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# Wisconsin's Economy: A Comparative Study

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By Andrew Hanson



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## Summary

Nationally, Wisconsin ranks as the 29th most productive state (including the District of Columbia) as measured by gross domestic product per capita and the second lowest among seven Midwestern states (only Michigan is lower). This is a marked change from 2011, when Wisconsin was the fourth most productive Midwestern state per capita. Dane County and Waukesha County are the most productive counties in the state; Milwaukee County is the ninth most productive on a per capita basis.

Wisconsin experienced large inflows of taxpayers and income throughout the decade from other Midwestern states, especially from Illinois and more recently from Minnesota. For the 2011-2020 period, residents moving into Wisconsin from other Midwestern states brought \$2.7 billion in income.

Wisconsin has a low unemployment rate and a high employment to population rate relative to other Midwestern states. The employment to population rate has shown relative improvement and is currently close to the Midwest's leaders, Minnesota and Iowa. Wisconsin is in the middle of the pack among the Midwestern states in business establishment growth.

## Introduction

As we move through 2022, the national economy is in what might best be described as a strange state. With two consecutive quarters of negative gross domestic product growth, many would say we have entered a mild recession. Inflation continues to erode earnings at a rate not seen in 40 years. However, the labor market remains strong, with payroll and unemployment at pre-pandemic or better levels.

As policymakers and the business community continue to struggle with the best course

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forward, now is an opportune time for a closer look at where Wisconsin's economy has been, where it is and where it may be headed. Understanding the economy at the more local level may illuminate a way forward for the Badger State regardless of the national situation.

To that end, this report will examine how the Wisconsin economy has fared over the past decade on several key measures: gross domestic product, population and migration, employment and business activity. Each of these measures offers a unique way to view the state's economy. Taken in isolation, each measure is revealing but incomplete. Taken together, these measures paint a more complex, nuanced picture of Wisconsin's economy and the prospects for future growth.

Of course, any local economy does not exist in a vacuum — Wisconsin's economy is integrated with other states and other nations. To examine both how the state's economy compares and how it competes, this report puts Wisconsin in a national context and compares the fortunes of Wisconsinites with people in other Midwestern states: Illinois, Indiana, Iowa, Michigan, Minnesota and Ohio.

### Measures

#### ***Gross Domestic Product***

Gross domestic product (GDP) is the go-to, top-line statistic to measure the health of an economy. It measures the market value of all goods and services produced within an area in a given period. To offer a proper comparison through time, and across states, there are two changes to GDP that are appropriate.

First is measuring GDP in real terms to account for price changes over time. If we want a measure that correctly accounts for changes in productivity, this should be independent of price changes and focused on actual output. For this reason, GDP is shown as a “chained” value here — that is, holding price levels constant in 2012 dollars, so that it reveals how productivity changes independent of price changes.

Second, because areas have various levels of economic activity (and their population changes over time), I measure GDP on a per capita basis. This allows for a measure of productivity that is comparable across states. I use data on GDP from the Federal Bureau of Economic Analysis Regional Economic Accounts to consider how Wisconsin and its peers have evolved.

**Wisconsin started the decade as the 28th best state in GDP per capita (2011) and ended 2021 ranked 29th, showing both a low level of production relative to other states and little relative growth.**<sup>1</sup> The middle part of the decade showed relative promise as Wisconsin moved up to 26th, but that momentum was reversed later, especially with a smaller bounce-back since lifting COVID-19 restrictions.

The Badger State is no outlier in relative productivity changes throughout the decade. The states with the largest improvements in ranking between 2011 and 2021 were Utah (33 to 23), Oregon (35 to 25) and Georgia (34 to 26). The states with the largest declines in rank-

ing were Louisiana (20 to 34), Vermont (30 to 41) and Hawaii (21 to 30).

Comparing Wisconsin’s economy to all other states offers a view of how the state stands nationally. But given the vast differences in natural resources, levels of human capital, infrastructure, tourism potential and geography that may drive both level differences and changes in relative productivity, a fairer comparison would be to see how Wisconsin measures against other Midwestern states: Illinois, Indiana, Iowa, Michigan, Minnesota and Ohio.

Figure 1 shows GDP per capita for Midwestern states between 2011 and 2021. Wisconsin’s economy produced \$47,813 per person in 2011 — making it the fourth most productive economy in the Midwest. By the end of the period in 2021, per capita productivity increased to \$51,355 per person in Wisconsin, but despite growth, the relative position of Wisconsin fell to sixth among Midwestern states.

Figure 1

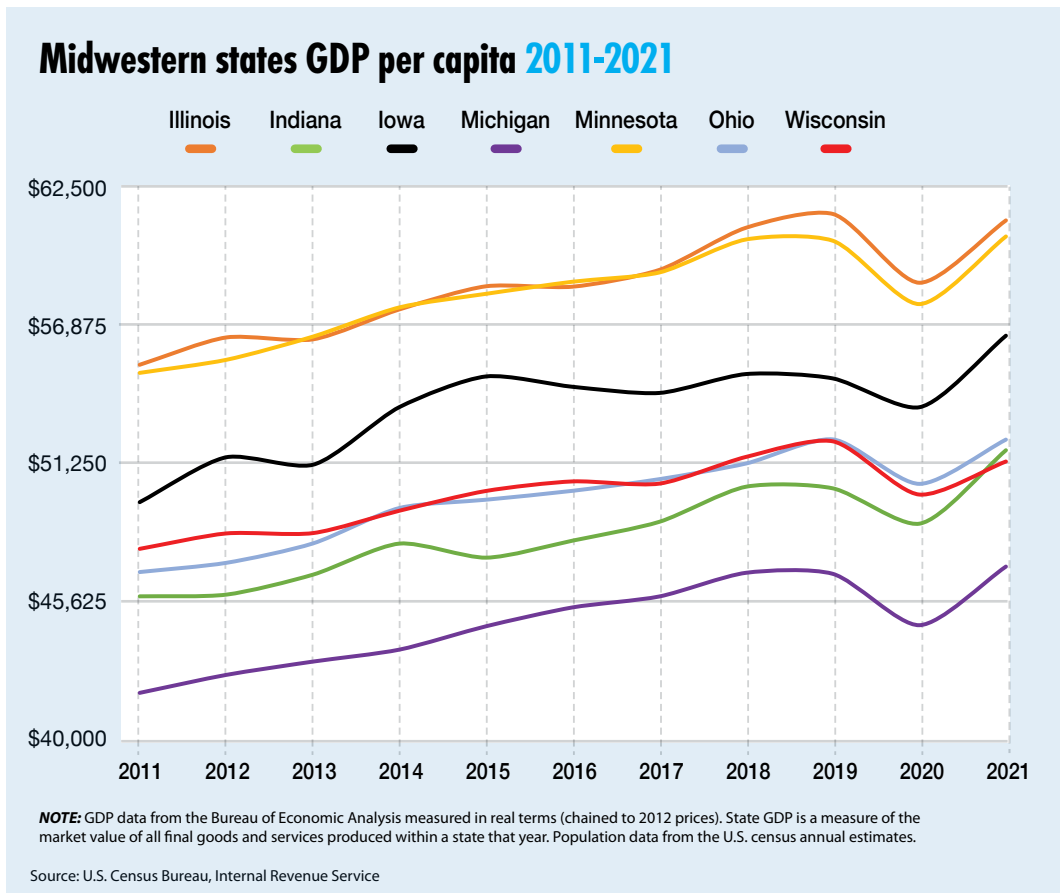


Figure 1 demonstrates several other noteworthy facts about GDP in Wisconsin relative to its Midwestern peers. Both Illinois and Minnesota start the decade with substantially higher GDP per capita than Wisconsin, approximately \$7,250 more per person, and this

difference grows to about \$9,500 per person by the end of the decade. Iowa starts the decade with a modest \$1,900 per person GDP advantage over Wisconsin, but this grows to \$5,100 by the end of the decade. These trends are troubling considering what these states have in common in terms of geographic location, natural resources, culture and the like.

**Perhaps more troubling, and instructive for Wisconsin's competitiveness, is how Wisconsin has fared throughout the decade relative to Ohio and Indiana.** In 2011, Wisconsin posts a small GDP per person advantage over both Ohio (about \$1,000 per person) and Indiana (about \$2,000 per person). By the end of 2021, both Ohio (about \$900 per person) and Indiana (about \$500 per person) have more productive economies than Wisconsin. In fact, Wisconsin is the only Midwestern state to be passed by one of its peers during the period.

As Figure 1 also demonstrates, Ohio and Wisconsin have diverged only since the start of the pandemic, with Ohio showing a smaller decline in productivity in 2020 and a faster recovery in 2021. A similar pattern is true of Indiana. The Hoosier State did not experience as big a fall in productivity during the pandemic but still had a larger leap forward during the recovery than the Badger State.<sup>2</sup>

Across Wisconsin, GDP per capita at the county level varies widely. Table 1 shows the 10 most productive counties in Wisconsin for 2020 (the most recent county-level data available). Dane County consistently ranks as the most productive county in the state on a per capita basis, producing about \$70,800 per person in 2020.<sup>3</sup> If Dane County were its own state, it would rank among the highest per capita producing areas in the country, but even Dane County's GDP fell between 2019 and 2020. The next most productive county, Waukesha, has a GDP per capita of about \$66,800, much higher than the state as a whole. If Waukesha were its own state, it would be the eighth most productive economy in the country on a per capita basis.<sup>4</sup>

All of Wisconsin's 10 most productive counties raise state-level GDP per capita, despite being more populous, as the least productive counties in the state have less than half of the productivity level of even Sheboygan County. This is not merely a function of population, as there are several more populous counties that have low productivity per capita despite a relatively high overall level of productivity.

Among the less productive counties, Racine and Kenosha stand out. Racine County produced more than \$7 billion in 2020, ranking it the eighth most productive in terms of total output, but on a per capita basis that only amounts to \$35,800, ranking it 48th

Table 1

<b>Gross domestic product of Wisconsin counties</b> (Top 10)	
County	2020 GDP per capita
<b>Dane</b>	\$70,814
<b>Waukesha</b>	\$66,789
<b>Brown</b>	\$60,088
<b>Outagamie</b>	\$59,419
<b>Marathon</b>	\$56,330
<b>La Crosse</b>	\$54,431
<b>Winnebago</b>	\$54,167
<b>Eau Claire</b>	\$53,685
<b>Milwaukee</b>	\$53,262
<b>Sheboygan</b>	\$53,183

**NOTE:** GDP per capita calculated using county-level GDP in chained 2012 dollars from the U.S. Bureau of Economic Analysis combined with county population data from the U.S. census.

Source: U.S. Census Bureau, Internal Revenue Service

among Wisconsin's 72 counties. Kenosha County presents a similar case: It produced \$6.3 billion in 2020, ranking it the 11th most productive in terms of total output, but on a per capita basis that amounts to \$37,600, ranking it only the 38th most productive county in Wisconsin.

**Despite some bright spots in the form of highly productive counties, measuring Wisconsin's economy through GDP per capita largely shows a disappointing performance over the past decade, especially relative to other Midwestern states.** Although GDP is *the* measure, it is not the only way to think about Wisconsin's economy. There are a few major considerations that looking at GDP in isolation leaves out. First among them is that GDP is not a measure of overall well-being. GDP does not account for the majority of home production — things like in-home childcare and the value added of Grandma's chicken soup recipe. GDP does not account for external effects of production on the environment or human health. Finally, GDP is an overall measure and does not consider the distribution of productive capacity or income across individuals, or how job availability and security may be changing.

**If Dane County were its own state, it would rank among the highest per capita producing areas in the country, but even Dane County's GDP fell between 2019 and 2020.**

There may not be a neat summary statistic to help determine the value of Grandma's chicken soup recipe, but there are a few other ways of thinking about the Wisconsin economy that go beyond economic production.

### ***Population, Migration and Income***

As part of a broader view of Wisconsin's economy, examining migration patterns to and from the state is important. GDP measures productive capacity per person, but what if Wisconsin is gaining or losing population with its Midwestern peers? Sharp losses to peer states likely would be an indicator of economic troubles. Migration flows between states also point to areas that are becoming more or less attractive when considering the entire bundle of what a state has to offer its residents — this includes how the state balances between amenities, house prices, the public sector and other factors.

To examine state-to-state migration patterns, I use Internal Revenue Service (IRS) migration data. The IRS data has a few advantages over Census Bureau data when measuring migration. First, it is based on the full sample of tax returns filed with the agency and is not a survey-based sample like annual census estimates. Second, the IRS data comes from tax returns, making it likely that it is accurate, given the penalties that exist for providing misleading information. Third, the data can track the movement of income between states.

The IRS data does have a few disadvantages: Rather than counting people, it counts tax filers and their "exemptions." Exemptions are most commonly dependent children who live in the same household as the filer, so this is close to a population estimate. Because the IRS data is tax-return based, it is also notoriously slow to be compiled. Estimates for 2020 have only recently been released.

Still, census population totals can offer some perspective. Between 2010 and 2021, Wisconsin's total population grew from 5.68 million to 5.89 million, an increase of about 3.6%. Among the seven Midwestern comparison states, this ranks as the fourth largest increase, ahead of Ohio (2.1%), Michigan (1.7%) and Illinois, which is the only Midwestern state to lose population during the period (down 1.2%). The largest population increase during the period was in Minnesota (7.6%), followed by Indiana (4.9%) and Iowa (4.8%). In terms of total population changes among Midwestern states, Wisconsin is quite solidly in the middle.

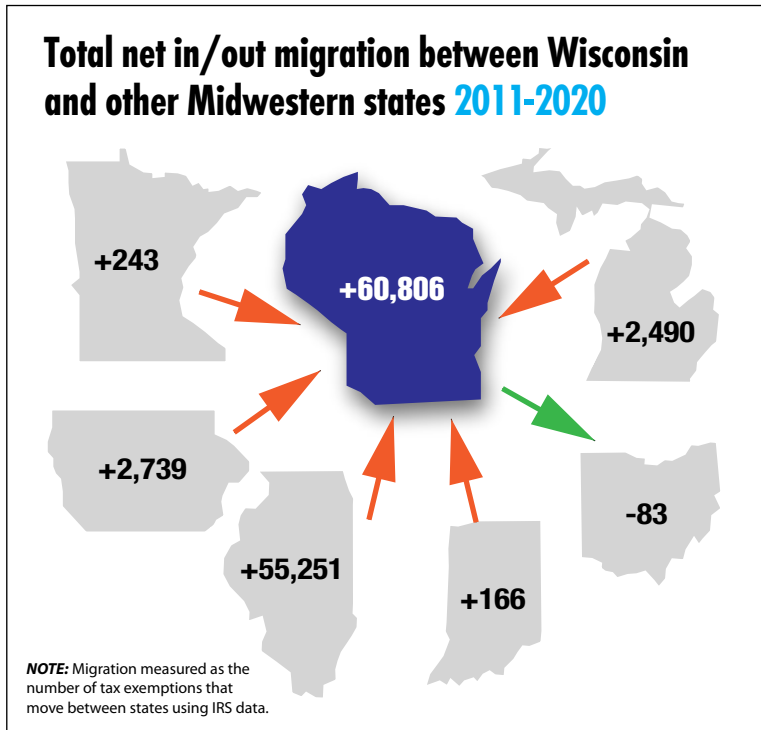
However, the IRS migration data offers reason to believe that Wisconsin is becoming a relatively more attractive destination for movers between these states. Over the entire 2011-2020 period, Wisconsin has positive net migration from all Midwestern states except Ohio, and even the Buckeye State took only 83 tax migrants from the Badger State on net for the entire decade. Counting across the decade, Wisconsin netted small inflows from both Indiana (+166) and Minnesota (+243), with more substantial net gains from Michigan (+2,490) and Iowa (+2,739). Most notably, there was an enormous net inflow to Wisconsin from Illinois of 55,251 over the period.

The positive net migration of taxpayers and their exemptions (which can be read as families) paints a more positive picture of Wisconsin's economic prospects than the GDP data indicated. The migration data suggests that among its Midwestern peers across the past decade, taxpayers are choosing Wisconsin. Further examination of the IRS

data is also encouraging for the Badger State, as shown in Figure 3, which plots the annual flow of net migration between Wisconsin and its Midwestern peers.

There are a few notable trends in Figure 3. First, the sheer scale of annual net inflows to Wisconsin from Illinois dwarfs nearly everything else. On average, there are about 6,100 net annual migrants into Wisconsin from the Land of Lincoln, with peak net migration occurring between 2016 and 2017 at 10,685. The second notable trend is the reversal in

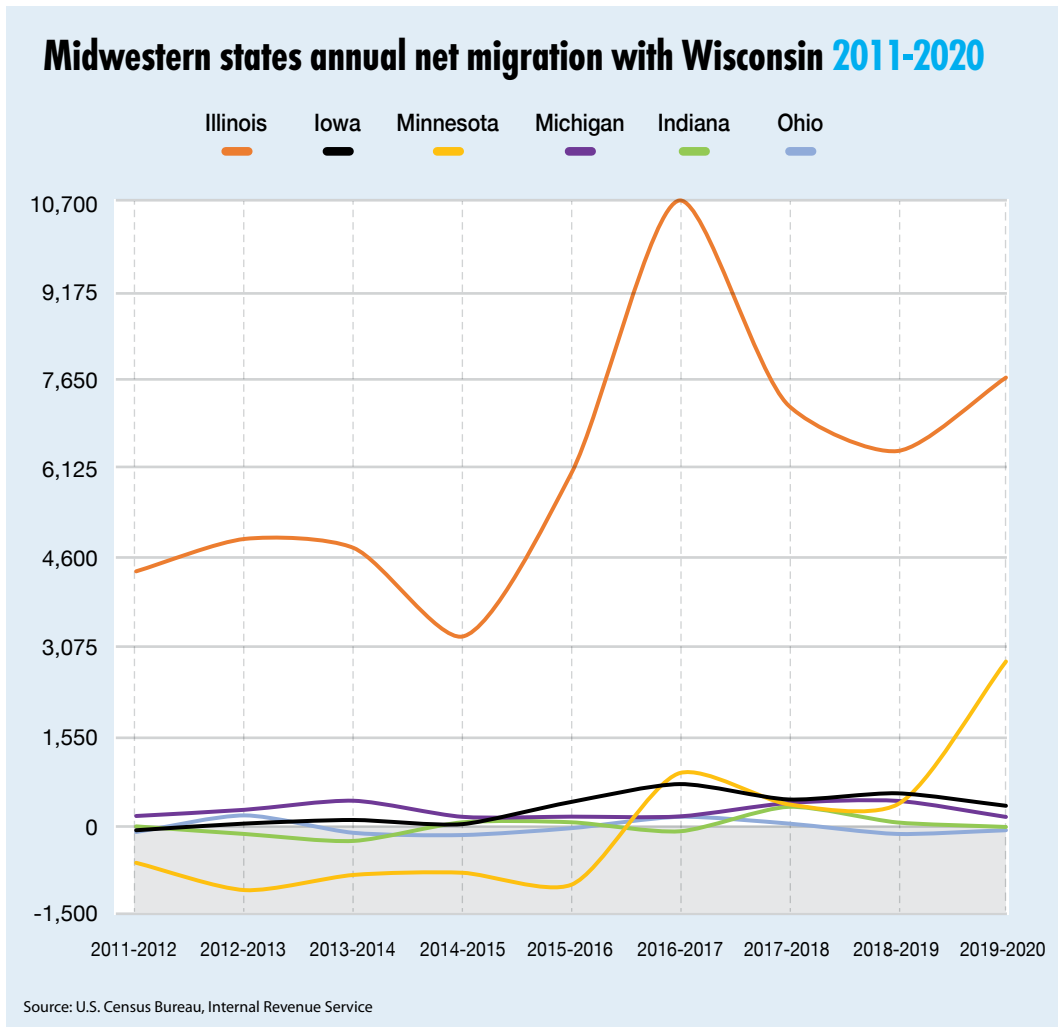
Figure 2



Source: U.S. Census Bureau, Internal Revenue Service



Figure 3



net migration between Minnesota and Wisconsin. For most of the past decade, Wisconsin lost taxpayers to Minnesota — an average year saw a net 854 going to the Gopher State. This trend reversed starting in 2016 to 2017 and has gained substantial momentum — between 2019 and 2020, Wisconsin netted 2,822 migrants from Minnesota. While annual net migration between Wisconsin and other Midwestern states is generally small and favors Wisconsin, it is worth watching that increases in net migration from Iowa, Michigan and especially Indiana have slowed in recent years.

Besides an accurate annual accounting of migration between states, the IRS data shows how income is moving between states. The IRS data comes in the form of adjusted gross income (AGI) and includes all wages, business income, retirement income, dividends and capital gains.<sup>5</sup> Between 2011 and the end of 2020, net AGI migration into Wisconsin totaled over \$2.7 billion from the Midwestern states. This figure is largely driven by massive

net gains from Illinois — a total of \$2.4 billion in AGI moving from the Land of Lincoln into the Badger State. There were smaller net gains throughout the decade from Minnesota (\$301 million), Iowa (\$125 million) and Indiana (\$20 million), while Wisconsin sent AGI to Michigan (\$54 million) and Ohio (\$9 million) throughout the decade.

As with the tax filer migration, looking at the decade's totals masks some important trends that the annual data reveals in Figure 5. The dominant trend with income migration is the

massive flow of net annual incomes into Wisconsin from Illinois. On net, Illinois averages sending over \$264 million annually into Wisconsin, with a low of \$136 million and a high of \$519 million. Encouragingly for Wisconsin, the most recent data reports the highest net annual income migration from Illinois.

The data also shows an encouraging trend with net income migration from Minnesota: For many years, this was a small flow, or even a net outflow from Wisconsin, but recently it shows a

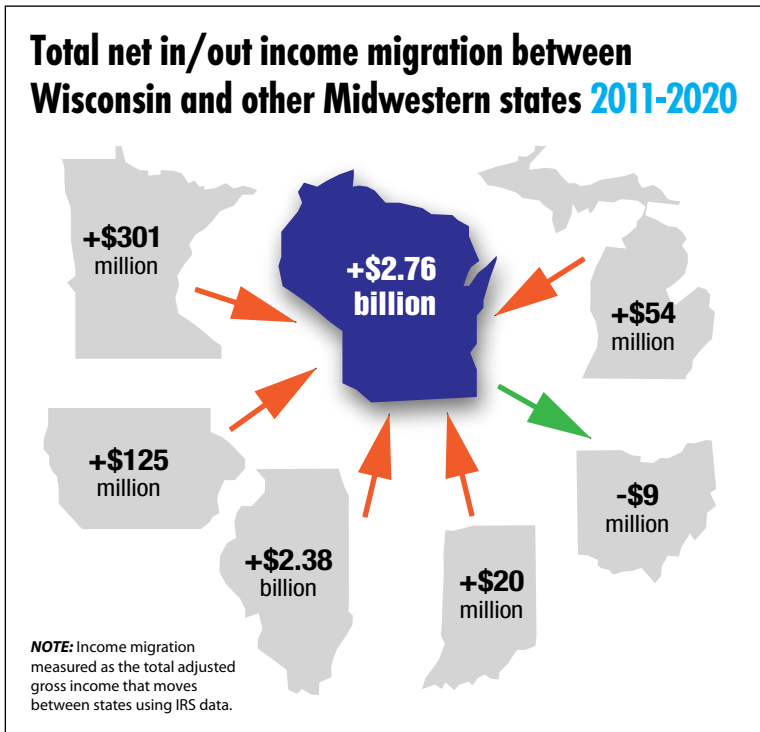
large flow of net income into Wisconsin, topping \$164 million annually between 2019 and 2020. Most other Midwestern states have a relatively small net positive inflow of income into Wisconsin, with the primary exception being a few years from Michigan that have since reversed trend.

Migration of tax filers and income into Wisconsin from Midwestern states shows a positive picture for the Badger State. This is true for the past decade as a whole and also for noticeable recent changes in the trend with both Illinois and Minnesota. These positive trends run counter to the trends in GDP, especially since 2019. To dig deeper into Wisconsin's economy, it is necessary to look at what the data says about employment and where employers — businesses — are locating.

### ***Employment and Business Establishments***

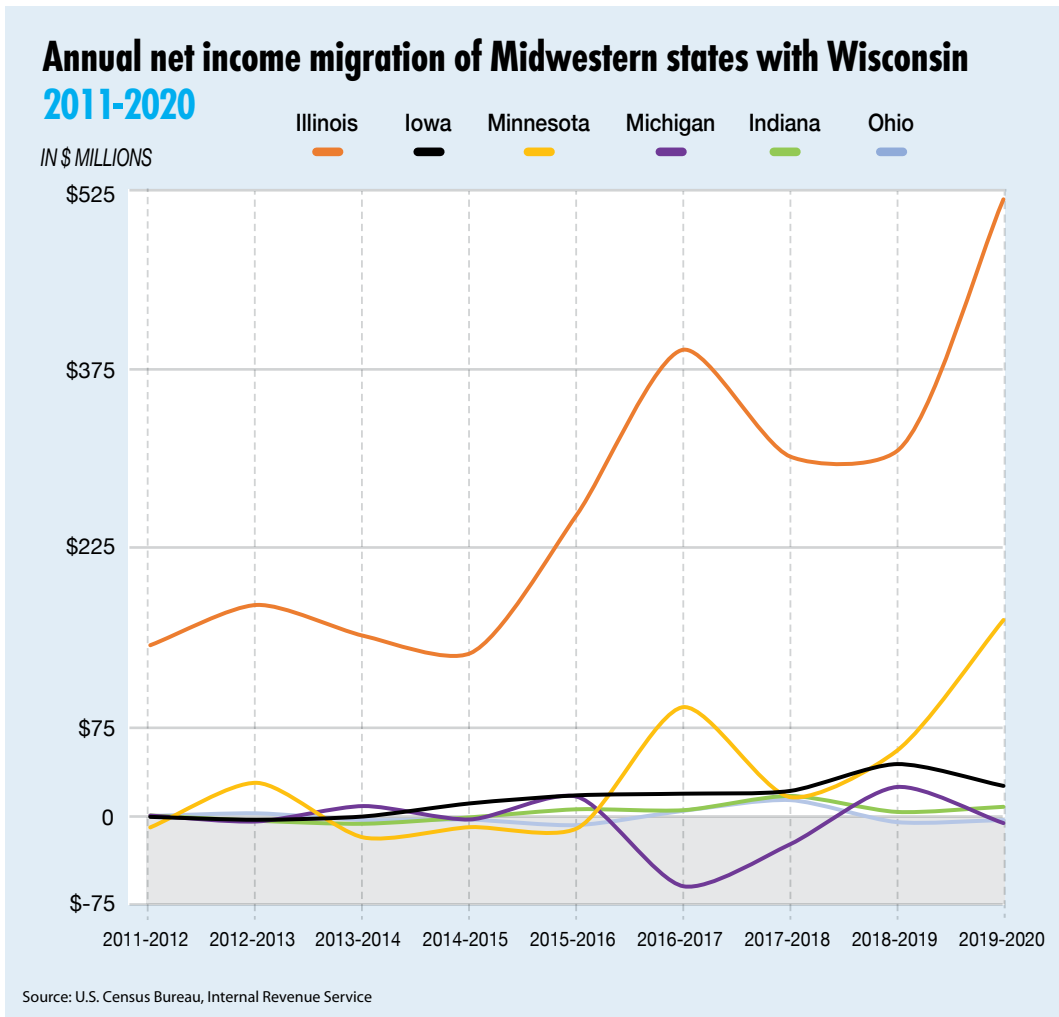
Employment and business location data will help round out the picture of Wisconsin's

Figure 4



Source: U.S. Census Bureau, Internal Revenue Service

Figure 5



economy over the past decade. Wisconsin has major net inflows of taxpayers from Illinois, and numbers from Minnesota have been on the rise recently. While migration depicts something positive about Wisconsin, it is unclear how that relates to the productive capacity in the state. These migrations could be retirees. They could be residents who continue to work in another state or could represent owners of second homes looking to avoid another state's taxes. Examining employment and business establishment location will help clarify what economic activity is taking place in Wisconsin.

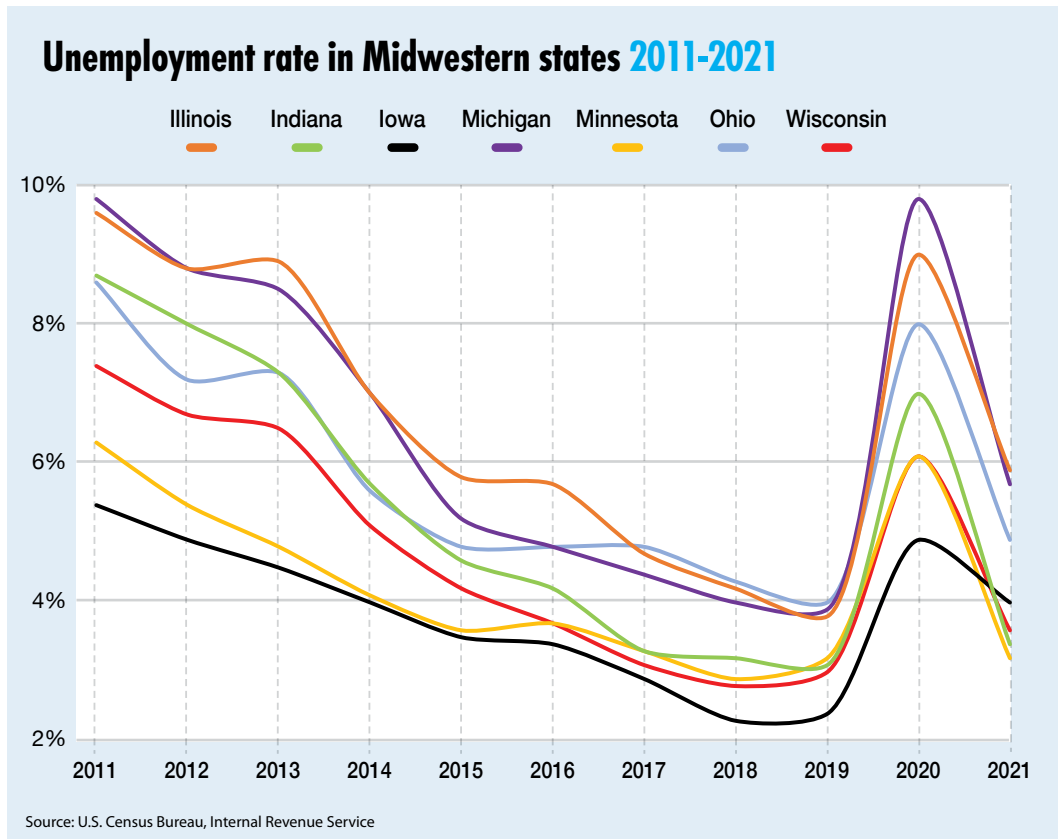
The unemployment rate is the most talked about statistic when discussing the health of a labor market, and for good reason: A high unemployment rate is a sign of serious dysfunction. The unemployment rate is the percentage of people in the labor force who are actively looking for work, while the labor force is defined as those 16 or older who are working or looking for work. For the last full year, 2021, Wisconsin had an unemployment rate of 3.8%, with the monthly numbers for 2022 even better, ranging from 2.8% to 3%.

Both numbers are lower than national rates and compare well with other Midwestern states. Only Indiana (3.6%) and Minnesota (3.4%) had lower unemployment rates in 2021, and both states continue to have remarkably low unemployment rates (Indiana at 2.6% in July, Minnesota at 1.8% in July). Illinois (6.1%), Michigan (5.9%), Ohio (5.1%) and Iowa (4.2%) all had higher rates of unemployment than Wisconsin in 2021, and all except Iowa continue to have higher rates than Wisconsin for the monthly data released in 2022.

One trend worth keeping an eye on is that between 2016 and 2019, Wisconsin had the second lowest unemployment rate among Midwestern states — only Iowa maintained a lower unemployment rate. This changed during pandemic restrictions as the unemployment rate in Wisconsin peaked, and it was slightly higher in 2021 than it was in both Indiana and Minnesota. Notably, unemployment in Iowa peaked at a lower rate than in Wisconsin and did not fall as much in 2021 as a result (although the monthly 2022 unemployment rates in Iowa have fallen lower than in Wisconsin). The worry for Wisconsin's competitiveness seems to be that, again, Indiana is passing us on important economic indicators.

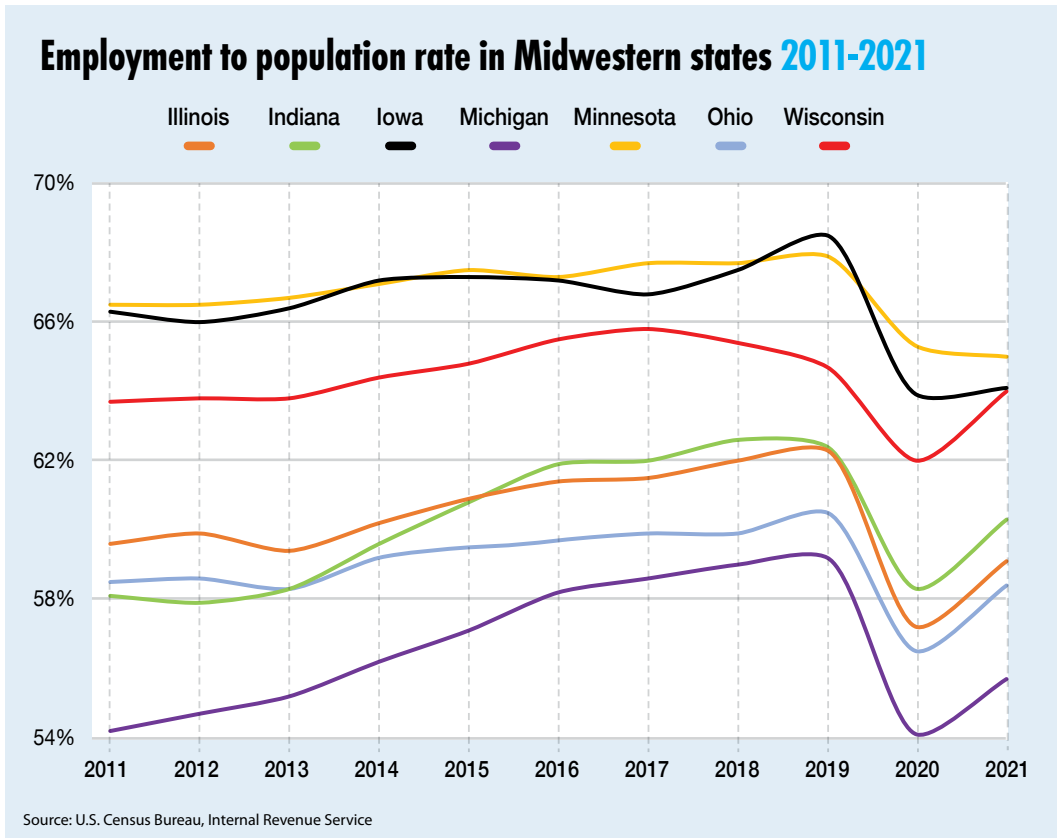
There are at least two concerns with examining the unemployment rate and extrapolating to the entire labor market. First, the unemployment rate does not account for those who

Figure 6



have left the labor force, either voluntarily or otherwise. Second, the unemployment rate is not useful for thinking about what level of support for society falls on workers relative to the population. To get a broader view of the health of the labor market, we can examine the employment to population ratio, defined as the percentage of the population that is currently working.<sup>6</sup>

Figure 7



Wisconsin's employment to population rate compares quite favorably with Midwestern peers, both in trend and in level. Currently, Wisconsin has a 64% employment to population rate, just one-tenth of a percentage point below Iowa and only a percentage point behind Minnesota. This represents relative improvement from the beginning of the 2011-2021 period, when Wisconsin was nearly three percentage points behind both Minnesota and Iowa. Throughout the past decade, Wisconsin has had an employment to population rate far above other Midwestern states — in most years, at least three percentage points higher than the next closest state. Unlike state GDP, the employment to population rate in Wisconsin suggests a faster bounce-back from COVID-19 lockdown restrictions, as Wisconsin now has a rate much closer to Iowa and Minnesota than it did in 2019.

In 2020, Wisconsin had roughly 141,000 business establishments.<sup>7</sup> Headlines often go to new, large-scale employers such as Foxconn and Haribo, but almost exactly half of business establishments in the state have fewer than five employees, while another 27,000 have

fewer than 10 employees. These businesses provide Wisconsinites with jobs and are the backbone of the state's productive capacity. Having a large number of employers, as opposed to a concentration of employment among a few, also insulates workers from company-specific challenges, as they can more easily switch jobs. Table 2 shows the change in the number of business establishments for Wisconsin and other Midwestern states between 2012 and 2020.

The number of business establishments in Wisconsin increased by 3,281 during the period, which represents a 2.38% change. This change places Wisconsin squarely in the middle of other Midwestern states — above Illinois, Michigan and Ohio but below Minnesota, Indiana and Iowa. Annually, the flow of business establishments is quite noisy, with the 2015-2017 period representing the largest gains to Wisconsin and the 2018-2020

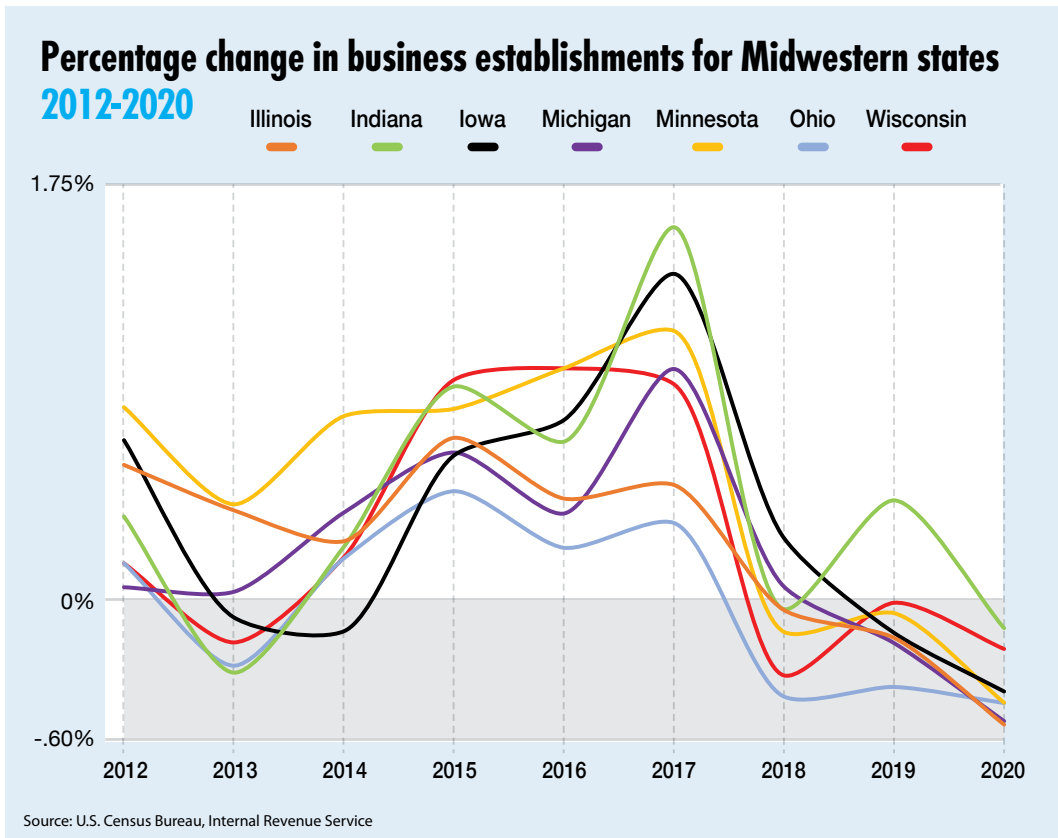
Table 2

	Change in number of businesses	Percentage change
<b>Minnesota</b>	6213	4.30%
<b>Indiana</b>	5245	3.66%
<b>Iowa</b>	2327	2.90%
<b>Wisconsin</b>	3281	2.38%
<b>Illinois</b>	6252	2.00%
<b>Michigan</b>	3716	1.71%
<b>Ohio</b>	-619	-0.25%

NOTE: Business establishment totals from Census County Business Patterns data annual release and aggregated for 2012-2020.

Source: U.S. Census Bureau, Internal Revenue Service

Figure 8



period representing the largest losses (on a percentage basis from the previous year).

Figure 8 shows the annual percentage change in business establishments for Wisconsin compared to other Midwestern states. Although there are some differences between Wisconsin and the group, for the most part these states follow a similar pattern: peak increases occurring in 2017, followed by declines in 2018-2020. The exception is Indiana, which shows a relatively large boom in business establishments in 2019. It is also notable that Ohio and Illinois peak much lower than other states.

### Final Thoughts

While Wisconsin's economy shows some worrisome signs in top-line economic output, there are several positive trends to point to throughout the past decade, especially in comparison to other Midwestern states. Notably, Wisconsin has a fairly large net migration from other Midwestern states both in people and in income — this is especially true from Illinois and to a growing extent from Minnesota. The employment picture in Wisconsin is also strong, and the number of businesses is growing in line with comparison areas.

Still, Wisconsin's economy clearly has room for growth, as evidenced by the middling national ranking of its economic output, which raises the question: What can be done to promote economic growth in Wisconsin?

Rather than highlight a specific policy proposal that often can come with the baggage of politically charged rhetoric, a few principles can be used to guide Wisconsin's economy through the next decade. Pro-growth policy should focus on at least one of the following:

- Allowing resources to be allocated more efficiently. Generally, this means moving resources into the hands of the private sector and removing barriers to private enterprise.
- Making smart investments in infrastructure, institutions and technology that promote productivity of existing capital and labor or incentivize the improvement or invention of these technologies.
- Attracting more productive capital and labor to the state, especially capital and labor that will improve productivity of the existing capital and labor base.

Of course, the benefits of policies that work toward growing Wisconsin's economy should be weighed against any current or future costs they impose on the state's citizens, be these monetary, social, environmental or otherwise.



## Badger Institute takeaways

Wisconsin's economy is mediocre in productivity nationally and the second lowest out of seven Midwestern states. We are attracting taxpayers from neighboring states, especially Illinois.

The Badger State performs well on the share of the population that holds a job but is in the middle of the pack among Midwestern states for business formation. Wisconsin should favor policies that:

- Put resources in private-sector hands rather than the government and that reduce barriers to private enterprise.
- Promote productivity of existing capital and labor.
- Attract more productive capital and labor to our state.

## About the Author



**Andrew Hanson**, a Badger Institute visiting fellow, is an associate professor in the Real Estate Department at the University of Illinois at Chicago. Before joining the UIC faculty, he was an associate professor at Marquette University in Milwaukee and an assistant professor at Georgia State University in Atlanta. From 2005 to 2006, Hanson served as a staff economist for the President's Council of Economic Advisers in Washington, D.C. His primary fields of interest are public finance and urban economics.

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## Endnotes

<sup>1</sup> This ranking includes the District of Columbia, which ranks higher than Wisconsin in both 2011 and 2021.

<sup>2</sup> GDP statistics for the 2017-2021 period are still subject to revision by the Bureau of Economic Analysis, so these numbers may change. They are, however, currently the most accurate data available. It is also worth noting that quarter 1 of 2022 GDP released at the end of June 2022 shows declining GDP for all Midwestern states besides Michigan. It also shows that Wisconsin experienced the smallest decline among the other Midwestern states with an annual rate decline of just 0.2%, while Ohio declined at an annual rate of 1.8% and Indiana at an annual rate of 1.6%. This report uses annual data because it is less likely to be subject to a major revision than the more recent quarterly data.

<sup>3</sup> Milwaukee County has the highest overall level of GDP, producing about \$50 billion in 2020, compared to Dane County producing about \$40 billion in 2020. Of course, Milwaukee County has a much higher population than Dane, so on a per capita basis, Dane is more productive.

<sup>4</sup> The top GDP per capita states in 2020 are Washington, D.C. (about \$182,000 per person), Massachusetts (about \$71,000 per person), New York (about \$70,000 per person), North Dakota (about \$70,000 per person) and Washington (about \$68,000 per person). North Dakota falls out of the top five in 2021, replaced by California.

<sup>5</sup> AGI subtracts a few deductions from these income sources, notably alimony payments and interest paid on a qualified student loan.

<sup>6</sup> Here the population is the civilian non-institutional population that is 16 or older. It does not include active-duty military, prisoners or those in residential care facilities.

<sup>7</sup> A business establishment, counted by the U.S. census, is defined as "a single physical location at which business is conducted or where services or industrial operations are performed." To be counted, the business establishment must also have a payroll.