



ONTARIO **VS** MICHIGAN

Lessons from the
Wolverine State

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Executive summary

In the early and mid-2000s, Michigan suffered a steep economic decline, such that it actually lost population, as many Michigan residents left the state in search of greater economic opportunity in jurisdictions like Texas and Florida that were flourishing economically. Yet a series of bold policy reforms would revitalize the Michigan economy. This amazing turnaround story offers lessons for Ontario.

Home of the Detroit automakers, Michigan has historically been a manufacturing powerhouse in the United States. This fact, and its geographical proximity, make it a jurisdiction that invites comparisons to Ontario.

This paper begins by documenting the scope of Michigan's economic turnaround, relative both to the rest of the United States and to Ontario. Taken together, the evidence presented here demonstrates that the introduction of Michigan's reform package coincided with a resurgence in the economy overall, and in manufacturing in particular. Whereas in the pre-reform period Michigan was, generally speaking, an economic laggard within the United States, during the years since the economic reforms the Wolverine State has generally outperformed the rest of the union economically.

Michigan's strong economic performance since 2011 stands in contrast to Ontario, a jurisdiction that also has a large manufacturing base as a central feature of its economy but one that has not experienced an economic resurgence comparable to Michigan's in recent years. Between 2010 and 2014, Michigan's real economic output has increased slightly faster than Ontario's, despite slower population growth. Michigan's manufacturing output growth exceeded Ontario's significantly between 2011 and 2014. Furthermore, while Ontario has experienced a dramatic and economically harmful run-up in public debt since 2011, Michigan has actually seen a slight decline in net public debt as a share of its economy.

These results stand in stark contrast to the situation in the early years of this century, when Ontario consistently outperformed Michigan on most measures of economic performance.

The paper shows that Michigan's economic turnaround coincided chronologically with a period of substantial economic policy reforms. It documents some of the most important policy changes undertaken in the

Wolverine State, and discusses how these reforms may have contributed to the economic turnaround in Michigan. Specific reforms examined include:

- /// The introduction of right-to-work legislation (signed in 2012 and taking effect in March 2013);
- /// The replacement of the complex and onerous Michigan Business Tax (MBT) with a simpler and lighter flat corporate income tax of 6 percent, effective January 1, 2012;
- /// Sharp budget cuts, which were undertaken in fiscal year 2012, followed by a period of spending restraint during which state spending increased only modestly.

If Ontario policymakers seek to generate a comparable boost to their overall economy, labour market, and manufacturing sector, they should carefully study Michigan's reform experience and determine which policies could be similarly helpful here. Given the severity of the fiscal problems facing Ontario, provincial policymakers should learn from the Michigan example and move quickly to reform and reduce provincial spending in order to finally begin reducing the province's daunting debt load.

Ontario continues to perform below its full economic potential and remains burdened by substantial public debt. This comparison with the American state of Michigan provides further evidence that even steep economic downturns, such as were experienced in Michigan early this century, can be reversed. Michigan's economic revival shows the power of policy reform to help jumpstart even seemingly moribund economies. If Ontario wishes to break out of its prolonged slump and resume its historical place as the economic engine of Canada, it should study Michigan's example and embark upon a similarly ambitious pro-growth policy reform agenda.

Introduction

Ontario has suffered years of chronic budget deficits and rising public debt, as well as a declining manufacturing base. Various policymakers and their defenders in the media have attributed these unfortunate outcomes to external forces beyond regional control, such as a global shift in production, movements in the Canadian currency, and less generous treatment by federal fiscal transfers. However, in an earlier Fraser Institute publication the authors demonstrated that particular US states—which were also historically dependent on manufacturing and are operating in a similar environment—have had much better fiscal track records. The conclusion of that earlier paper was that Ontario’s mushrooming debt could *not* be blamed upon broad economic trends (Murphy et al., 2015).

In the present study, we sharpen our focus to one state from the US Rust Belt—namely, Michigan—to analyze its changing economic fortunes in greater detail. Home of the Detroit automakers, Michigan has historically been a manufacturing powerhouse in the United States, and its geographical proximity makes it a natural peer for Ontario.

In the early and mid-2000s, Michigan suffered a steep economic decline, such that it actually lost population, as many Michigan residents left the state in search of greater economic opportunity in jurisdictions like Texas and Florida that were flourishing economically. Yet a series of bold policy reforms would revitalize the Michigan economy. This amazing turnaround story offers lessons for Ontario.

The 2010 elections brought major political change to Michigan.¹ The Republicans (who had controlled the Michigan Senate for decades) regained control of the House, which had been under Democratic control since 2007. Outgoing Democratic Governor Jennifer Granholm, who had served the maximum of two terms, was replaced by Republican Rick Snyder.

With the sea change in the political landscape, the Michigan government pushed through significant policy reforms. Two of the most significant changes were passage of so-called “right-to-work” legislation, which greatly

1. Michigan state legislature history from <https://ballotpedia.org/Michigan_State_Legislature>.

weakened unions, and the replacement of the complex and onerous Michigan Business Tax (MBT) with a simpler and lighter flat corporate income tax of 6 percent. There were also sharp budget cuts in fiscal year 2012, and total state spending has only grown modestly since then.

As we will demonstrate in this study, Michigan's bold policy reforms coincided chronologically with the state's sharp turnaround in economic performance. Due to the short time period under discussion and the presence of other factors that have influenced the state's economic performance, it is not possible to precisely measure how much Michigan's economic policy reforms have contributed to the state's strong performance since their enactment.

That said, the evidence presented here—of Michigan's remarkable economic turnaround in recent years following a prolonged period as an economic laggard within the United States—at least suggests that the reforms have had a salutary effect on the state's performance, and that the policy reforms undertaken in Michigan deserve attention from policymakers elsewhere, particularly in jurisdictions facing similar economic challenges.

The case of Michigan provides an important case study for Ontario policymakers, and possibly policy lessons to learn. In the face of daunting challenges, Michigan took charge of its economic future by implementing an ambitious policy reform package. Although there are some factors beyond direct provincial control, Ontario's destiny is nevertheless still largely its own.

Michigan's economic turnaround

As we have noted, the 2010 elections brought a pivotal shift in Michigan state government. With the sea change in the political landscape, the Michigan government pushed through significant policy reforms. Key elements of the new governor's reform package included:

- ◆ Right-to-work legislation (signed in 2012 and taking effect in March 2013);
- ◆ The replacement of the complex and onerous Michigan Business Tax (MBT) with a simpler and lighter flat corporate income tax of 6 percent, effective January 1, 2012;
- ◆ Sharp budget cuts in fiscal year 2012, and only modest growth in total state spending since then.

Taken together, this economic package constituted a bold policy experiment that had enthusiastic boosters, as well as harsh detractors who warned of severe negative economic consequences for the state.² The early evidence lends substantially more support to the former group than the latter. While it is difficult to draw definitive conclusions on the basis of a few years of data, and given the challenges of drawing direct causal connections between policy changes and economic outcomes over a short period, the preliminary evidence shows that Michigan's economic reforms have coincided with a remarkable improvement in economic performance.

Each of these policy reforms and their role in Michigan's economic performance in recent years will be discussed in detail in a subsequent section of the paper. Before turning to describe each of the reforms in detail however, we will examine the relevant economic data to measure the extent of Michigan's remarkable economic turnaround in the years following Michigan's economic reforms.

2. Scholars with the Mackinac Center compiled a list of dire warnings regarding right-to-work legislation in Michigan (Hohman and Skorup, 2013).

In this section, we document the improvement in Michigan’s economic performance in its own domestic context, comparing a range of economic metrics in the Wolverine State to the national average. These comparisons help demonstrate the magnitude of Michigan’s economic improvement in recent years, and demonstrate that this improvement is to a large degree state-specific, and is not merely an artifact of national economic trends. We then go on to compare Michigan’s economic performance to the province of Ontario, which is a useful peer jurisdiction for comparison for reasons described in the introduction.

Michigan’s economic turnaround in the American context

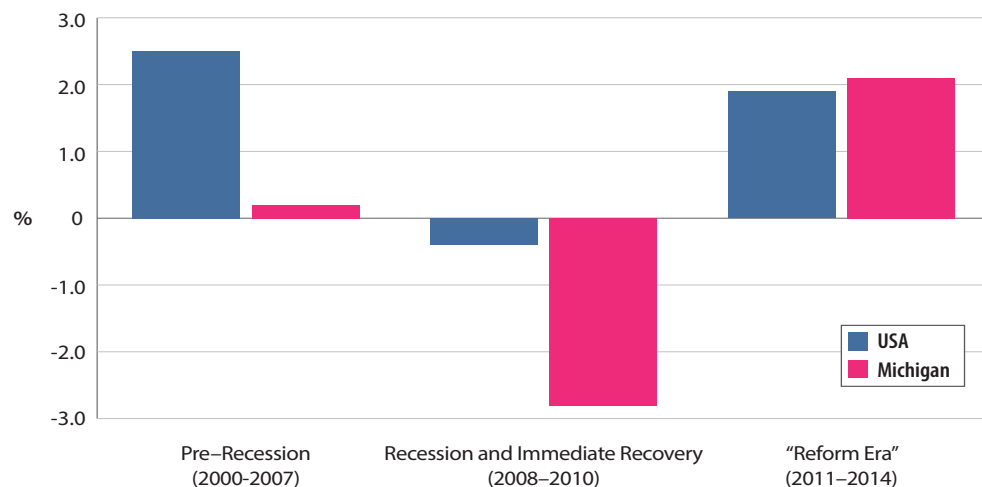
The state of Michigan was an economic underperformer within the United States throughout most of the 2000s, and was then hit especially hard during the Great Recession. However, in the reform era, Michigan has experienced a remarkable economic turnaround and is now outperforming the rest of the United States across a range of important metrics. Here, we examine a number of these indicators of economic progress, comparing Michigan to the United States taken as a whole.

Economic growth

First we look at total economic growth, both in the state of Michigan and in the United States as a whole. **Figure 1** charts the respective real growth rates from 2000 to 2014.

Figure 1

Real Gross State Product and Gross Domestic Product growth, annual averages, 2000–2014



Source: US Bureau of Economic Analysis, 2015a.

Between 2000 and 2010, Michigan significantly underperformed the United States in terms of overall economic growth. Yet from 2011 onward, the state has been holding its own with the country as a whole. In fact, between 2011 and 2014, economic growth in Michigan (at 2.1 percent) has been slightly higher than has been in the case in the country taken as a whole (1.9 percent).

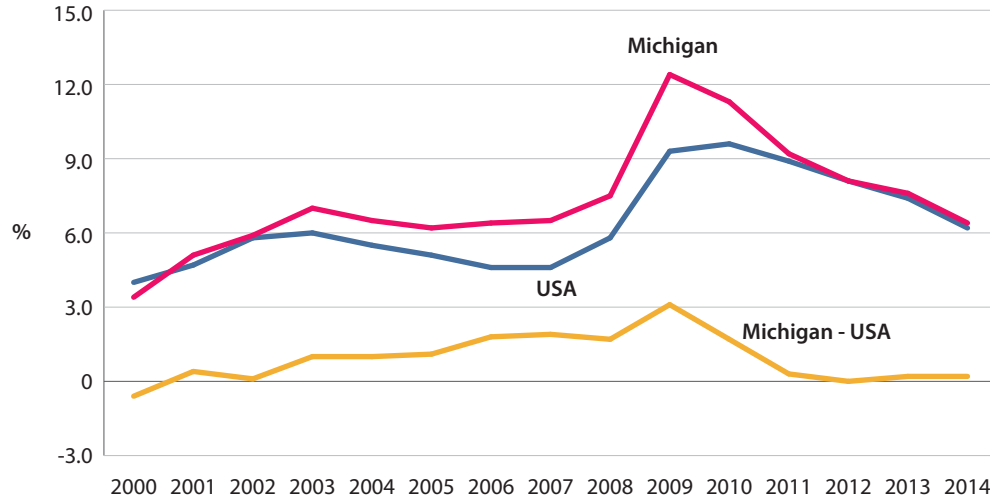
This crucial economic metric provides preliminary evidence that the policy reforms have been beneficial or, at the very least, that they have coincided chronologically with a significant turnaround in the state's economic performance relative to the rest of the country.

Unemployment rate

Next we consider the unemployment rate in Michigan versus the United States (**figure 2**). From 2003 to 2010, there was a sizable excess unemployment rate in Michigan relative to the national average. Indeed, over this period the average “surplus” unemployment rate in Michigan was 1.7 percentage points. In contrast, from 2011 onward, the gap has been virtually erased (it averaged 0.2 percentage points). As with economic growth rates, when it comes to unemployment we again see a marked difference in the reform period.

Figure 2

Michigan and US unemployment rates, annual averages, 2000–2014



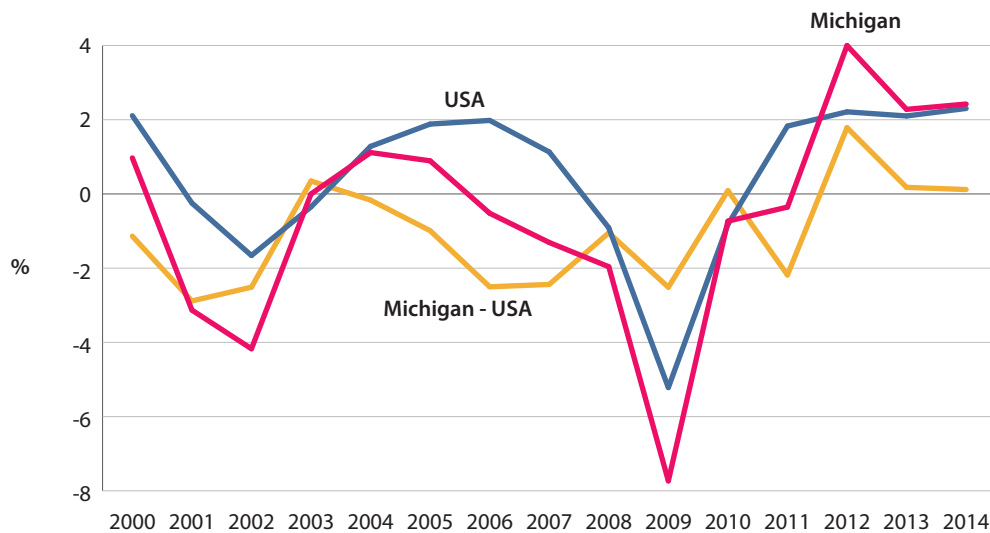
Sources: US Department of Labor, 2000–2002a, 2003–2013a, 2015a.

Private sector and manufacturing employment

We see the same pattern when it comes to private sector employment (**figure 3**). From 2000 to 2011, Michigan underperformed the US in private sector job growth in most years (with the exceptions of the years 2003 and 2010 when it was roughly a wash). Note that Michigan was *losing* private sector jobs in absolute terms—meaning the growth rate was negative—even in 2006 and 2007, while the rest of the country was still growing and (of course) before the Great Recession officially began. Yet from 2012 onward, Michigan has seen a higher rate of private sector job growth than the national average.

Figure 3

Michigan and US private sector employment growth rate, annual averages, 2000–2014



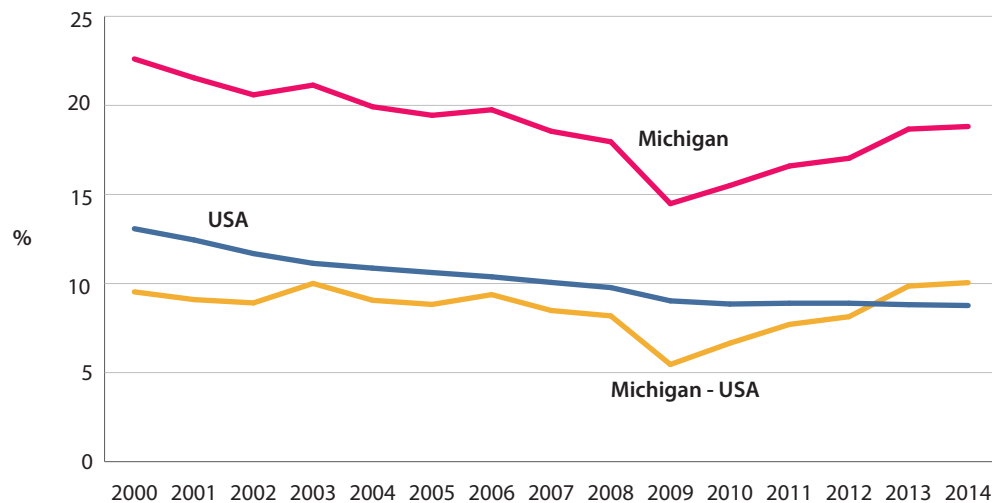
Sources: US Department of Labor, 2000–2002b, 2003–2013b, 2015b.

When considering private sector job growth, note also that these outcomes aren't likely attributable merely to the recession hitting Michigan harder than the country as a whole, because we would still have expected the sharper decline in 2009 to be offset by a stronger rebound in 2010 and 2011, when the recovery was clearly underway. Yet the strong rebound didn't occur until 2012, the year in which the new flat business tax went into effect and when state spending was being significantly reduced.

We can also analyze the manufacturing component of the labour market. **Figure 4** shows manufacturing employment as a share of total employment, for both Michigan and the United States overall.

Figure 4

Michigan and US manufacturing sector employment as a share of total employment, annual averages, 2000–2014



Sources: US Department of Labor, 2000–2002a, 2000–2002b, 2003–2013a, 2003–2013b, 2015b.

As the figure illustrates, there has been a gradual decline in manufacturing employment (as a percentage of total employment) since 2000 at the national level. However, Michigan experienced a more rapid decline through 2009, and has since seen a rebound. Of particular interest is that the *gap* between Michigan and the US by 2014 had increased to the size of its earlier high in 2003.

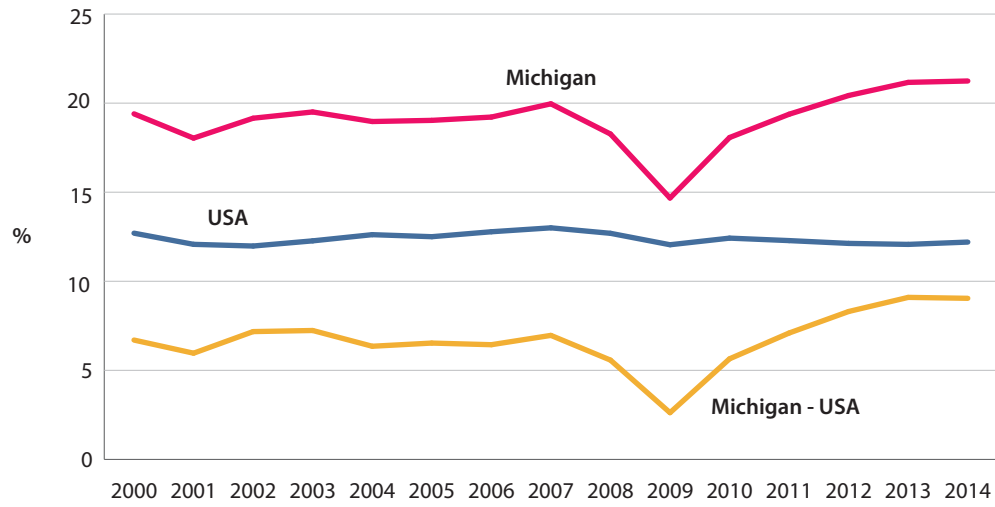
Although the information in figure 4 is *consistent* with the rest of our narrative, by itself it does not provide decisive evidence that the recovery in Michigan manufacturing employment is due to policy reforms since 2011, as opposed to the rebound from the recession or changes in the value of the US dollar relative to other currencies. As new data come in, it will be interesting to see whether manufacturing as a share of total employment in Michigan continues to gain, relative to the US average. If it does, this would be strong evidence that the reforms—in particular the right-to-work legislation which has only been in effect since March 2013—promote growth in manufacturing jobs.

Manufacturing output

Figure 5 presents more data that is consistent with the notion that Michigan's policy reforms have promoted positive economic outcomes. It shows the proportion of real manufacturing output as a share of all economic activity in Michigan and the United States.

Figure 5

Michigan and US manufacturing sector output as a share of GDP, annual averages, 2000–2014



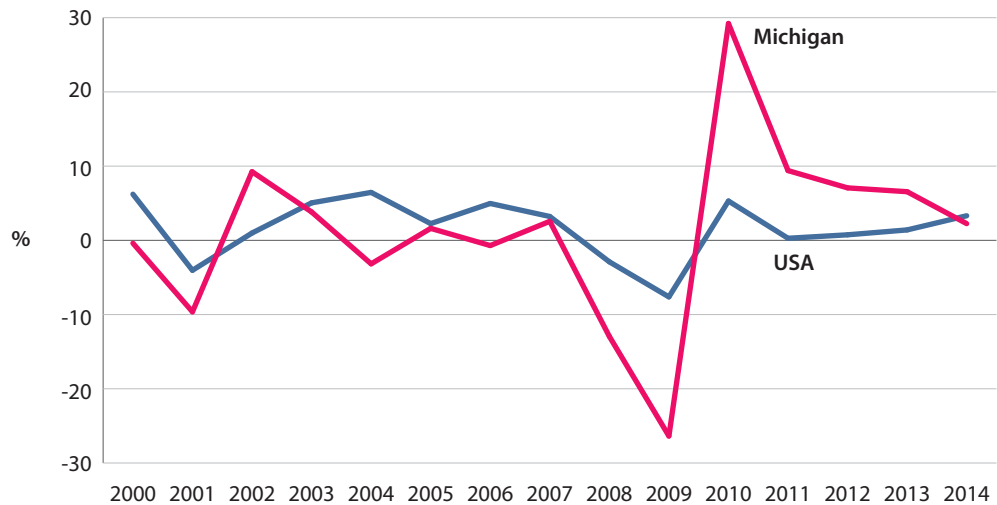
Source: US Bureau of Economic Analysis, 2015a.

After the sharp plunge in 2009, manufacturing output as a share of total output not only recovered in Michigan, but has surpassed its previous levels. Contrasted with a flat or gently declining US average, this means that Michigan's manufacturing output share of the economy relative to the nation as of 2014 is more than two percentage points higher than in 2000. Figure 5 provides early evidence that the policy reforms in Michigan have given a particular stimulus to the manufacturing sector. Of course, as is the case for several indicators in isolation, it is not possible to tease out the precise contribution of policy reform to these trends relative to other factors.

Another relevant metric is the growth in the absolute level of real manufacturing output (**figure 6**). The growth in real manufacturing output was consistently lower in Michigan than in the US as a whole, from 2000 to 2009 (with the exception of 2002). There was a strong excess growth in Michigan in 2010—presumably largely as a rebound from the disastrous 26 percent plunge in 2009—but Michigan maintained much higher relative growth rates through 2013. Of course, additional data over the coming years will resolve whether Michigan is experiencing a sustained resurgence in manufacturing output. Even so, at this stage these data are consistent with our narrative and the other evidence we have presented.

Figure 6

Michigan and US real manufacturing output growth rates, 2000–2014



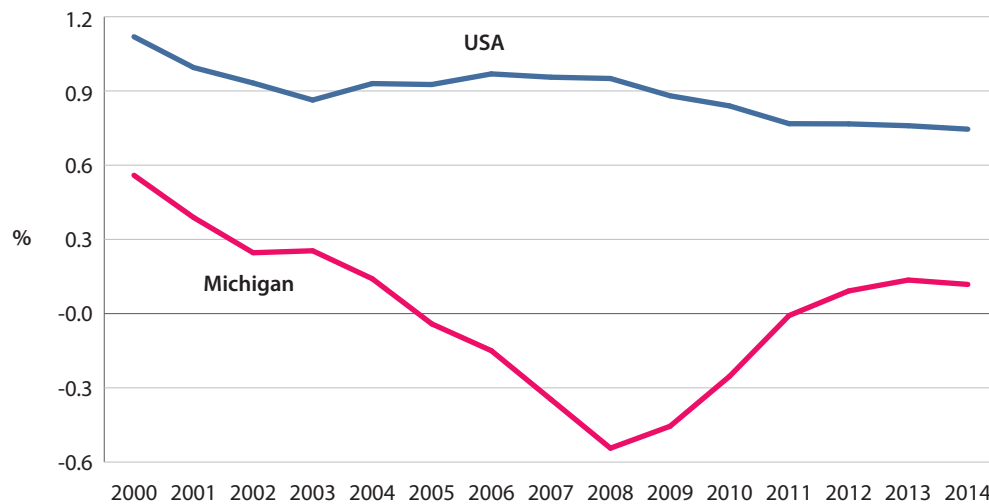
Source: US Bureau of Economic Analysis, 2015a.

Population growth

Another important metric that illustrates the economic turnaround in the state of Michigan is the population growth rate (**figure 7**). Michigan's population *shrank* from 2005 through 2011. In fact, Michigan was the only state in the union to lose population on net terms during the 2000s, according to the US Census. This fact should give Canadians a better appreciation for just how dismal Michigan's economic prospects were in the years before and during the great recession. Yet from 2012 onward, Michigan has been growing, albeit at a modest pace.

Figure 7

Michigan and US population growth rates, 2000–2014



Source: US Bureau of Economic Analysis, 2015a.

Summary

In this section we have reviewed several key economic indicators, including output (total and manufacturing), the unemployment rate, employment levels (both total private and manufacturing), and finally population growth. Several of these indicators showed a decisive improvement coinciding with the onset of Michigan's post-2011 policy reforms, while others began to show improvement in the immediately preceding years, with the progress then being sustained during the reform era. On some indicators, evidence of progress is more limited; however, even in these instances the evidence is consistent with the overall narrative of improved economic performance in the years following Michigan's economic reforms. Taken together, we have strong evidence that the introduction of Michigan's reform package coincided with the arrival of a resurgence in the economy generally speaking, as well as manufacturing in particular. Whereas in the pre-reform period Michigan was, generally speaking, an economic laggard within the United States, during the years since the economic reforms the Wolverine State has generally outperformed the rest of the union economically.

Michigan's economic turnaround relative to Ontario

As noted, the state of Michigan engaged in a period of bold policy reform beginning in 2011. As we have seen, these reforms coincided with an economic resurgence in Michigan, which has generally outperformed the rest of the United States economically in recent years.

In this section, we consider Michigan's economic performance relative to Ontario. Due to their geographic proximity and the fact that both economies include a large manufacturing base, comparisons between Michigan and Ontario are often instructive and useful. The evidence presented in this section shows that Ontario is significantly underperforming economically relative to Michigan, both in absolute terms and relative to the two jurisdictions' respective national averages. This is true for several important economic criteria.

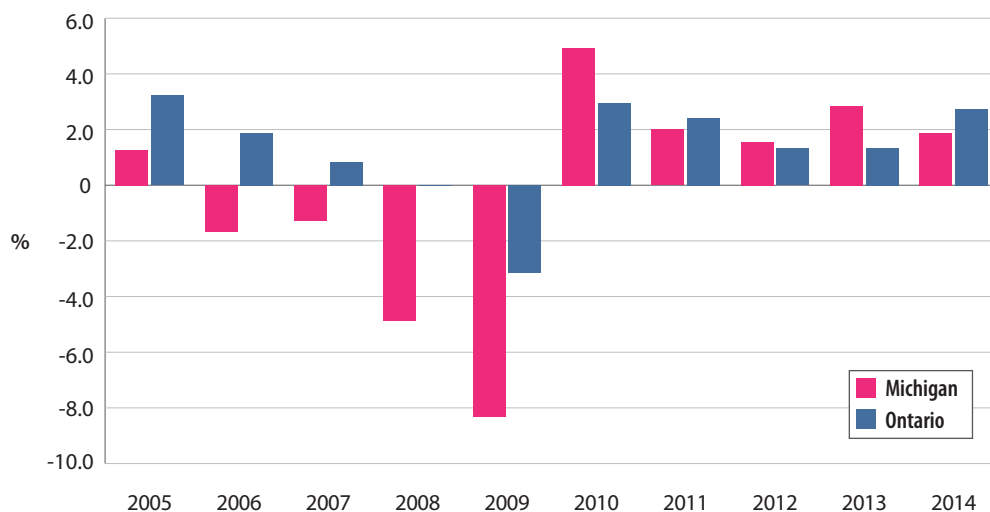
Michigan's superior economic performance during its reform era suggests that Ontario would be well served to carefully study that state's economic reform package, and explicitly consider whether dimensions of that package could help produce similar boosts in economic growth and prosperity in that province.

Real output

According to the broadest measure of economic health, real Gross Domestic Product (GDP), we can see a stark turnaround in the performances of Ontario versus Michigan. **Figure 8** charts their absolute growth rates in real GDP since 2005.

Figure 8

Michigan vs. Ontario real GDP growth, annual averages, 2005–2014



Sources: Statistics Canada, 2016a; US Bureau of Economic Analysis, 2015a, 2015b, 2015c; IMF, 2014.

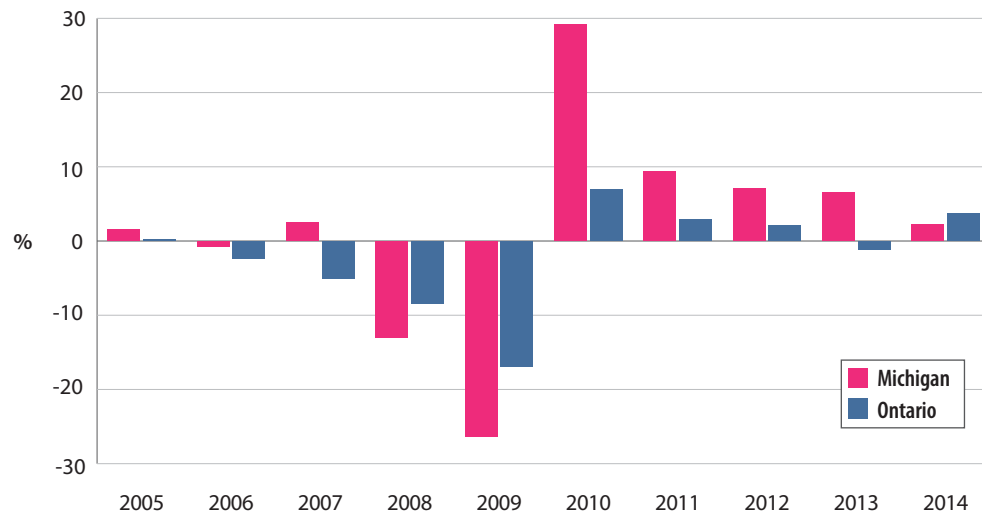
As figure 8 indicates, Michigan’s economy had been drastically underperforming Ontario’s even before the recession—indeed, Michigan suffered *negative* GDP growth in 2006 and 2007, not to mention the recession years of 2008 and 2009. Yet in the last several years, Michigan has been growing at comparable rates, and even significantly outgrew Ontario in 2013, when Michigan grew at 2.8 percent compared to Ontario’s growth of 1.3 percent. During what we are calling Michigan’s “reform era” of 2011 to 2014, Michigan averaged annual economic growth of 2.1 percent, slightly higher than Ontario which averaged 2.0 percent.

Manufacturing output

We see a similar pattern if we focus on *manufacturing* output, rather than general economic output. **Figure 9** graphs real manufacturing growth rates in Michigan vs. Ontario. In the years before the recession, Michigan’s manufacturing sector either grew faster—or shrank more slowly—than Ontario’s. The recession then hit Michigan much harder, but from 2010 through 2013, Michigan’s manufacturing growth was much stronger than Ontario’s.

Figure 9

Michigan vs. Ontario real manufacturing output growth, annual averages, 2005–2014

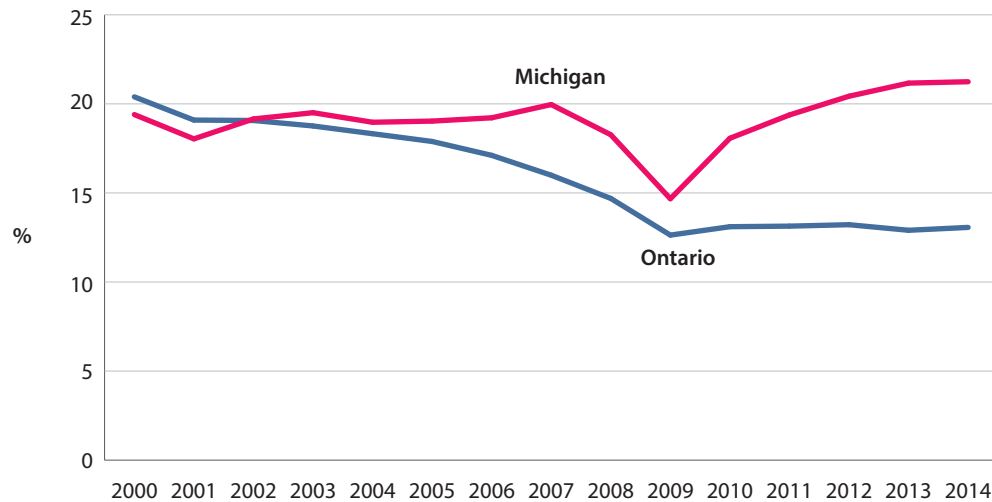


Sources: Statistics Canada, 2016a; US Bureau of Economic Analysis, 2015a.

Another way of considering the effect of Michigan’s reforms on the manufacturing sector is to look at the change in the *proportion* of the economy devoted to manufacturing since 2000 (**figure 10**).³

Figure 10

Michigan vs. Ontario manufacturing output as a share of the economy, 2000–2014



Sources: Statistics Canada, 2016a; US Bureau of Economic Analysis, 2015a.

Ontario and Michigan had similar shares of their economy devoted to manufacturing in the early 2000s. However, in the mid-2000s Ontario’s manufacturing share began sinking lower than Michigan’s, and since 2009 Ontario’s share has remained nearly completely flat while Michigan’s has rebounded and even overtaken its earlier levels.

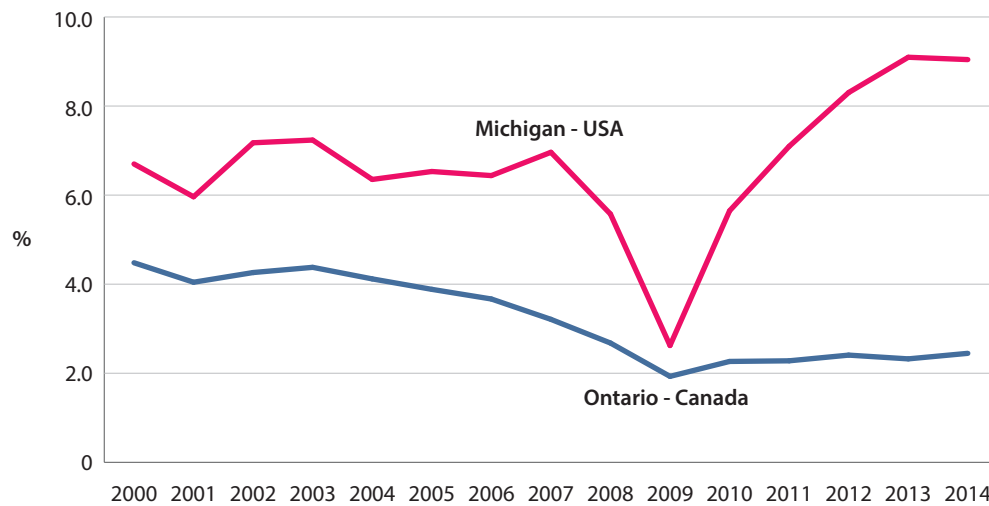
In short, figure 10 shows that manufacturing output as a share of economic activity has grown significantly in Michigan in recent years, but has not increased meaningfully in Ontario. Specifically, since 2009, manufacturing’s share of all economic output in Michigan has increased by 6.5 percentage points, an increase of 44 percent. In Ontario, manufacturing output relative to the economy has been nearly completely flat, increasing by just 0.5 percentage points during the same period.

3. The authors decided that it was more appropriate to make our point regarding certain data in the form of bar charts, rather than line charts. This decision in turn drove the length of the series in question, since it is visually easier to present a line chart over a longer span.

One possible retort to the data in figure 10 is to claim that *national* forces are at work (such as currency movements), and that it is misleading to do a head-to-head comparison of Michigan and Ontario. To control for such effects, in **figure 11** we plot the shares of manufacturing in the economies of Michigan and Ontario *relative to their national averages*, and see the same general result.

Figure 11

Michigan vs. Ontario manufacturing output as a share of the economy relative to national average, 2000–2014



Sources: Statistics Canada, 2016a, 2016b; US Bureau of Economic Analysis, 2015a.

Specifically, figure 11 indicates that—after the plunge due to the recession—manufacturing as a share of Michigan’s economy relative to the US average has gained more than two full percentage points, compared to pre-recession levels.

In complete contrast, Ontario’s share of manufacturing has fallen not merely in absolute terms (as we showed in the previous figure) but even relative to the Canadian average. In particular, figure 11 shows that in 2000, Ontario’s manufacturing share of the economy was 4.5 percentage points higher than the Canadian figure. Yet by 2009 that excess had been shaved to a mere 1.9 percentage points, and it has increased only slightly in the five years since.

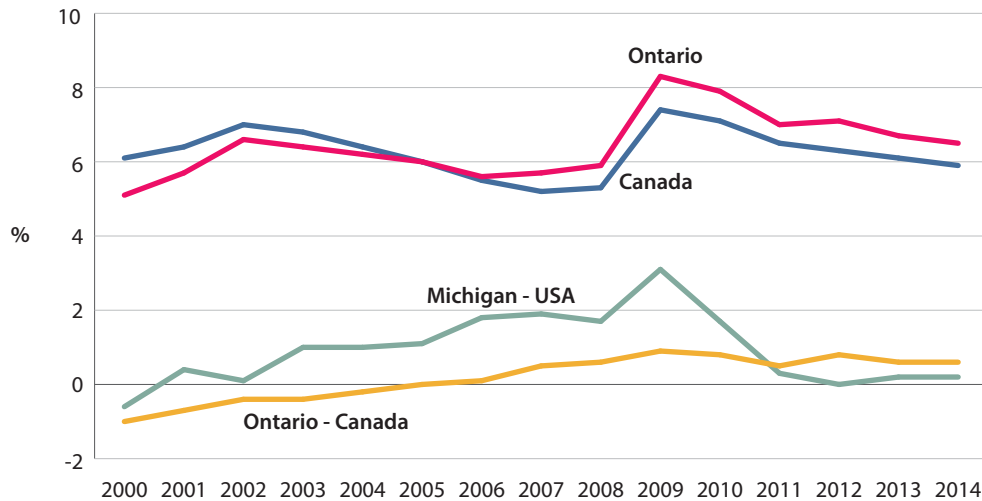
Figures 10 and 11 together provide compelling evidence that the post-2011 policy reforms in Michigan boosted manufacturing in the state.

Unemployment rate

Turning from output to the labour market, we also see an advantage for Michigan. **Figure 12** plots four separate series: the unemployment rates in Ontario and Canada, and the “surplus” unemployment rates in Ontario and Michigan, relative to the national average.

Figure 12

Various unemployment rates, annual averages, 2000–2014



Sources: Statistics Canada, 2015a; US Department of Labor, 2000–2002a, 2003–2013a, 2015a.

From 2000 through 2006, the unemployment rate in Ontario was either better than or roughly equal to the overall Canadian average. However, since then Ontario’s unemployment rate has been consistently higher than Canada’s, with the gap at least a half percentage point or more.

Michigan experienced a similar story *up through 2009*. That is, the unemployment rate in Michigan had been rising *relative to the US average* throughout the 2000s, but after the peak in 2009 it fell sharply. From 2011 onward, Michigan’s unemployment rate has been virtually identical to that of the United States as a whole, a performance that had not been seen since 2002.

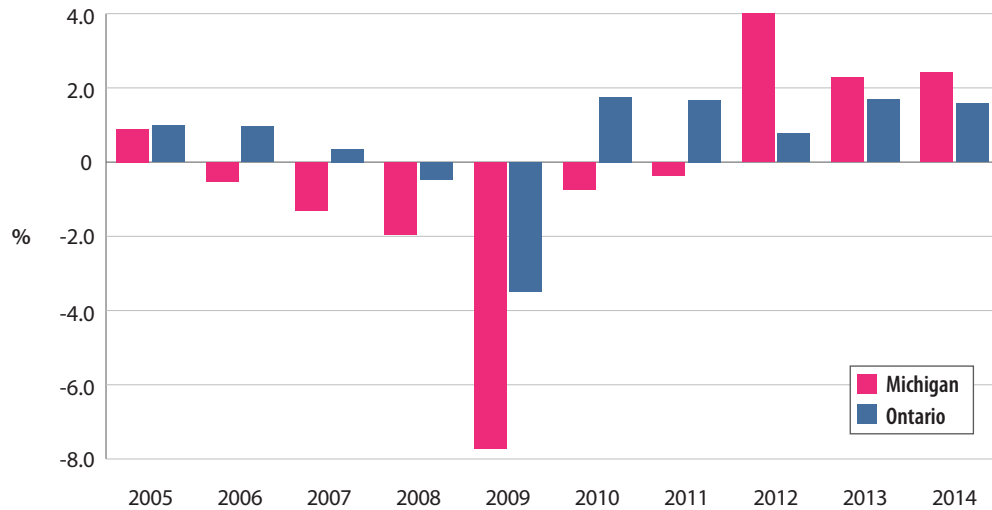
Here too we have evidence that Michigan’s policy reforms since 2011 have improved its labour market, even controlling for national differences between Canada and the US.

Manufacturing and total private sector employment

Another way to compare the labour markets of Michigan and Ontario is to look at the growth rates in employment. First we analyze total private sector employment growth, going back to 2005 (**figure 13**). From 2006 through 2011, private sector employment in Michigan shrank, whereas it either grew or shrank less in Ontario during these years. Yet since 2012, private sector employment growth has been quite robust in Michigan, outstripping Ontario by a healthy margin. In fact, during the reform period of 2011 to 2014, total private employment grew at an average annual rate of 2.1 percent in Michigan compared to 1.4 percent in Ontario.

Figure 13

Michigan vs. Ontario total private employment growth rates, annual averages, 2005–2014



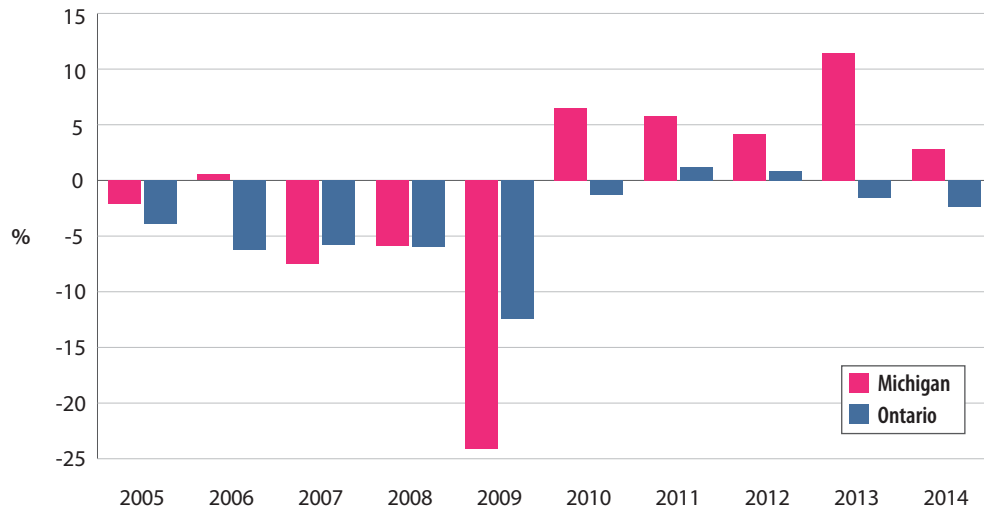
Sources: Statistics Canada, 2015b; US Department of Labor, 2003–2013b.

If we concentrate on *manufacturing* employment specifically, then we see an even starker contrast (**figure 14**). Manufacturing employment generally shrank in both Michigan and Ontario before the recession, with the situation actually worse in Ontario in 2005 and 2006. The hit to Michigan was much harsher in 2009, but since then the state has enjoyed persistent and solid growth in manufacturing employment. In contrast, manufacturing employment is languishing in Ontario well after the recession ended, with negative growth in both 2013 and 2014.

From 2011 to 2014, manufacturing employment grew at an average annual rate of 6.1 percent in Michigan, while manufacturing employment actually shrank at an average annual rate of 0.5 percent in Ontario during the same period.

Figure 14

Michigan vs. Ontario manufacturing employment growth rates, annual averages, 2005–2014



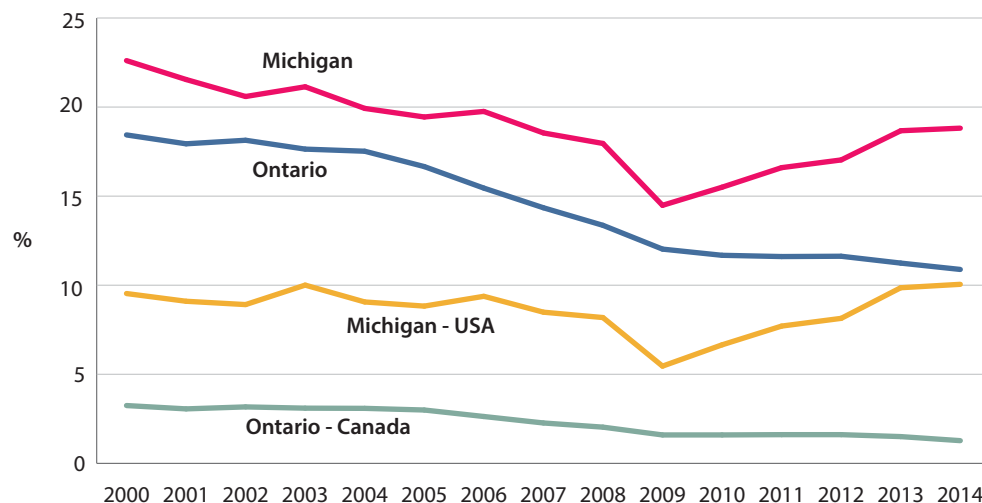
Sources: Statistics Canada, 2015b; US Department of Labor, 2003–2013a.

We can also consider manufacturing employment as a share of total employment. As with output, here too critics might object that it is unfair to compare manufacturing employment between Michigan and Ontario directly, because the situations are different at the national level. To control for such differences, we can also consider the shares relative to the national averages.

Figure 15 shows the same pattern for manufacturing *employment* that we earlier observed for manufacturing *output*. Specifically, the share of manufacturing employment relative to total employment generally declined in both Michigan and Ontario from 2000 through 2009. At that point, however, things rebounded in Michigan, whereas they never improved in Ontario. Even if we look at the regional performance relative to the national average (in other words, the lower two lines in figure 15), we see a sharp turnaround for Michigan after the recession, with no such change in Ontario.

Figure 15

Michigan vs. Ontario manufacturing employment as a share of total employment, absolute and relative to nation, 2000–2014



Sources: Statistics Canada, 2015b; US Department of Labor, 2000–2002a, 2000–2002b, 2003–2013a, 2003–2013b, 2015b.

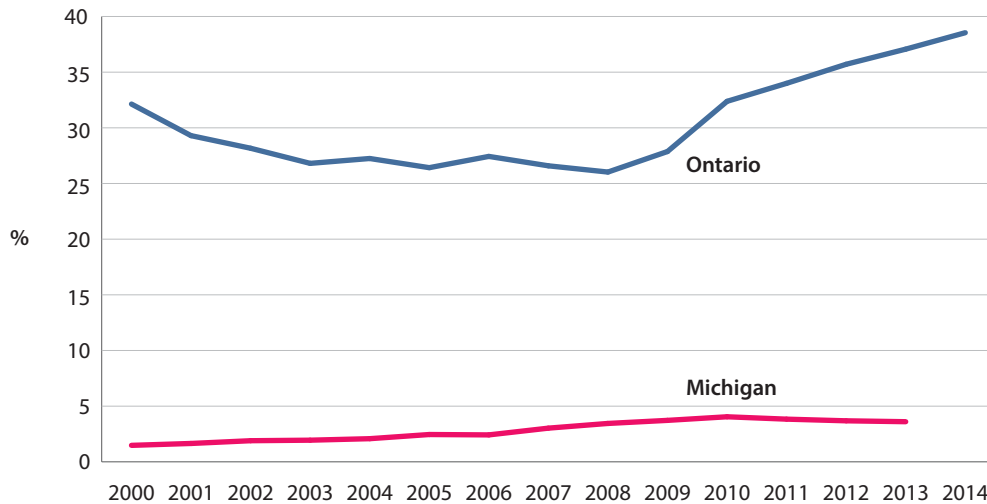
Indeed, the two bottom lines in figure 15 show that as of 2014, Michigan’s manufacturing share of employment compared to the US average was the *highest* in the entire period, whereas Ontario’s comparable figure was the *lowest* of the period. These data suggest that there is something specific to Michigan and Ontario that has made their manufacturing labour markets evolve in opposite directions, relative to the national trends.

Public finances

Finally, to indicate the enormous gulf in fiscal situations between Michigan and Ontario, in **figure 16** we plot their net public debt figures, which include all government liabilities (such as pension obligations) as a share of the economy.

Figure 16

Michigan vs. Ontario net public debt as a share of the economy, FY 2000–2014



Sources: Canada, Finance Canada, 2014; Statistics Canada, 2016c; Urban Institute-Brookings Institution Tax Policy Center, 2015; US Census Bureau, 2006, 2015; US Bureau of Economic Analysis, 2015c.

Net debt as a share of the provincial economy in Ontario has increased dramatically since the recession, rising from 26.0 percent in 2008 to 38.5 percent in 2014. From 2008 to 2012 (the most recent year for which we have data), Michigan's net debt as a share of the state economy has increased very modestly, from 3.4 percent to 3.7 percent.

It is difficult to overstate the importance of this divergence in the trajectory of the two states' public finances. Whereas Michigan has managed to essentially prevent any increase in its state debt burden relative to GDP, Ontario has seen its debt-to-GDP ratio grow in every year since 2008. The rapid accumulation of debt has continued long after the end of the Great Recession. Rather than being a temporary emergency measure, Ontario's deficits are a chronic problem that has dug the province into a deep hole (Eisen et al., 2016).

Michigan's policy reform package

As we have seen, since the introduction of its reform package in the early years of this decade, Michigan has enjoyed a remarkable economic turnaround. After years of being an economic laggard, The Wolverine State has grown faster and enjoyed more economic success than the rest of the union, according to a number of key metrics in recent years.

Moreover, Michigan has enjoyed dramatically stronger economic performance than Ontario during the years in question. This comparison is highly relevant for Ontario, since the two jurisdictions share a number of important characteristics. They are located in close geographic proximity to one another, and both rely on a large manufacturing base as a foundational component of their economies.

To the extent that Michigan has been outperforming Ontario in recent years, following an ambitious period of policy reform, it would be prudent for policymakers in Ontario to carefully study Michigan's policy initiatives to assess whether some or all of the reforms could help spur similar economic growth in Ontario.

In this section of the paper, we provide a more detailed look at the specific policy reforms that have been introduced in the state of Michigan in recent years, and examine the evidence surrounding the possible contribution of these reforms to the state's strong economic performance. Due to the *brief time window* involved, the fact that several reforms were introduced nearly simultaneously, and the existence of a number of exogenous factors that have also influenced the economic performance of Michigan, it is difficult to make strong causal statements about the impact of any specific policy change on the state's economic performance. That said, our preliminary review of the evidence surrounding Michigan's recent period of policy reform demonstrates that these policy changes taken as a whole seem to have made a meaningful contributing factor to the state's economic turnaround.

Right-to-Work

In the United States, individual states can be classified as either “right-to-work” or not. A right-to-work state is one in which unions cannot compel non-union members to pay fees if they work at a company with a union contract. The option goes back to the Taft-Hartley Act of 1947, which itself amended the major New Deal labour legislation in 1935, the National Labour Relations Act (also known as the Wagner Act).

Specifically, the 1935 NLRA required unions to provide the same contractual benefits to all employees at a given firm as a result of collective bargaining with management, whether the employees joined the union or not. However, the legislation allowed for “closed shops”—that is, firms where management agreed that it would *only* hire union members.

The 1947 Taft-Hartley amendments outlawed closed shops per se, but *did* allow individual states to decide whether “union shops” in their jurisdictions could compel non-members to pay an “agency fee” to compensate the union for its collective bargaining activities on behalf of the employee. States that denied unions this power are considered “right-to-work” states. A succinct summary of the legal evolution is to say that the 1935 Wagner Act allowed the closed shop, while the 1947 Taft-Hartley amendments outlawed the closed shop but permitted individual states to decide whether a union shop would be legal.

In the 1940s, ten states passed right-to-work (RTW) laws. As of this writing, a total of 26 states have done so, the latest being West Virginia in 2016. **Table 1** shows the US states in order of their adoption of RTW laws.

Michigan adopted RTW legislation in 2012. This is a key part of our story, as traditionally RTW states were located in the South, Great Plains, and the West. Indeed, many analysts cited RTW laws as a contributing factor for the migration of manufacturing out of the original “Steel Belt” states (which include Michigan) as they gradually decayed into what are now called the “Rust Belt” states.⁴ In this context, Michigan, Indiana, and Wisconsin’s relatively recent decisions to join the ranks of RTW states mark a shift in the US labour policy landscape.

4. In the text below we summarize the empirical case for RTW as a spur to manufacturing. It is commonplace for analysts to blame aggressive unionization for the problems in the Rust Belt states, particularly the Big Three automakers. For an example, see Barone (2008).

Table 1
Year of adoption of right-to-work legislation, US states

State	Year
Florida	1943
Arkansas	1944
Arizona	1946
Nebraska	1946
South Dakota	1946
Georgia	1947
Iowa	1947
North Carolina	1947
North Dakota	1947
Tennessee	1947
Virginia	1947
Nevada	1951
Alabama	1953
Mississippi	1954
South Carolina	1954
Utah	1955
Kansas	1958
Wyoming	1963
Louisiana	1976
Idaho	1986*
Texas	1993
Oklahoma	2001
Indiana	2012
Michigan	2012
Wisconsin	2015
West Virginia	2016

Notes: In some states, there is a distinction between the year a constitutional amendment was adopted and the year a statute was enacted. In such cases we list the earlier year.

* The source for this table reported Idaho's RTW law as enacted in 1985, but other sources indicate that the legislation was introduced in 1985 and only passed in 1986.

Source: National Conference of State Legislatures, <<http://www.ncsl.org/research/labor-and-employment/right-to-work-laws-and-bills.aspx>>.

The economic effects of right-to-work laws

Proponents of RTW laws argue that they allow more flexibility in labour markets, providing a favourable business environment that attracts firms and promotes job growth. However, even at a theoretical level, it is less clear what impact RTW laws should be expected to have on the level of wages.

For example, because unions have less bargaining power in a RTW state, we might expect them to achieve less favourable agreements and we would thus observe a smaller premium on union wages relative to non-union wages. On the other hand, some economists argue that because unions can't take dues (or "agency fees") for granted in a RTW state, they must focus on their core task of winning better contracts for their members (rather than

spending time on political activities, for example)—in which case we might observe a *higher* union wage premium in RTW states.⁵

Beyond the narrow question of the union wage premium, there is the broader question of the effect of RTW laws on *average* wages. Finally, we note that even if RTW laws had a negligible (or even modestly negative) effect on average wages over time, that wouldn't necessarily mean they were "bad for workers." After all, if the primary virtue of RTW legislation is that it allows employers to ultimately hire more workers because of more flexibility with pay (and other benefits), then we might observe a decline in *average* worker pay coinciding with a rising volume of total employment in a RTW state—especially over long stretches when people who can't find work in a non-RTW state migrate.

Fortunately, we do not have to rely on theoretical speculation to assess the impact of RTW legislation. There is a large academic literature measuring the effects of RTW laws on various economic variables. A landmark review is Moore (1998), while a very recent review is Eisenach (2015). Hicks and LaFaive (2013) also provide a relatively recent review, and apply it to the context of Michigan's RTW reform. In this section we provide an overview of some of the key findings.

First we can look at the "raw" outcomes in RTW versus non-RTW states, as reported in Eisenach (2015). By "raw" results, we mean that these numbers provide a direct comparison between economic outcomes in RTW and non-RTW states without controlling for other economic and demographic variables that may also be influencing the same outcomes. We will see that RTW states enjoy stronger economic performance on several fronts. To be sure, the following statistics demonstrate correlation, not necessarily causation, but we will follow them with a discussion of studies that attempt to control for other factors.

Table 2 shows that from 2001 to 2013, the states that had right-to-work laws (as of 2001) enjoyed private-sector employment growth more than *double* the rate of non-RTW states. Similarly, real (inflation-adjusted) private output rose by ten percentage points more in RTW states than non-RTW states during this same period.

5. Both sides of this debate are summarized in Moore and Newman (1985). Gallaway (1966) is an example of a paper arguing that RTW would lead to a higher union wage premium (because they have to offer more to attract members), while Page and DeLorme, Jr. (1971) criticized his conclusion and showed that in general theory does not tell us whether RTW will raise or lower the premium union wages enjoy relative to non-union wages.

Table 2
Key economic indicators, RTW vs. non-RTW (USA), 2001–2013

Indicator	Non-RTW	USA	RTW
Private non-farm employment growth	8.20%	11.70%	17.40%
Growth in real private sector output	20.3%	23.8%	30.3%
Growth in real manufacturing output	19.5%	25.2%	35.4%
Change in number of firms (2001–2012)	-0.8%	1.6%	5.6%
Growth in real personal incomes	15.3%	19.6%	27.7%

Note: "RTW" are states that had RTW legislation enacted in or before 2001.

Source: Eisenach, 2015, relying on BEA and Census Bureau data.

Of particular relevance to this study is the possible impact of RTW legislation on *manufacturing* output. Table 2 also shows that in the United States, there has been a strong association, with manufacturing output increasing almost 16 percentage points more between 2001 and 2013 in RTW states.

Consistent with the notion that a favourable business climate attracts new firms into a RTW region, table 2 shows that during the period 2001 to 2013, RTW states saw a 5.6 percent increase in the number of firms, while the rest of the country experienced a slight decline.

Finally, table 2 shows the change in real (inflation-adjusted) personal income in RTW states compared to non-RTW states. Here too, there was a significant advantage in RTW states, which saw personal income grow by more than 12 percentage points in excess of the rate of non-RTW states.

In addition to the statistics presented above, Eisenach (2015) provides these further statistics regarding economic performance in RTW versus non-RTW states:

- ◆ On average, from 2001 to 2014, the annual unemployment rate was 0.5 percentage points lower in RTW states (Eisenach 2015: 12).
- ◆ From 2001 to 2013, manufacturing *employment* dropped 26.4 percent in non-RTW states but only 21.6 percent in RTW states. During the same period, construction employment fell by 7.9 percent in non-RTW states but only by 2.6 percent in RTW states (p. 11).
- ◆ From 2001 to 2013, if we rank the top ten states by growth in *per-capita* real output, then four of the top five states are RTW, and seven of the top ten are RTW states (p. 14).
- ◆ From 1983 to 2014, the percentage of private sector union membership declined from a little more than 16 percent in 1983 to roughly 7 percent

by 2014. Throughout this period, union membership was consistently higher in non-RTW states, with a gap exceeding 9 percentage points back in 1983 (p. 17).

- ◆ In 2014, private sector employees in RTW states had roughly 4 percent union members, contrasted with almost 9 percent in non-RTW states (p. 17).
- ◆ Furthermore, the difference in unionization rates seemed not to be merely a correlation (with anti-union citizens voting for RTW laws). This can be seen in the differential rates of union declines before and after passage of RTW laws. Specifically, in the five years before its 1993 RTW law, Texas saw a 6.9 percent decline in private sector union density,⁶ while it saw a 13.2 percent decline in the five years after passage of its RTW law. Similarly, Oklahoma saw a 27.1 percent decline in union density in the five years prior to its 2001 RTW law, but a 34.2 percent decline in the five years *after* its passage (p. 17).

In addition to the above statistics reported by Eisenach (2015), we can also reproduce some of the raw correlations documented in the earlier survey of Hicks and LaFaive (2013). Besides results pertaining to employment and personal income gains (which we have already discussed), Hicks and LaFaive report that:

- ◆ From 1990 to 2011, population in RTW states increased by 39.8 percent contrasted with 16.7 percent in non-RTW states;
- ◆ From 2000 to 2009, 4.9 million people moved from non-RTW states to RTW states.

To reiterate, the “raw” results we have summarized in the figures and text above do not necessarily demonstrate *causality*—that right-to-work legislation by itself creates economic prosperity. Nonetheless, the results certainly support the claims made by proponents of RTW policy, that it fosters more efficient labour markets thereby stimulating employment and income growth in the long run.

Yet even though the reported results above are *consistent* with the case for RTW laws, it is possible that there is a weak or non-existent causal relationship. It could be, for example, that there are other factors that influence US states both to pass RTW legislation and to enjoy economic prosperity. In the next section we review some of the key studies in the academic literature that seek to control for this possibility.

6. Private sector “union density” refers to the percentage of private sector employees belonging to a union.

Isolating the impact of RTW from other, confounding factors

As discussed in the previous section, US states that have enacted RTW enjoy better economic performance across a variety of dimensions. However, it is possible that this is a mere correlation. For example, states with citizens who are hostile to unions could support RTW laws while also benefitting from more flexible labour markets. Or, with the rise of air conditioning, Southern and Western states would experience growth in population and employment relative to the Northeast, with the distribution of RTW status just coincidentally overlapping these climate-driven trends.

Indeed, several academic econometric articles *do* conclude that RTW laws have little economic impact, once we control for other possible factors. For example, Moore (1980), Wessels (1981), and Garofalo and Malhotra (1992) all found that RTW laws have a negligible or even negative impact on union and non-union wages. However, these studies can be quite sensitive to model specification, and they do not necessarily control for the fact that states with low wages might be more likely to adopt RTW laws.

Reed (2003) breaks with the earlier literature and finds very strong positive wage impacts from RTW. In the first place, he argues that much of the previous literature only focused narrowly on manufacturing production workers, among whom union workers are overrepresented, and therefore it primarily captures the impact of RTW on *union* wages, rather than wages in general. As of his 2003 review, Reed claimed that only two studies—Moore (1980) and Farber (1984)—truly estimated the impact of RTW on average wages. Admittedly, both of them found a negative relationship, but only Farber (1984) was statistically significant.

Reed goes on to include a set of “initial economic conditions” for states as of 1945 (before most of them had adopted RTW laws), such as per-capita personal income, educational levels, and manufacturing share of total output. After adding these factors, Reed runs several different model specifications. His overall “best estimate” is that once we control for initial starting conditions in 1945, states in 2000 could enjoy average wages that were 6.7 percent higher due to RTW (Reed, 2003: 13).

If the literature on wage impacts is still indecisive, there is more consensus regarding the effect of state-level policy on employment, particularly manufacturing employment. For example, Newman (1983) and Schmenner et al. (1987) find that RTW has a significant positive impact on industrial growth. In addition to these more standard econometric studies, Holmes (1998) adopts a novel technique. This paper sought to avoid the problems of spurious correlation by examining contiguous counties that fell on opposite sides of a state border.⁷

7. This is the same technique used in empirical studies of the minimum wage (e.g., Dube et al., 2010).

At state borders, the geographic determinants of the distribution of manufacturing—for example, climate, soil fertility, access to transportation, and the level of agglomeration benefits—are approximately the same on both sides of the border. What differs at the border is policy. To the extent that probusiness policies pursued by the right-to-work states have been a factor in the migration of industry, there should be an abrupt change in manufacturing activity at the border. In contrast, if the policies make no difference, there should be no abrupt change at the border. (Holmes 1998: 671)

Holmes found there *was* an abrupt and large change at state borders: “[M]anufacturing employment in a county as a percentage of total employment ... **increases, on average, by approximately one-third when one crosses the border into the probusiness side**” (Holmes 1998: 671; emphasis added).⁸

It is important to note that, strictly speaking, these studies on the location of manufacturing are not capturing the effect of RTW laws specifically, but of “business-friendly” state-based policies in general; they typically take RTW as a proxy for a pro-business climate. It could be, for example, that states that enact RTW also tend to maintain low business taxes and do not impose minimum wages higher than the federal level, and perhaps these other policies are the ones spurring growth. Nonetheless, the literature is clear that state policies designed to attract business—of which RTW is an obvious example—do appear to have a strong impact.

Finally, we summarize the results contained in Hicks and LaFaive (2013), whose study for the Mackinac Center—a Michigan-based state-level think tank—contained not only the “raw” summary statistics quoted in the previous section, but also provided a model that sought to control for the various confounding factors we have discussed. They break 64 years of data into three distinct time periods: 1947 through 1970, 1971 through 1990, and 1991 through 2011. During the first period (1947 through 1970), Hicks and LaFaive found that RTW “had little meaningful impact on aggregate economic growth measures in states in which it had passed” (p. 18), and suggest that this is because during a period of brisk growth in manufacturing employment, employers could use union membership as a screening tool. However, during the middle period (1971 through 1990), when manufacturing

8. To be clear, Holmes is not arguing that an entire state will benefit from such a large increase in manufacturing employment. Rather, he is showing that there is a marked increase when one crosses a border into a RTW state. This is consistent with his underlying model that there are costs of business migration, and so (other things equal) a relocating firm will be more likely to settle just on the other side of a border, if it is moving because of state policies.

employment was static, there was a large estimated effect from RTW on state growth in employment, personal income, and population. Specifically, Hicks and LaFaive estimated that these measures grew faster in RTW states by 0.90, 0.93, and 1.30 percentage points, respectively, which are very strong results. In the third period (1991 through 2011), RTW states still enjoyed stronger employment, income, and population growth compared to non-RTW states, but the magnitudes had dropped to 0.43, 0.67, and 0.56 percentage points, respectively. Though smaller, these impacts are still quite impressive.⁹

Conclusion

On balance, the academic literature suggests that RTW laws in the United States have reduced unionization and promoted economic development, particularly in traditionally unionized sectors such as manufacturing. However, when it comes to RTW's effect on wages, although some studies have found additional (and positive) impacts, here the literature has no strong consensus. To be sure, RTW is *correlated* with faster income growth, but scholars do not agree on whether there is a causal link.

Regarding the experience of Michigan, its government (along with Indiana's) upset a long tradition when passing RTW in 2012. Traditionally, RTW had been associated with Southern, Great Plains, and Western states, and not at all with the Northeast or "Rust Belt" region. In the debates over the policy change, proponents of RTW specifically cited studies arguing that RTW would help revitalize Michigan's industrial capacity and employment.

RTW—along with the other policy reforms we will discuss—has coincided with the turnaround in the state's fortunes reviewed earlier in the paper. However, even supporters of RTW admit that in theory, it should take many years for the full benefits of the new environment to appear in the data.

Practically speaking, Michigan's RTW law was passed in 2012, but did not actually go into effect until March 2013. In that first year, it did not have a large impact on union membership. However, in 2014—the first full year of Michigan's RTW status—there *was* a noticeable effect. Specifically, among wage and salary workers in Michigan, union membership dropped from 16.3 percent in 2013 to 14.5 percent in 2014. Similarly, the proportion of workers *represented* by a union (though not necessarily members) dropped from 16.9 percent in 2013 to 15.7 percent in 2014 (US Department of Labor, 2015c: Table 5). For those who believe that unions—at least in today's environment—tend to ossify labour markets and hamper economic growth, such results are a testament to the success of Michigan's recent embrace of RTW.

9. The estimated benefits of RTW laws were statistically significant for the middle and late period.

Tax reform

There is a voluminous academic literature exploring both the theory and empirical measurement of the effect that lower, flatter, and simpler tax codes promote economic prosperity.¹⁰ Michigan's economic turnaround is arguably due, in part, to its significant tax reform.

Under the Granholm Administration, in 2008 the complex and onerous Single Business Tax (SBT) was replaced with the complex and onerous Michigan Business Tax (MBT). The following explanation of the MBT from a neutral source justifies our description:

The MBT was based on business income and gross receipts, plus an added surcharge. It also included a number of tax credits and incentives. The 2008 tax reform also significantly reduced property taxes, creating certain exemptions for industrial and commercial personal property. In addition ... a business with gross receipts of \$350,000 or less did not have to file a tax return or pay any tax, and other credits existed for smaller Michigan firms.

Under the MBT, the Business Income Tax was assessed on business activity that took place in Michigan. The tax base started with **federal taxable income** or a comparable measure of income for partnerships and S corporations. **The tax rate was 4.95%.**

The Modified Gross Receipts Tax was based on a company's gross receipts, less purchases from other firms. Purchases from other firms included inventory purchased during the tax year, capital expenditures, and certain materials and supplies. The rate of this tax was 0.8%. Special provisions reduced the tax base for a variety of taxpayers, including auto dealers, construction contractors, self-employed individuals, and members of partnerships and limited liability companies. A portion of certain taxes collected by a business were included in gross receipts until 2012.

A **surcharge** was applied to the apportioned business income tax and gross receipts tax before credits. **The rate was 21.99%.**

(Michigan Economic Development Corporation, 2013; emphases added)

10. For example, McQuillan and Murphy (2009) provide a survey of econometric literature that relies on the Economic Freedom of the World Index to demonstrate the benefits of economic freedom (which includes a light tax burden) on various objectives, including obvious measures such as per-capita GDP but also non-economic measures such as infant mortality and literacy rates. Of more relevance for our current topic, Reed (2006) analyzes data from the forty-eight continental US states over the period 1970 to 1999, and finds that "taxes used to fund general expenditures are associated with significant, negative effects on economic growth."

To appreciate just how much some economists detested Michigan's MBT, consider the description offered by Gary Wolfram, an economics professor and former advisor to Governor Engler (Granholm's predecessor):

There is no theoretical basis behind [the MBT]. It is a freakish combination of a gross receipts tax and profits tax. If you pick up any public finance text you will find an explanation of why a gross receipts tax is one of the most economically inefficient taxes. The portion that is a profits tax results in sole proprietorships, S-corporations, partnerships, and limited liability corporations being taxed under the MBT. Then—since the profits of such companies are passed through to individuals—these same profits are taxed under the state's personal income tax! (Wolfram, 2010)

Yet things were even worse under the MBT, which gave arbitrary power to state officials. Wolfram explains that “the state's economic development bureaucracy, such as the Michigan Economic Development Commission,” had the power to “grant credits to reduce or eliminate a firm's tax.” Wolfram decried this “rule of man” as opposed to a “rule of law,” where the rules of the game weren't even laid out in plain form by statute.

In this context, one of the most important elements of Michigan's policy reform package was the replacement of the MBT with a Corporate Income Tax (CIT) featuring a single flat rate of 6 percent. (The new tax was signed into law in May 2011, and became effective January 1, 2012.¹¹) To appreciate the significance of this change, consider the analysis from the Tax Foundation, a US-based organization that evaluates federal, state, and local tax policies:

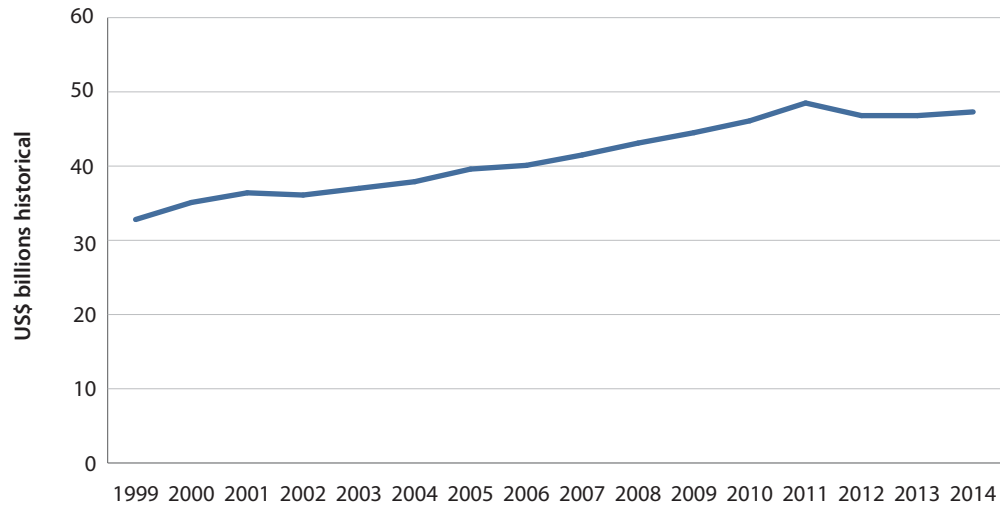
Michigan made a sizable leap by replacing their cumbersome and distortionary gross receipts tax (the Michigan Business Tax) with a flat 6 percent corporate income tax that is largely free of special tax preferences. **This improved [Michigan's] overall rank from 18th to 12th best, and their corporate ranking from 49th to 7th best.**

(Tax Foundation, 2012; emphasis added)

Figure 17 indicates the significant fall in total tax revenues for the state as a result of this significant tax reform. After rising steadily since 2002—even through the depths of the recession—Michigan's state government total revenues peaked in Fiscal Year 2011, the last year before corporate tax reform was passed. It then dropped \$1.7 billion, or 3.5 percent, from FY 2011 to 2012, held constant through 2013, and rose a modest \$450 million (1 percent) in 2014. We should note that many critics in Michigan fault the reforms for reducing

11. See <<http://www3.cbiz.com/page.asp?pid=9260>>.

Figure 17
Michigan State Government total revenues



Source: Michigan, State Budget Office, *Prior Year Budgets*, from <http://www.michigan.gov/budget/0,4538,7-157-11460_18526---,00.html>.

the burden on businesses while increasing it (effectively) on individuals by reducing tax credits such as the EITC and by halting the originally scheduled reduction in personal income tax rates (e.g., Henderson and Tanner, 2014), but the reduction in the overall tax burden is undeniable. This reduction in the overall tax burden is particularly significant given the robust research literature showing that higher state taxes tend to restrict economic growth compared to lower taxes (Hood, 2014). In this context, Michigan's business tax reform can be understood as a likely contributing factor to the uptick in economic growth that has occurred in recent years.

From the perspective of supply-side tax reform, Michigan's significant policy shift is noteworthy not merely because of the reduction in the tax burden, but because of the *structure* of the new tax. A single flat rate of 6 percent, as opposed to the MBT's complex web of high marginal assessments (most notably the 21.99 percent surcharge) and credits, provides a much better incentive for businesses to locate to Michigan and for existing businesses to expand their operations (Vaillancourt et al., 2015).

It should be noted that Ontario has also taken some steps in recent years to make its tax treatment of businesses more competitive. Specifically, in 2010 the province eliminated its capital tax on business investment. Further, Ontario recently replaced its provincial sales tax with a better-designed sales tax that is less burdensome for businesses and harmonized with the federal goods and services tax. However, the provincial government has at least offset these pro-growth tax measures with a significant increase in the top marginal tax rate for individuals, an anti-growth policy measure that will

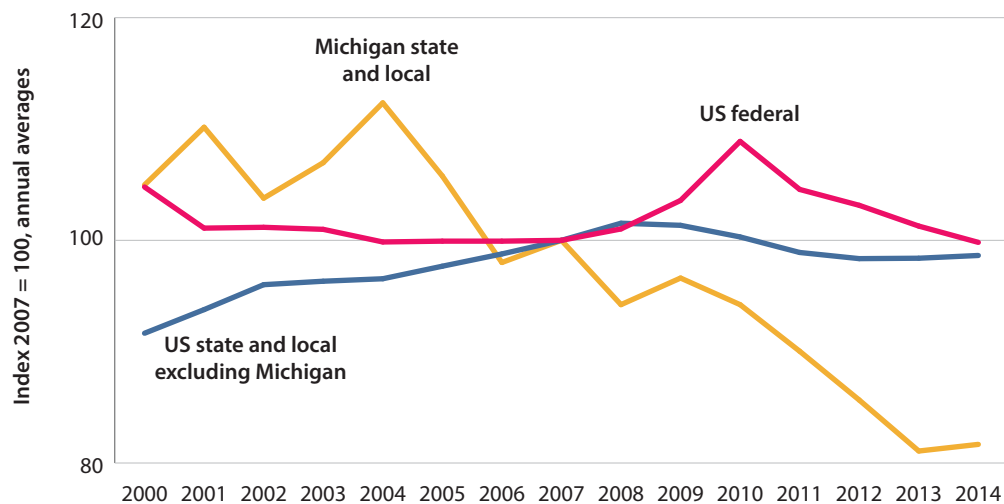
hinder investment, business development, and entrepreneurship in the province (Lammam et al., 2016). Further, in February 2012, the province scrapped plans to reduce the general corporate income tax rate from 11.5 to 10 per cent over a two-year period. On the whole, it is fair to say that while Ontario has made some meaningful tax changes in recent years, it has not undertaken a broad pro-growth business tax reform comparable to the changes that have occurred in Michigan.

Government employment and spending cuts

Michigan has engaged in significant cuts in both government employment and spending, both in absolute terms and relative to other US states. **Figure 18** illustrates this point graphically. It shows changes in the number of government employees in various US jurisdictions between 2000 and 2013. To permit comparability between jurisdictions of different sizes, this information is presented in the form of an index, where the level of 2007 is set to 100.0 for the three government employment series.

Figure 18

Government employment, select levels and jurisdictions, 2000–2014



Sources: US Department of Labor, 2000–2002b, 2003–2013b, 2015b.

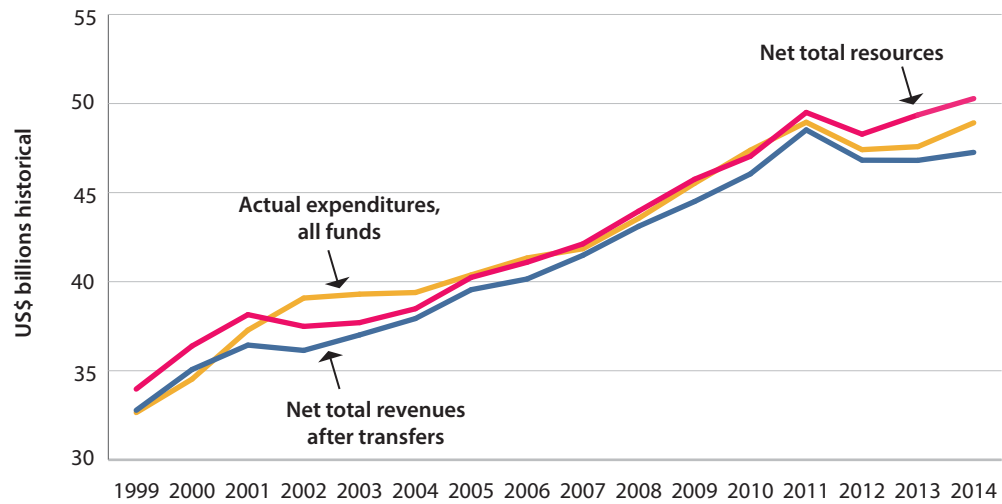
Figure 18 shows that state and local government employment in Michigan has fallen sharply from 2010 through 2013, and this sharp downturn itself is embedded in a gradual decline that had begun several years earlier. In contrast, government employment at the federal level (aside from a temporary spike following the financial crisis of 2008) has been roughly steady since the early 2000s, while state and local government employment has risen.

No matter how we analyze the data, it is clear that government employment in the state of Michigan has dropped significantly in recent years, and that this is a state-specific trend that cannot be attributed to typical nationwide budget consciousness in the wake of the Great Recession.

Next we document the sharp turnaround in Michigan state government spending, beginning in Fiscal Year 2011/12. **Figure 19** charts spending among all funds, along with two different measures of funding sources, as reported in the annual budget reports from the Governor's office.

Figure 19

Michigan State Government expenditures, total revenues, and total resources



Source: Michigan, State Budget Office, *Prior Year Budgets*, from <http://www.michigan.gov/budget/0,4538,7-157-11460_18526--,00.html>.

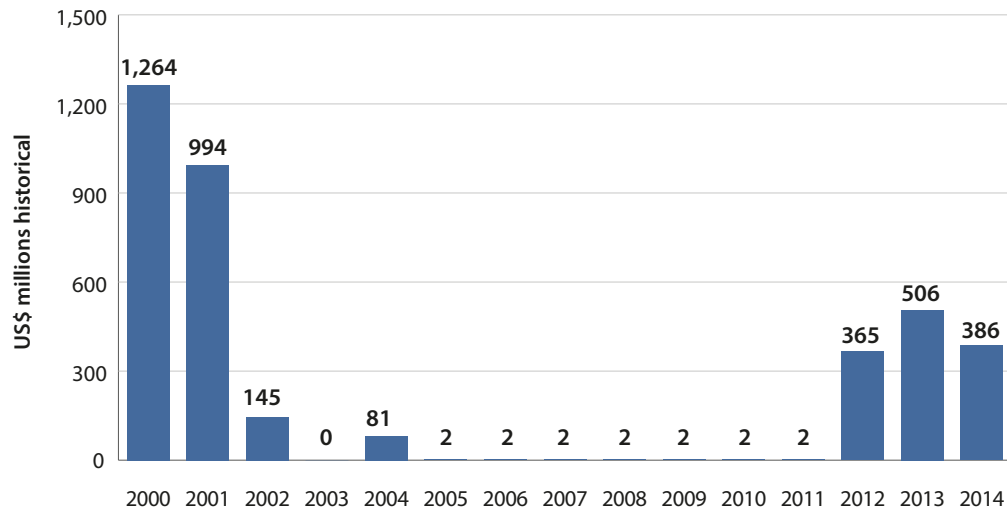
In a previous section we discussed the tax reform and reduction at this time, but figure 19 shows that spending cuts went along with it. Specifically, total state expenditures among all funds dropped 3.1 percent from FY 2011 to FY 2012, and were roughly held constant into FY 2013. This spending restraint ensured that the revenue reductions of this period did not translate into higher government debt. As noted previously, Michigan's net public debt as a share of the state economy held steady at approximately 4 percent in the years immediately following the recession, a period during which Ontario's debt burden climbed dramatically.

Further evidence that Michigan's fiscal position did not deteriorate as a result of tax reform and resulting revenue reductions can be found by considering Michigan's long-term bonded debt, as calculated by the State's Comprehensive Annual Financial Reports. Michigan's long-term bonded debt has remained almost exactly constant during the reform era, shrinking very slightly from \$7.3 billion in 2011 to \$7.0 billion in 2014.

Figure 20 presents a final measure of the state’s improved debt position, the Budget Stabilization Fund, or what Michigan officials sometimes refer to as the “Rainy Day Fund.” This stood at some \$1.3 billion back in 2000, at the height of the dot-com bubble. But the subsequent recession reduced it to literally zero. The fund plodded along with a measly \$2 million from 2005 through 2011, before a healthy resurgence in the last three years.¹²

Figure 19

Michigan State Government budget stabilization fund



Source: Michigan, *Executive Budget, Fiscal Years 2016 and 2017*, from <http://www.michigan.gov/documents/budget/Budget_all_together_2016_final_481096_7.pdf>.

12. Critics of budgetary austerity have linked these policies to the deplorable situation in Flint, Michigan, in which residents were exposed to unsafe drinking water for 16 months. In an effort to save money, officials switched from Detroit water to the cheaper Flint River. It is true that Governor Snyder appointed an emergency manager to the city in 2011, when Flint was on the verge of bankruptcy. The series of incompetent decisions leading to unsafe lead levels involved mistakes from officials at all levels, including the federal Environmental Protection Agency. The evidence does not support the suggestion the Flint water crisis was an inevitable outcome of budgetary restraint, given that there were available strategies to prevent the public health crisis that were “well within the means even of a cash-strapped city” according to regional experts (Dalmia, 2016). Indeed, Marc Edwards, a Virginia Tech environmental engineer who has investigated the situation in Flint, has noted that the crisis could have been entirely avoided if the city had taken the very inexpensive step of simply adding orthophosphate to Flint’s water supply (Torrice, 2016).

What about federal programs to help the auto industry?

One possible objection to our narrative is that various US federal programs specifically targeted assistance to the auto industry, and that this *increase* in government intervention in the economy might be responsible for Michigan's turnaround. Most obvious is the \$79.7 billion in Troubled Asset Relief Program (TARP) loans given to GM, Chrysler, Ally Financial (previously known as GMAC), and other companies integral to auto manufacturing and supplies (Snively, 2014). Even Ford, which did *not* take TARP money, was the recipient of a \$5.9 billion loan under the auspices of the Advanced Technology Vehicles Manufacturing (ATVM) loan program, which was established under the Energy Independence and Security Act of 2007.¹³ Finally, one of the most memorable (and in some circles, notorious) stimulus measures of the incoming Obama Administration was the \$3 billion Car Allowance Rebate System, popularly known as “cash for clunkers,” which paid up to \$4,500 to eligible buyers who traded in vehicles in order to buy higher mileage cars or trucks. This program undeniably boosted sales in the summer of 2009.¹⁴

These programs do not pose a significant problem for our thesis. “Cash for clunkers,” even on its own terms, was designed to “pull sales forward” from the future and boost spending during the depths of the Great Recession, when (in a Keynesian framework) the boost to Aggregate Demand was more urgently needed. Thus this program could hardly contribute to the *persistent* improvement we see in Michigan's economy.

The ATVM and TARP bailout package presumably did boost employment in The Big Three automakers *relative to what it otherwise would have been*, but this is not the same thing as boosting Big Three employment in absolute terms, let alone creating large net job growth for the state of Michigan or the US economy as a whole. Some critics of the bailout (e.g., Ikenson 2011) argue that the TARP bailout largely shielded two irresponsible companies (namely GM and Chrysler) from their own mismanagement, and that after normal, non-politicized bankruptcy proceedings, the US auto industry would have emerged on a stronger footing.

In any event, even the defenders of the auto bailout cast it largely as an action that *prevented* catastrophe, thereby *saving* the industry, rather than spurring it to new heights. For example, though total US employment in the “motor vehicles and parts” industry has steadily grown since its trough in mid-2009, it had recovered to only 919,600 in December 2015, compared to 968,000 in December 2007, the month that the recession officially began (US Department of Labor, 2016).

13. The Government Accountability Office assessment of the ATVM program is available at <<http://www.gao.gov/assets/320/316179.html>>.

14. See the Obama Administration's congratulatory self-assessment in CEA (2009).

The sizable and *persistent* turnaround in Michigan's performance that we have documented in earlier sections cannot plausibly be attributed to the federal interventions on behalf of the auto industry.

Conclusion: lessons for Ontario

The comparisons in this section have provided strong evidence that the Michigan economy, particularly the manufacturing sector, has bounced back from the recession far better than the Ontario economy. Especially when considering their relative performances *before* the recession, the evidence suggests that Michigan's policy reforms of recent years have played a large role in Michigan's success.

Unfortunately, while Michigan has embarked upon a series of pro-growth policy reforms, Ontario's government has in recent years pursued a number of policy choices that have hindered the province's performance, and made it more difficult for Ontarians to prosper (Cross, 2015).

Michigan's strong economic performance in recent years suggests that neither Ontario's geographic location nor its reliance on a large manufacturing base have doomed it to the weak economic performance documented here. Policy choices matter, and by looking to Michigan's leadership, Ontario's political leaders can find a number of reform options that may hold the potential to help jumpstart the provincial economy and begin to spur growth more similar to what Michigan has experienced.

If Ontario policymakers seek to generate a comparable boost to their overall economy, labour market and manufacturing sector, they should carefully study Michigan's reform experience and determine which policies could be similarly helpful here. In particular, they should strongly consider adopting a Canadian analog of US right-to-work legislation to give workers more flexibility to contract with employers without going through unions. Furthermore, given the severity of the fiscal problems facing Ontario, provincial policymakers should move quickly to reform and reduce provincial spending to quickly halt the string of deficits and begin to reduce the province's daunting debt load.

Finally, Ontario should carefully study Michigan's positive experience with tax reform, and look for opportunities to make its own tax code simpler, flatter, and lighter to spur economic growth, make it easier for businesses to succeed, and put more money in the pockets of provincial taxpayers.

Former Statistics Canada Chief Economist Philip Cross has memorably stated that Ontario has become "no longer a place to prosper." This

comparison with the American state of Michigan further demonstrates that this condition is not inevitable, and that even steep economic downturns such as that experienced in Michigan early this century can be reversed. Michigan's economic revival shows the power of policy reform to help jump-start even seemingly moribund economies. If Ontario wishes to break out of its prolonged slump and resume its historical place as the economic engine of Canada, it should study Michigan's example and embark upon a similarly ambitious pro-growth policy reform agenda.

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