BADGER INSTITUTE
VOLUME 31 NUMBER 1, AUGUST 2018

A BADGER INSTITUTE REPORT

WISCONSIN: A BLUEPRINT FOR MORE WORKERS

AN OVERVIEW OF LABOR FORCE PARTICIPATION

By Ike Brannon and Andrew Hanson
Badger Institute Visiting Fellows

President's Note

A broad array of vexing problems faced by all levels of government, Badger State businesses and even individual Wisconsinites — not enough money, failure to reach our potential, a lack of dignity and purpose that leads to drug use or depression or even crime — can be solved with one thing: jobs.

And yet it's surprising, even in a white-hot economy with record-low unemployment, how many adults still don't work — over 30 percent.

Most of these people aren't slackers. Many worked hard their whole lives and are retired. Some are in school. Others are caring for children. But labor force participation is still a lot lower than it used to be and, good as things are, they would be a whole lot better and brighter if more people came off the sidelines and onto the field. Or into the factory. Or the retail store. Or the office.

We asked two of our Badger Institute Visiting Fellows, Ike Brannon and Andrew Hanson, to shed some light on why labor force participation in Wisconsin is both a lot higher than it is in most other states and a whole lot lower than it once was. You'll be surprised at the findings that challenge some long-held assumptions about who's working and who isn't, whether we're still suffering from "brain drain," where we should look when we put out those "help wanted" signs, and how policy changes can bring more people into the mix. Because help is wanted and the benefits of finding it are tremendous for all of us.

Brannon and Hanson found that increasing our labor force participation rate by just 1 percentage point would increase state GDP by a whopping $667 annually *per resident*. And that doesn't even count much of the direct economic benefit to the folks who would be taking the new jobs.

This paper lays out a path, albeit a general one, for increasing our labor force. We have to do more in this state to pull the disabled and the formerly incarcerated back into the workforce. We have to re-examine issues in places like Milwaukee. Once the state's economic engine, Milwaukee County now has a participation rate way below the state average. Some rural and northern counties do even worse, far worse. Opioid abuse remains an albatross. While Latinos and African-Americans have surprisingly high participation rates in comparison with whites, female participation rates are surprisingly low.

Very few Wisconsinites are wholly incapable of working. The benefits of pulling more people into the workforce, providing an opportunity they may not realize exists, both for them and the state as a whole, are enormous. Some of the challenges aren't so small either, but this paper proves they can be overcome.

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WISCONSIN: A BLUEPRINT FOR MORE WORKERS

An overview of labor force participation

BADGER INSTITUTE

The Badger Institute, formerly the Wisconsin Policy Research Institute, is a nonpartisan, not-for-profit institute established in 1987 working to engage and energize Wisconsinites and others in discussions and timely action on key public policy issues critical to the state's future, growth and prosperity. The institute is guided by a belief that competitive free markets, limited government, private initiative and personal responsibility are essential to our democratic way of life.

Executive Summary

- Wisconsin has a labor force participation rate (LFPR) of 69 percent, well above the national LFPR of 62.9 percent but substantially below its state peak of 74.5 percent in 1997. Wisconsin's LFPR places it second among Midwestern states, only lower than Minnesota, and substantially higher than Michigan (61.4), Ohio (62.9), Indiana (64), and Illinois (64.3). Still, summary statistics indicate substantial slack in the Wisconsin labor market, even though some pundits suggest the state may be nearing a labor shortage.

- Migration is a strength for Wisconsin relative to comparison states. Wisconsin has attracted a net inflow of migrants from other states in most years over the last decade, which only Indiana and Iowa can also report. There is a strong flow of migration from Illinois to Wisconsin, with Wisconsin netting about 18,000 residents from Illinois annually.

- The payoff to increasing the LFPR, or tightening some slack in the labor market, would be large. We estimate that a 1 percentage-point increase in the LFPR would result in a Gross State Product increase of $667 per state resident. These gains would occur in addition to the primary gains expected by individuals from being employed.

- The LFPR for Wisconsin women is substantially lower than for men, as there is a steady 10 percentage-point gender gap. Currently, both Latinos and African-Americans have a higher LFPR than white residents in Wisconsin, although these groups have higher levels of volatility in the LFPR going back in time. There is also a high degree of variability in the LFPR geographically around the state, with northern counties showing an appreciably smaller LFPR than counties around major metro areas and in the southern part of the state.

The Wisconsin economy appears to be white-hot at the moment, and its record-low unemployment rate of 2.8 percent (tied for fifth lowest in the country) has led many employers — and other observers — to declare that there is a shortage of available workers in the state and that we must do more to encourage in-migration if we want the state's economy to continue apace.

The labor force participation rate is:

- The Labor Force divided by the civilian, non-institutionalized population over the age of 16

The labor force includes:

- Employed people doing any work, including part-time work, for pay during the survey reference week
- People doing at least 15 hours of unpaid work in a family-operated enterprise
- People who were temporarily absent from their regular jobs because of illness, vacation, bad weather, or various personal reasons
- People who are not employed but are actively looking for work
- People who have been laid off temporarily but who expect to be called back

The labor force does not include:

- Anyone who is retired
- Students
- Those taking care of children or other family members
- Anyone 16 or under
- Anyone not working and also not seeking work or expecting to be called back to work

The civilian, non-institutionalized population over 16 includes everyone other than:

- Anyone in the military
- Anyone incarcerated
- Anyone in another type of institution, including psychiatric hospitals and some nursing homes and schools
- Anyone 16 or under

While an influx of new workers is — from our perspective — always welcome, we are not convinced that there are no more potential workers available in the state. And to buttress our argument we point to the fact that the state's labor force participation rate, which measures the proportion of noninstitutionalized adults who are actively in the labor force, sits at 69 percent — well below its peak of 74.5 percent in 1997.

This is also evidenced by the number of workers who do not make it into the widely reported unemployment rate but are discouraged or only working part-time jobs and would like full-time work. These workers, represented in what is called the U6 unemployment rate, are about as large a group as the currently reported unemployed.

Economists are not entirely sure why a sizable proportion of the population no longer engages in the formal labor market, but we have a few hypotheses. For instance, the last recession pre-emptively induced numerous people into a retirement of some sort, and this cohort has not been persuaded to return to the workforce. Another contributing factor is that the state's labor market demographics, in comparison with the past, leave us with a higher proportion of the working population in the age cohorts where labor market allegiance is lower. Other research has suggested that the steep decline in home construction, now going on its second decade, eliminated the jobs of thousands of construction workers, with no commensurate jobs appearing to replace them. And others have suggested that the opioid crisis has rendered a large number of people simply unfit to work.

Our goal is to provide a snapshot of the Wisconsin labor market, examine how it has changed since the Great Recession, explore the migration of workers in and out of the state, and compare the state's labor market with those of nearby states. We also take a look at some root causes of labor force participation changes and how they relate to what is going on in Wisconsin.

By doing so, we hope to shed some light on the present — and future — of the Wisconsin economy and the constraints it truly faces with regard to future economic growth.

Introduction: Is There Surplus Labor in Wisconsin?

While the unemployment rate is the primary labor market statistic referenced in the popular press, the labor force participation rate provides a slightly

Wisconsin Labor Force Population and Participation Rate : 2006-2017

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Wisconsin population (all numbers are in thousands)	5,818	5,618	5,675	5,688	5,696	5,694	5,704	5,717	5,733	5,753	5,776	5,783
Civilian, non-institutionalized over 16	4,325	4,359	4,389	4,416	4,440	4,465	4,486	4,511	4,534	4,554	4,571	4,590
Labor Force	3,057	3,082	3,094	3,099	3,082	3,089	3,078	3,092	3,091	3,089	3,126	3,168
LFP rate	70.68%	70.70%	70.49%	70.18%	69.41%	69.18%	68.61%	68.54%	68.17%	67.83%	68.39%	69.02%

different but equally useful perspective on the national — or local — economy. It essentially indicates how well the economy uses the labor potentially available. That is different from the unemployment rate: The flow of people out of the labor market during recessions and back into it during expansions dampens that statistic, making it ill-suited to provide the information that can be gleaned from the LFPR.

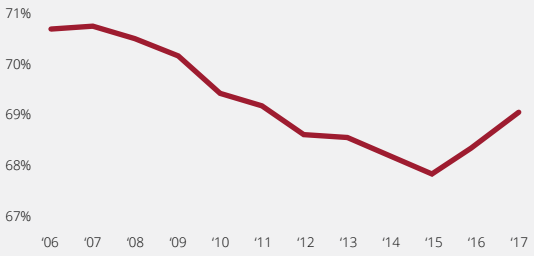
Put differently, the unemployment rate is more appropriate to gauge the relative performance of an economy across the business cycle, while the labor force participation rate sheds more light on the long-term potential growth.

Of late, that picture has not been particularly bright, either nationally or in Wisconsin. Labor force participation in the United States has been broadly declining since 2001. Some of this decline owes to demographic factors, most notably the aging of the baby boom generation and its workers' approaching retirement, when participation rates start to falter. The Great Recession exacerbated the decline, as a cohort of workers found it impossible to find a new job commensurate with their skills and appeared to have permanently dropped out of the labor market. The post-recession labor force participation rate in the U.S. has remained stuck at roughly 63 percent in the last five years, despite the growing economy and diminishing unemployment rate.

Wisconsin's labor force participation rate is currently about 6 percentage points higher than the national average but it too is well below its peak in the halcyon days of the late 1990s.

Many of Wisconsin's politicians and business leaders lament that the state is experiencing a labor shortage these days. With the unemployment rate

Figure 1: Wisconsin Labor Force Participation, 2006-2017



falling below 3 percent, many employers are having trouble filling job openings, and the expectation is that this phenomenon — last seen in the late 1990s and early 2000s — will worsen.[1]

However, a proportion of those who have dropped out of the labor force are still able to work, and a question central to the state's economy and future is whether some of these men and women can be persuaded to return to the workforce.

The Wisconsin Labor Force Particulars

The labor force participation rate in Wisconsin is currently 69 percent, which means that 69 percent of the noninstitutionalized, civilian population over age 16 is either working or searching for a job. Figure 1 shows that over the last decade, Wisconsin has seen a decline in labor force participation, which peaked at nearly 71 percent in 2006-2007 and declined for a decade until rebounding in the past two years.[2]

Wisconsin is not alone in the downward trend over the last decade, but it has rebounded more strongly than many comparable states. In fact, it has the second-highest labor force participation rate in the Midwest (behind only Minnesota), as evidenced in Figure 2. Wisconsin did not experience as steep of a decline in the last decade as other Midwestern

Figure 2: Labor Force Participation Rate, Midwestern States 2006-2017

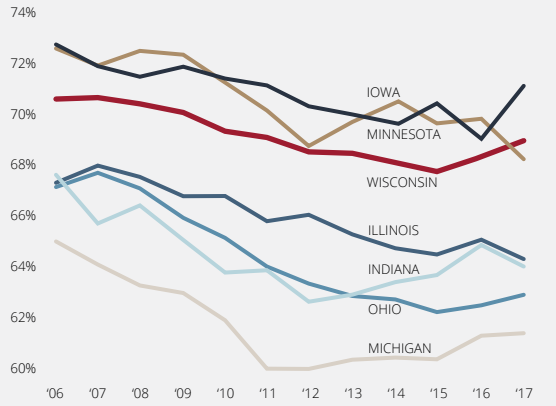
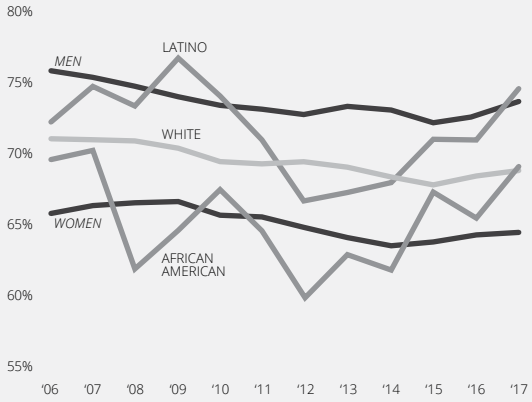


Figure 3: Wisconsin Labor Force Participation, Population Subgroups 2006-2017



states and has generally experienced less volatility in the labor force participation rate than other states. Its robust labor market growth, low unemployment rate and relatively high labor force participation rates suggest that Wisconsin has a relatively healthy economy but has some room for improvement.

A Closer Look at the Wisconsin Labor Force

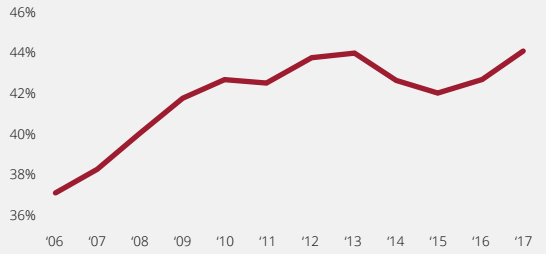
While the Wisconsin labor market — as evidenced by the labor force participation rate — appears to be in good shape, its health varies across the state's demographics. For starters, Wisconsin men have a labor force participation rate about 10 percentage points higher than women, shown in Figure 3. A substantial proportion of this difference owes to women choosing to exit the labor market for child-rearing activities (or at least reporting to do so), but that may not explain all of this gap.[3]

The state's labor force participation rate also varies across racial and ethnic groups. Currently, Latino residents have the highest LFPR at 74.4 after three years of very strong growth. African-Americans (68.9%) currently have a slightly higher LFPR than whites (68.7%). Both the Latino and African-American LFPR is quite volatile, bottoming out at very low rates in bad years but rebounding strongly in others.

The Great Recession appeared to have impacted the labor market status of minorities more than whites — both in Wisconsin and nationwide — with participation rates for the two groups falling further and recovering more slowly than for whites. Some modicum of that difference may be due to demographic differences: A greater proportion of Latinos and African-Americans are in the 16-24 age cohort, where labor force participation tends to be somewhat lower and more responsive to the business cycle.[4] The higher volatility of participation for minority groups suggests that labor market gains from any actions taken by the government to boost participation rates most likely would occur among minorities, and that any such actions should pay special attention to this cohort.

A group whose trend runs counter to the stable or declining labor force for most state residents is older workers. The labor force participation rate for residents older than 55 has grown rapidly over the last decade in Wisconsin, as shown

Figure 4: Wisconsin Labor Force Participation, Population 55-years-old and over, 2006-2017



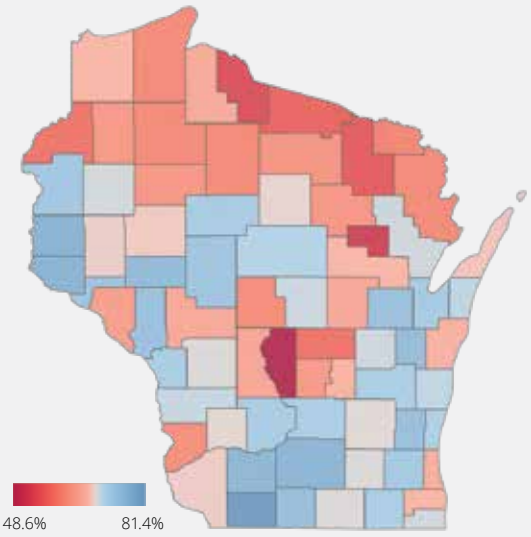
in Figure 4. The labor force participation rate for older residents was 37 percent in 2006 and then began to grow as the Great Recession took hold, peaking at 44 percent in 2013, before falling for two years and rebounding in the current data back to its peak.

With a greater proportion of the population entering the 55-and-over cohort, an increase in its participation rate is not entirely unexpected. This group is whiter and more male than other cohorts — two characteristics generally associated with higher labor force participation — but a demographic shift is unlikely to explain the substantial growth in recent years. Labor market decisions for this group are especially sensitive to housing and stock market fluctuations, as people near retirement and rely on these assets for future income security. The stock market and housing collapse boosted the participation rates for this cohort, but the more recent recovery of these markets should dampen future LFPR growth of this group as wealth levels recover.

Across the state's 72 counties, labor force participation rates diverge appreciably between the metropolitan and more rural areas, as well as between the northern region and the southeastern quadrant of the state, which is where most of the population resides.[5] Most notably, Milwaukee County has a labor force participation rate below the state average at 66.4 percent, while the state's other larger population centers — Dane (76.7 percent) and Brown (72.5 percent) — have participation rates higher than the state rate. The larger suburban counties in the Milwaukee area, namely Waukesha (72.8 percent), Washington (74.8 percent), and Ozaukee (71.5 percent) all have participation rates much higher than those in Milwaukee or the rest of the state, for that matter. The lowest labor force participation rates are in the northern, more rural areas of the state and in the Wisconsin Rapids area, with the lowest LFPR in Adams (48.6 percent), Menominee (52.5 percent), and Iron (54.1 percent) counties.

Figure 5: Labor Force Participation Rate, Wisconsin Counties 2016

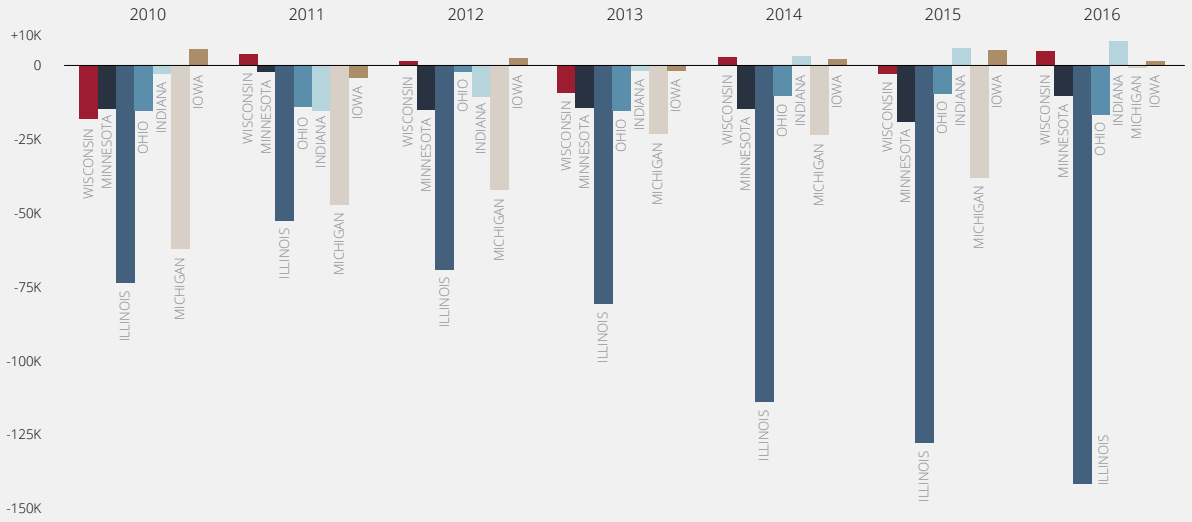
An interactive version of this map can be found at www.badgerinstitute.org



Could Wisconsin Benefit from Migration?

Some economic pundits suggest that migration is problematic for the state and that it tends to exacerbate any labor market shortages in the state.[6] However, the state's economy has evolved in this century: It is less dependent on manufacturing jobs, and the influx of skilled occupations has resulted in the

Figure 6: Net Migration, Midwestern States: 2010-2016



state's "brain drain" that we observed in the 1990s largely disappearing. That development, combined with the labor market slack suggested by the labor force participation rate, leads us to conclude that the concern about a broad, statewide labor shortage is somewhat overblown. In fact, Wisconsin has added more than 500,000 residents since the LFPR peaked in 1997, but the labor force participation rate is more than 5 percentage points lower, indicating there still is an abundance of state residents who could be brought into the labor force.

Wisconsin has historically experienced a modicum of net out-migration; a 2001 Badger Institute study found that the state's out-migration was especially high among college graduates with STEM degrees.[7] However, this phenomenon has lessened in recent years. For instance, as shown in Figure 6, in 2010 the state experienced a net loss of about 18,000 residents, or about 0.3 percent of its population, on par with the contemporaneous migration losses in Minnesota and Ohio and lower than the losses in Illinois (73,600, or 0.58 percent of its population) and Michigan (62,000, or 0.64 percent).

However, after 2010 Wisconsin's out-migration virtually ceased. The state experienced small net migration losses in 2013 (9,300) and 2015 (2,700), and in the other years Wisconsin experienced net in-migration ranging between 1,400 and 4,900 people. What's more, the state has fared far better than most other Midwestern states over that interval.

Not only is Wisconsin doing better on net than most other Midwestern states, it is actually attracting population from those states, especially Illinois. In 2016, the largest source of in-migration to Wisconsin was Illinois, with in-migration of 31,300. Wisconsin also received 18,000 migrants from Minnesota, and a similar number of foreign-born immigrants. Some states have near reciprocity with Wisconsin (e.g., Minnesota), but Illinois is by far a net loser, with Wisconsin, sending only about half as many people to the Land of Lincoln as it receives.

It is true that Wisconsin loses some portion of its elderly and near-elderly residents to warmer climes, but the magnitude of that flow isn't large compared with the exchange with Illinois — only 11,300 Wisconsin residents moved to Florida in 2016.

The Labor Force and the Wisconsin Economy

The perturbations in Wisconsin's labor force may presently only merit the attention of policymakers and economists, but the labor force participation rate is also intrinsically linked to the health of the overall economy. Participation in the labor force produces all sorts of salutary effects for a person — and his or her household — that go beyond increasing economic activity and income. Of course, people with a job pay taxes on that income, as well as on what they consume with that income — and that provides for schools, roads, parks and public safety, among other government services.

Having a job also helps people build human capital, which provides them with skills with which to build future careers. In other words, it not only creates more income and tax revenue today but also boosts growth in the economy of tomorrow.

There is also a body of research showing that people with gainful employment have better mental and physical health, and will use less assistance from the government.[8]

To quantify the general link between labor force participation and the overall economy, we created a simple empirical economic model that estimates the relationship between labor force participation and economic health, representing the latter via Gross State Product (GSP).[9] The model uses information across the 50 U.S. states between 2006 and 2017 — years with a wide variety in economic growth, which improves its predictive power — and controls for the factors that cause state economies to behave differently, as well as the factors that cause the U.S. economy to behave differently across time. We estimate the relationship between the LFPR and GSP, controlling for the primary effect of the number of workers employed. This is important because employed workers directly affect GSP by producing goods and services, and that productivity is important, but we do not want to double-count it when estimating the effect of the LFPR. We would like an estimate for how the LFPR affects the state economy for all residents over and above the direct effect of employment.

We find that for every 1 percentage-point increase in labor force participation, the state GSP rises by a whopping $667 annually *per resident*. This measures the added growth in the economy that goes beyond what we can directly attribute to the employment growth that occurs from the LFPR increases. In other words, all residents receive an increase in income when more people enter the labor market. The LFPR gains represent more general productivity gains that benefit all residents.

We find that the strong, positive relationship between labor force participation and GSP is statistically significant, which confirms the wide-ranging importance of labor force participation for the overall economy.

What Influences Labor Force Participation?

Wages and Wage-Related Policy

From our perspective it seems that Wisconsin, rather than dealing with a labor shortage, faces the task of trying to increase labor force participation among its residents. In a well-functioning market, this happens through upward pressure on wages. The average hourly wage for a worker in Wisconsin (which includes all private non-farm workers, including salaried employees) is $24.03, slightly lower than the $24.68 average across all states.[10] There appears to be room for the state's wag-

es to go up without it being deemed inflationary: For context, average wages are about the same in Michigan ($24.08), somewhat higher in Minnesota ($27.11) and Illinois ($26.57), and lower in Indiana ($23.52), Ohio ($23.40) and Iowa ($23.23).

Two major wage-related policies directly affect labor force participation. The first is the minimum wage, which increases labor supply by inducing more workers to look for work but reduces labor demand, thereby making it less attractive for firms to hire workers. The result of an effective minimum wage is to increase unemployment. Wisconsin conforms to the federal $7.25 per hour federal minimum, while surrounding states largely have higher minimum wages: Minnesota's is at $9.65, Michigan at $9.25, Ohio at $8.30 and Illinois at $8.25. (Iowa and Indiana also conform to the federal $7.25 rate).

All else equal, being situated near relatively high minimum-wage states probably benefits the Wisconsin economy, as some mobile employers looking for young or relatively untrained workers may choose Wisconsin over these areas. In previous research we published for the Badger Institute that extrapolated from a study by the Congressional Budget Office, we suggested that a higher minimum wage in Wisconsin would have significant negative employment effects on younger and low-skilled workers — especially outside of southeast Wisconsin.[11] Minnesota's recent increase of its minimum wage is having a similar impact on its workforce, with a portion of its newly unemployed workers turning to seek work in Wisconsin's border cities.[12]

The other major wage-related policy to discuss is the earned income tax credit (EITC), which the state and federal government administer as a tax credit for lower-wage workers. The tax credit effectively boosts take-home wages via a subsidy from the government, which serves to increase labor supply and labor demand, resulting in increased labor force participation and lower unemployment.

Wisconsin distributes its EITC as a percentage of the federal program, so that for every dollar of federal EITC, Wisconsin kicks in an extra $0.04 (for workers with one child), $0.11 (workers with two children) or $0.34 (workers with three or more children). Wisconsin's EITC differs from tax credits in surrounding states in that it depends on the number of children a worker has. Wisconsin's EITC is also less generous than those in surrounding states, except Ohio, for most workers with fewer than three children.[13]

Economists generally like the EITC, as it represents a way to boost the income of low-income workers without fundamentally altering either a firm's willingness to hire them or the worker's desire to find a job. In short, our labor force participation rate would likely be lower without the federal EITC and Wisconsin's supplement.

Demographic and Social Factors

Demographic and social factors naturally affect the labor market in ways that economic policy can do little to alter. For instance, labor economists are prone to suggest that the aging of the nation's workforce is a proximate cause for the shrinking labor force: with 22.8 percent of the labor force made up of workers 55 and older, the retirement of older workers will certainly shrink the labor force further. Wisconsin's percentage of workers older than 55 is just slightly above the national proportion at 23.4 percent.

Another national trend that appears to be affecting labor market participation is the use of opioids. Princeton economist Alan Krueger points out that about half of men not participating in the U.S. labor force take pain medication daily, and two-thirds of these are taking prescription pain medication.[14]

Krueger also finds that labor force participation has fallen more in states that have more opioid prescriptions. A 2017 report published by the Badger Institute explored the complex impact that the opioid crisis has had on the state's economy and the difficulties governments in Wisconsin and elsewhere have had in combating this problem.[15]

Unlike the aging workforce, this is an area where Wisconsin breaks from the national trend, and not in a favorable way. The Centers for Disease Control and Prevention reports that Wisconsin is one of 26 states that experienced a statistically significant increase in drug overdose deaths in recent years.[16] Given the association between opioid use and labor force participation, and Wisconsin's marked increase in opioid use, the state is wise to devote more resources to combat this problem.

The increase in opioid addiction not only deters addicts from entering or re-entering the labor market, but it also can provide a source of income that can be an alternative to standard labor market entry. For instance, a common ruse for addicts is to feign a back injury, apply for disability, and supplement that income by selling some fraction of the opioids prescribed to them.

In general, trends in criminal activity are linked to labor force participation because crime creates an alternative source of income, convicted persons are held out of the labor force while in prison or jail, and a criminal record creates a stigma for future employers. Trends in criminal activity can be observed through the incarceration rate, or the number of people jailed or imprisoned per 100,000 adult residents. While the incarcerated population does not count directly toward the LFPR, these individuals are counted upon their release from prison. The formerly incarcerated are counted toward the general working-age population and, if they do not join the labor force upon release, will directly shrink the LFPR. The national incarceration rate was around 220 in 1980 and peaked near 760 in 2008, and was most recently measured at 670.[17] Wisconsin's current incarceration rate is about 790, tied with Ohio for the second-highest rate among the comparison states we examined, and lower than only Indiana's at 850.[18] This is a rapidly approaching problem in Wisconsin, as 36 percent of the state's 23,500 prisoners are set to be released within two years, with 50 percent set to be released in the next three years.[19]

In addition, disability insurance participation has been shown to hold back labor force re-entry of workers after a disability episode, and evidence suggests this problem is likely worse in Wisconsin than in other Midwestern states. Recent research by economists shows that among Social Security disability insurance (SSDI) applicants considered "on the margin" of entering the program, employment would be 28 percentage points higher if they did not receive benefits. Furthermore, this effect differs by the severity of the impairment of the applicant. Applicants with severe impairments show no labor force effects, meaning they will not work even if they are denied SSDI benefits; however, applicants with less severe impairments would have a 50 percentage-point increase in employment, meaning that many of them will work if denied SSDI benefits.

The monthly average SSDI allowance rate in Wisconsin, or the likelihood that an applicant is granted SSDI benefits, since 2000 is 48.4 percent, higher than all other states in our region. The SSDI rate in Wisconsin also shows more fluctuation than other states in our region, ranging from only 39.6 percent up to 60 percent.[20] All initial allowance decisions for SSDI are determined at the Wisconsin Disability Determination Bureau by individual case examiners. Research by economists shows that

case examiners, despite being required to follow a five-step review process, have substantial leeway in how they make determinations on individual cases, and that this leeway drives caseloads. The policy implication for Wisconsin is centered on what happens at the Disability Determination Bureau. Tightening standards for SSDI receipt or improving screening techniques offers the potential to increase employment among SSDI applicants and reduce the size of the unintended effect that SSDI has on labor force participation.

There are about 152,000 SSDI recipients in Wisconsin. If Wisconsin were like an average state and 28 percent of those recipients were able to re-enter the labor force full time, that would result in an additional 42,000 workers in the state, or an LFPR increase of about 1 percentage point. A partial solution to LFPR gains among this group may be working to provide transportation options in cases where a disability prevents driving, but a recipient can still work. Providing transportation may also help to solve some inner-city and rural LFPR problems in cases where a mismatch between jobs and available workers exists.[21]

Conclusion

Wisconsin's historically low unemployment rate has led some to fear that a shortage of workers may constrain the state's future economic growth. The state's labor force participation rate is significantly lower than where it was the last time unemployment was this low, something that is true for the rest of the country as well. This offers hope that able workers still exist in the state, but they are on the sidelines of the current labor market.

Our finding that boosting Wisconsin's LFPR by 1 percentage point would benefit the state Gross State Product by $667 per resident suggests that it is well worth policymakers' time and effort to explore how to accomplish this goal. Boosting labor force participation among the SSDI population may work but could be controversial, and it is unclear how many of these cases in Wisconsin are truly "marginal" workers. Continuing to encourage migration from other states or countries, especially the successful pipeline established from Illinois, is a worthwhile endeavor, but expanding this flow may be difficult if wages do not increase appreciably.

Taking steps to encourage seniors to remain in the workforce, decisively dealing with the opioid epidemic and high rates of incarceration, further examining workforce impediments and potential for shifting individuals classified as disabled into jobs, and further enhancing the EITC are other potential ways to increase LFPR, and all should be given serious consideration. Some of these are easier to accomplish than others, and even taken together we are not sure they could boost LFPR back to the levels of the late 1990s. The federal government has taken a few steps in this regard: For instance, the earned income tax credit reduces the effective marginal tax rate on low-income workers, although its relatively steep phase-out means that low-income workers who find their income approaching $40,000 a year may still lose more than half of every dollar earned. It may be worth asking whether Wisconsin — which led the way for the rest of the country on welfare reform in the 1990s — should revisit this issue.

Ultimately, it should be Wisconsin's goal to make it easy for people to find gainful employment and remove as many barriers as possible to holding a job. The low unemployment rate in Wisconsin is generally a good thing, but the corresponding low labor force participation rate is worrisome. There are thousands of Wisconsin residents who are not

benefiting from the robust labor market, and it is incumbent upon our policymakers to help them return to productive work if they desire to do so.

Appendix: Gross State Product and LFPR

We use regression analysis to describe the relationship between the labor force participation rate and the overall state economy as measured by Gross State Product (GSP). GSP is the market value of goods and services produced by the labor and property located in a state. We use data from all 50 states on GSP and labor force participation as well as the number of employed in each state. The data used in the analysis is annual and covers years from 2006 to 2017, inclusive.

The model we estimate is:

$$GSP_{i,t} = \alpha + \beta LFPR_{i,t} + \theta Emp_{i,t} + \gamma_t + \delta_i + \varepsilon$$

Where *i* references states, and *t* references years in the data. GSP is measured as the per resident Gross State Product, LFPR is measured in percentage points, and employment is measured in number of residents. The model uses a "two-way" fixed-effects strategy, meaning that it has indicator variables for each year of data and each state in the data (we exclude fixed effects for Alabama and 2006 to be used as the reference place and time). This removes any confounding factors that are particular to a state, or particular to a year that would otherwise cause bias in estimation. The model controls for all time invariant differences between states, and time varying factors that are common across the country when estimating the relationship between LFPR and GSP. We also control for the level of employment, so that the LFPR effect we measure is an indirect effect, or the relationship to the state economy outside of the increase in employment that comes from LFPR changes.

The regression analysis produces estimates of β=$667 (with a standard error of 104, statistically significant at the <1 percent level) and θ=1.78 (with a standard error of .55, statistically significant at the <1 percent level). The estimate of β tells us the effect of a 1 percentage-point increase in LFPR on the level of GSP per resident. The estimate of θ tells us the effect of a one-person increase in employment on GSP per resident.

The model explains 94 percent of the variation in GSP across states over the time period we analyze.

About the Authors

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Before joining the Marquette faculty in 2012, he was as an assistant professor at Georgia State University for four years. From 2005-2006, 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.

Endnotes

[1] For examples of recent commentary on the Wisconsin labor market see "Wisconsin, Facing a Worker Shortage, Pitches Its Benefits," Shayndi Raice, *The Wall Street Journal,* Feb. 12, 2018; "Help solve Wisconsin's coming labor shortage by rehabilitating prisoners," Tommy Thompson, *Milwaukee Journal-Sentinel*, April 20, 2018; "Wisconsin Businesses Struggle With Worker Shortage," Associated Press, Sept. 11, 2017.

[2] The highest recorded LFPR in Wisconsin since 1976 was 74.5 percent in 1997. LFPR in Wisconsin was over 70 percent for all of the 1990s.

[3] There is also evidence that women who find themselves unemployed are more likely to tell surveyors that they have withdrawn from the labor market to raise children, or — if older— retire, so gender comparisons of the LFPR are not always straightforward.

[4] A potential explanation for the rise in the minority LFPR relative to white residents would be diverging trends in college attendance. This does not seem to be the case, as University of Wisconsin System attendance for freshmen has been declining more in raw numbers for whites than for African-Americans, and actually rising for Latinos.

[5] Labor force participation rates depicted in Figure 5 are calculated as the labor force divided by the population age 18 and older. This differs from the standard calculation, which uses the population 16 and older as the denominator, due to data limitations on population that exist at the county level.

[6] See "Want to restrict immigration? To fill jobs, Wisconsin may need more immigrants, not fewer," David Haynes, Milwaukee Journal-Sentinel, April 24, 2018.

[7] Ike Brannon and Kevin McGee, "Draining Away," Badger Institute Report, August 2001.

[8] See Catherine Ross and John Mirowsky, "Does Employment Affect Health?" *Journal of Health and Social Behavior, Vol. 36, No. 3* (September 1995), pp. 230-243.

[9] See Appendix on Page 14 for the full empirical model.

[10] Wage data is for 2016 from the federal Bureau of Labor Statistics. This data does not control for differences in costs of living across the states, which would make Wisconsin look better.

[11] Ike Brannon and Andrew Hanson, "Raising Wisconsin's Minimum Wage: Who Would Be Helped?" Badger Institute study, 27(3), November 2014.

[12] Noah Williams, "Evidence on the Effect of Minnesota's Minimum Wage Increases," Center for Research on the Wisconsin Economy Policy Brief, June 2018.

[13] No other surrounding state ties the EITC rate to the number of children a worker has, although this is done at the federal level and states implicitly follow that policy. Illinois has an 18% EITC rate, Indiana a 9% rate, Iowa a 15% rate and Michigan a 6% rate. Ohio has a 10% rate that is not refundable, and Minnesota has a sliding rate between 25% and 45%, depending on worker income.

[14] See Alan Krueger, "Where Have All the Workers Gone? An Inquiry into the Decline of the U.S. Labor Force Participation Rate," Brookings Papers on Economic Activity, conference draft for Sept. 7-8, 2017.

[15] Ike Brannon and Devorah Goldman, "A Deadly Grip," *Wisconsin Interests*, Spring 2017.

[16] The CDC reports that opioids are the main driver of drug overdose deaths, and that opioid-related deaths nationally increased by a factor of 5 between 1999 and 2016. State opioid death statistics are from: https://www.cdc.gov/drugoverdose/data/statedeaths.html.

[17] Incarceration rate statistics are from the federal Bureau of Justice Statistics. The most current incarceration rate is from 2016.

[18] Incarceration rates from 2016 in comparison states are: Illinois, 620; Indiana, 850; Iowa, 560; Michigan, 730; Minnesota, 380, Ohio, 790.

[19] See Wisconsin Department of Corrections Inmate Profile, December 2017: https://doc.wi.gov/DataResearch/DataAndReports/InmateProfile.pdf.

[20] More recently, the monthly allowance rate in Wisconsin has been substantially lower, averaging 42.8% in 2017.

[21] This problem, referred to as the "spatial mismatch" in the urban economics literature, generally finds that transportation issues can explain some of the employment gap between African-Americans and whites. See Holzer (1991) for a review.

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