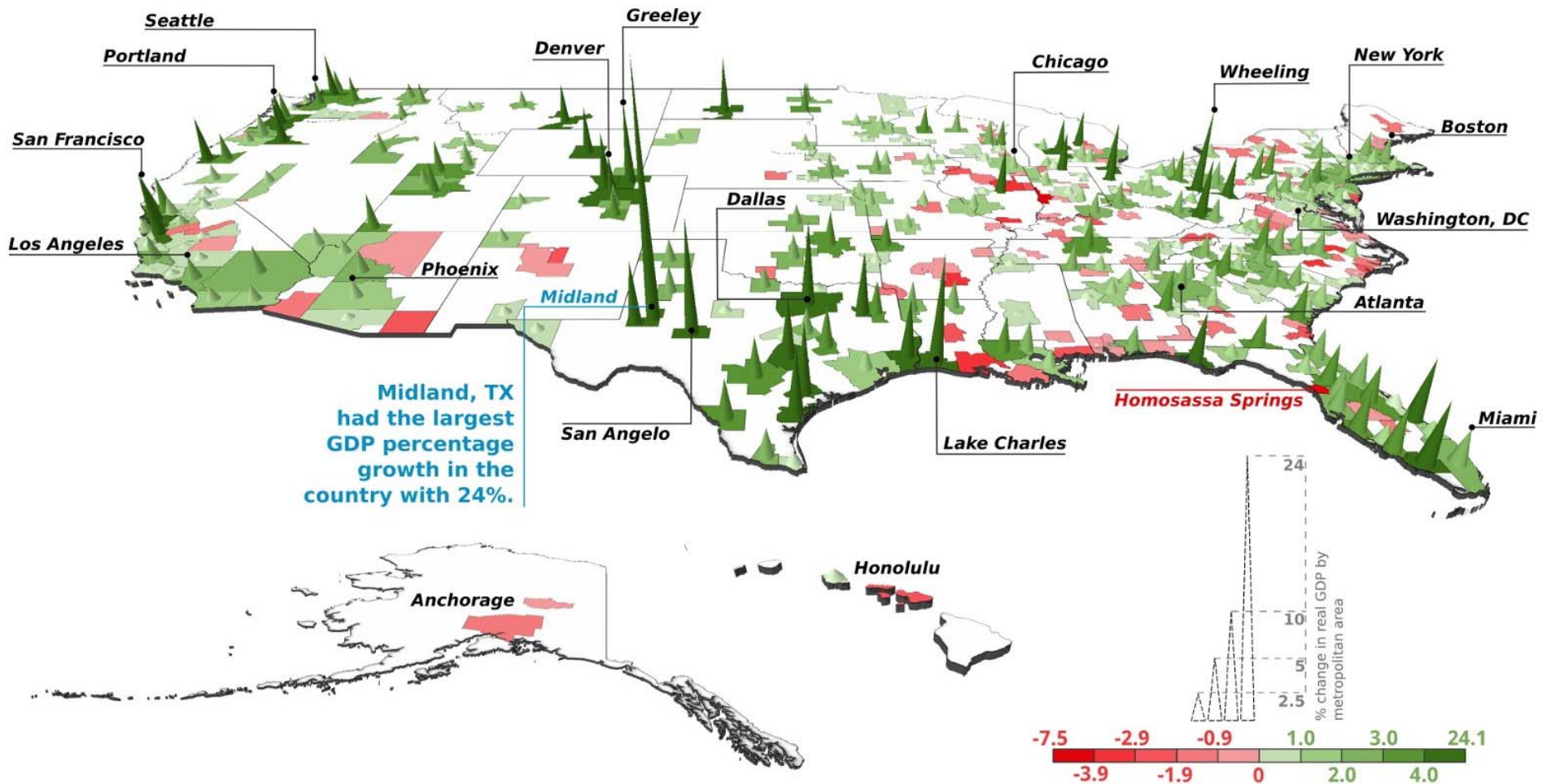


Exhibit 128: Great Lakes Region Personal Income Growth by State (Q₁, Q₂ and Q₃ 2015)

Great Lakes Region	Q ₁ (in Millions)	Q ₂ (in Millions)	Q ₃ (in Millions)	National Rank (Q ₁ - Q ₃)
Illinois	\$625,294	\$629,495	\$636,419	41
Indiana	\$266,793	\$268,935	\$272,431	30
Michigan	\$413,260	\$417,223	\$423,064	19
Ohio	\$496,958	\$501,543	\$508,063	21
Wisconsin	\$258,408	\$260,698	\$264,609	18

Source: Bureau of Economic Analysis (2015)



Northwood University is accredited by the Higher Learning Commission and is a member of the North Central Association (800-621-7440; higherlearningcommission.org). Northwood University is committed to a policy of nondiscrimination and equal opportunity for all persons regardless of race, gender, color, religion, creed, national origin or ancestry, age, marital status, disability or veteran status. The University also is committed to compliance with all applicable laws regarding nondiscrimination.