

Economics Group

Special Commentary

Mark Vitner, Senior Economist
mark.vitner@wellsfargo.com • (704) 410-3277
Charlie Dougherty, Economist
charles.dougherty@wellsfargo.com • (704) 410-6542
Matthew Honnold, Economic Analyst
matthew.honnold@wellsfargo.com • (704) 410-3059

Wisconsin vs. Minnesota

Rivalry Week Takes Center Stage

The college football regular season comes to an end this week, but it should be a good one, with the action spread across the entire holiday weekend. After the traditional slate of Thanksgiving Day NFL games, fans get to watch two straight days of college football action while eating leftovers on Friday and Saturday. There is even one college rivalry game on Thursday night—Ole Miss vs Mississippi State in the Egg Bowl. Other key college games this weekend include #23 Virginia Tech-Virginia, #2 Ohio State-#10 Michigan, #5 Alabama-#15 Auburn, #15 Notre Dame-Stanford and #7 Oklahoma-#21 Oklahoma State. The FCS playoffs also kick off on Saturday, while FBS teams maneuver for conference title game berths, bowl eligibility or just a victory against a despised rival.

*Rivalry Week
 always
 produces some
 classic games.*

This week we are covering the most played FBS rivalry game in history, with #12 Wisconsin traveling to Minneapolis to take on #10 Minnesota for the 129th time. There is a lot on the line. The winner will take home the Big Ten West title and get a shot at Ohio State in the Big Ten Championship Game. Minnesota is still alive in the race for a Playoff spot but would need to win those next two games, while Wisconsin is playing for redemption after a last second upset to Illinois derailed their season. The winner also gets to take home the Paul Bunyan Axe, with its giant wooden handle inscribed with the final score of every game in this series since 1948. Typically the victors would take the Axe to the goal posts of the opposing team and pretend to chop it down. Now, however, the Axe stays off the field and is delivered discreetly to the winning team’s locker room, after the on-field faux lumberjacking got a little too chippy in 2013, when Minnesota players stayed on the field and refused to let Wisconsin players even pretend to chop down their goalposts.

Figure 1

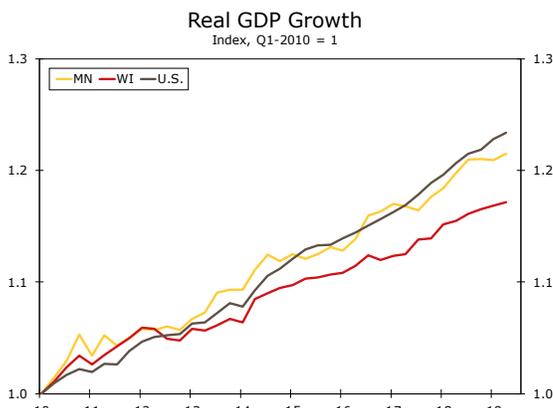
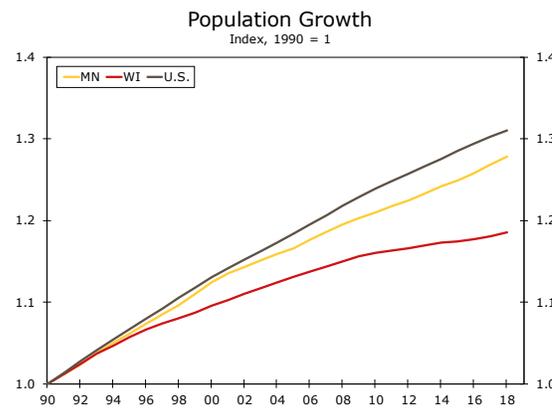


Figure 2



Source: U.S. Department of Commerce and Wells Fargo Securities

Minneapolis & Minnesota Economic Outlook

Minnesota football has won seven national titles—1904, 1934, 1935, 1936, 1940, 1941 and 1960—since the program’s inception in 1882. The 1940 and 1941 teams featured running back Bruce Smith, who went on to receive the program’s sole Heisman Trophy. Since 1882, the Golden Gophers

Together we’ll go far



have established several rivalries, including with Iowa (the winner of this matchup earns the Floyd of Rosedale, a 98-lb bronze pig), Michigan (winner gets the five-gallon Little Brown Jug), Penn State (Governor’s Victory Bell) and Nebraska (the unofficial \$5 Bits of Broken Chair).

The University of Minnesota flagship campus is located in the Twin Cities of Minneapolis-St. Paul, with part located just across the Mississippi River from downtown Minneapolis and the other a couple miles away in the Falcon Heights neighborhood. A major research university with close to 50,000 students, it ranks #9 among U.S. public universities with over \$900 million in annual research expenditures. MnDRIVE—Minnesota’s Discovery, Research, and InnoVation Economy—is a partnership between the university and the state government, funneling funding to the university’s research strengths, including robotics, food and environmental sciences, brain study and cancer clinical trials. It also supports the University of Minnesota Informatics Institute, which applies big data techniques to those same research areas.

The school has a history of innovation. It was behind the development of the pacemaker and two major medical milestones—the first bone marrow transplant and the first open-heart surgery—and helped to launch the Twin Cities’ medical device and life sciences industries. The innovation flowing from Minneapolis has also been a major factor in the growth of the Mayo Clinic, which is headquartered in Rochester—just 80 miles to the south—and employs more than 60,000 people. The university is also one of only five in the United States with an engineering school, medical school, law school, veterinary school and agricultural school on the same campus. Its broad educational and research reach extends across the state, with an estimated economic impact of \$8.6 billion annually. Notable Gopher alumni include Vice Presidents Hubert Humphrey and Walter Mondale, Bob Dylan and Thomas Friedman.

The Gophers play in TCF Bank Stadium, which also hosted the Minnesota Vikings while their new \$1.1 billion U.S. Bank Stadium was under construction. The stadium names are indicative of Minneapolis’ role as a major financial and corporate hub, with the headquarters of U.S. Bancorp, Ameriprise Financial and Thrivent Financial, as well as major operations from Wells Fargo and RBC. Its location at the confluence of the Mississippi and Minnesota rivers has long made it a major transport hub, as mining output from the Iron Range in the northern part of the state as well as agricultural products from across the Midwest were processed and then shipped down the Mississippi River. Saint Anthony Falls, the highest waterfall on the Mississippi, provided hydropower and supported the development of dozens of flour and lumber mills, earning Minneapolis the nickname “Mill City.” Food companies Pillsbury, General Mills and Cargill are headquartered in Minneapolis and still operate in the city, which is also home to the headquarters of Target (The Twins play at Target Field and the Timberwolves play at Target Center), as well as Best Buy, 3M and United Health Group.

Minnesota has a growing healthcare industry.

Minneapolis is a major corporate and financial hub.

Figure 3

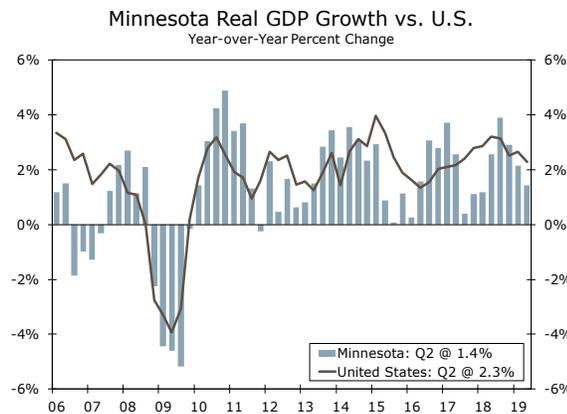
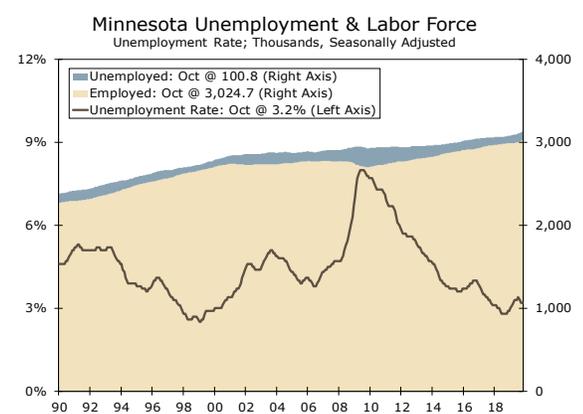


Figure 4



Source: U.S. Department of Commerce, U.S. Department of Labor and Wells Fargo Securities

Roughly 65% of Minnesotans live in the Twin Cities area—officially known as the Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area (MSA)—which also comprises 68% of the state’s workforce. The other MSAs in the ‘Land of 10,000 Lakes’ are Duluth, Mankato, Rochester and St. Cloud. The University of Minnesota has campuses in Duluth, Rochester, Morris and Crookston.

Domestic net migration into Minnesota has been very weak. Four of the five MSAs—Duluth, Rochester, Mankato and St. Cloud—have seen flat or negative cumulative net domestic migration since 2010. Minneapolis, which has seen overall population growth of over 280,000 during that time, has only gained a net 7,860 residents from other states. International migration has been much stronger, however, with almost 85,000 net new Twin Cities residents arriving from abroad. In fact, all five MSAs have seen positive international migration, with the four smaller metros adding between 1,400 and 4,800 residents from abroad. Statewide, domestic migration has improved more recently, as net migration from other states has been positive the past two years following 14 consecutive years of attrition. Immigration is crucial for Minnesota—and much of the Midwest—as it deals with anemic labor force growth and challenging demographics.

Domestic net migration into Minnesota has been very weak.

Minnesota has long had one of the highest labor force participation rates in the country, as well as one of the lowest unemployment rates. The unemployment rate was low, however, primarily due to its older workforce, which has less turnover, and sluggish labor force growth, rather than strong job growth. More recently, labor force growth has actually outpaced employment growth, which has resulted in a *slightly higher* unemployment rate (3.2%). The recent rise, however, suggests the economy is pulling job seekers into the labor market. Still, Minnesota’s Department of Employment and Economic Development continues to emphasize that “natural growth in our working age population is well-known to be inadequate to provide continued job growth in the years ahead.”

Migration is key for labor force growth in Minnesota.

Recently released state level GDP data show that the economy expanded at a 2.0% annualized pace in the second quarter, in line with the nation. Employment is rising very modestly at around 0.3% year-over-year, and the unemployment rate is 3.2%, below the national rate of 3.6%.

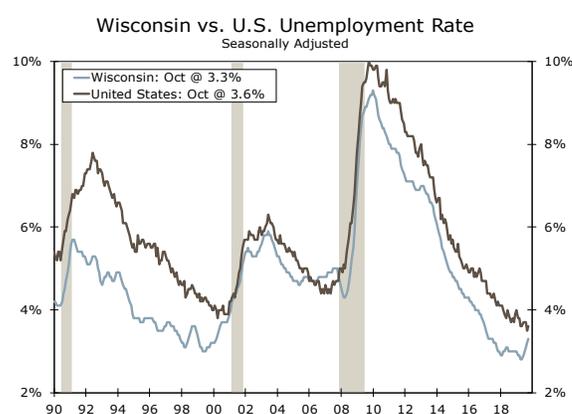
Madison & Wisconsin Economic Outlook

The Wisconsin Badgers have racked up over 700 wins and 14 conference titles, the most recent in 2012, since they began playing in 1889. Program alumni include Heisman Trophy winners Alan Ameche and Ron Dayne, Arnie Herber, Elroy Hirsch, Mike Webster and Joe Thomas. The 80,321-seat Camp Randall Stadium is one of the nation’s largest and oldest stadiums, with the sea of red a major challenge for visiting teams. One beloved tradition is the playing of the House of Pain song “Jump Around” between the third and fourth quarters, to which the many Wisconsin fans, well, jump around. Their mascot is Bucky Badger, not to be confused with Ohio State’s Brutus Buckeye.

Figure 5



Figure 6



Source: U.S. Department of Commerce, U.S. Department of Labor and Wells Fargo Securities

The University of Wisconsin was founded in 1848 and today has almost 50,000 students. It is a prolific research institution, with over \$1.2 billion in annual expenditures, the sixth most of any university in the United States. It also grants more PhDs than any other school and ranked seventh for patents issued in 2018.

Madison is a midsized Midwestern city success story.

The University of Wisconsin is located in Madison, idyllically located on an isthmus between Lake Mendota and Lake Monona. Madison is a good example of a midsized Midwestern city in the midst of a renaissance, attracting talent and entrepreneurship despite the demographic and industrial shifts facing vast swathes of the Midwest. The university is central to this success, attracting state, federal and private research dollars and creating a deep talent pipeline. Retaining young graduates is of course key, and there is growing evidence of success small towns anchored by large universities are having luring talent away from Silicon Valley, New York City or Washington, D.C. The top-10 cities on the Bloomberg Brain Concentration Index, which measures the proportion of STEM workers and advanced degree holders, include what one might expect—San Jose, Washington, D.C., San Francisco and Boston—but also several mid-sized college towns, which are also climbing rapidly. Boulder, Colorado; Ann Arbor, Michigan; Ithaca, New York; Durham, North Carolina; Charlottesville, Virginia and Madison round out the top-10. Madison in particular has become a hub of venture capital investment, with biotechnology, chemistry and computer science startups receiving early stage investments. It is also home to the headquarters of healthcare software company Epic Systems, medical diagnostics firm Exact Sciences, American Family Insurance, and, as the state capital, much of Wisconsin's state government.

The university also has a tradition known as the “the Wisconsin idea,” based on former President Charles Van Hise's claim that he “shall never be content until the beneficent influence of the University reaches every home in the state.” Graduates spread across the other MSAs in the state, which are Appleton, Eau Claire, Fond du La, Green Bay, Janesville-Beloit, La Crosse-Onalaska, Milwaukee-Waukesha, Oshkosh-Neenah, Racine, Sheboygan and Wausau-Weston. The names are fairly unique, reflecting influence of the Algonquian, Menominee and Potawatomi Native American tribes as well as early French explorers and fur trappers.

Wisconsin is dependent on agriculture and manufacturing.

Despite the resurgence of innovation in Madison, Wisconsin's dependence on manufacturing and agriculture has rendered it susceptible to cyclical slowdowns, recently exacerbated by the ongoing trade dispute with China and global economic slowdown. Manufacturing comprises 16% of employment across the Badger State, well above the national average of 12%. The state leads the nation in dairy farms, but also in farm bankruptcies. Years of low dairy prices, partly a result of greater efficiency yielding more supply, have led to the closure of 40% of Wisconsin dairy farms over the past decade, with 10% more projected to shutter this year, as the pullback in demand from China hammers the remaining 7,500 dairy farms.

Real GDP rose at a 1.1% annualized pace in the second quarter, trailing the national rate, as the state battled slowing activity across tradable sectors. Nonfarm employment is rising around 0.3% over the year, in line with Minnesota but well below the national rate of 1.4%. The unemployment rate is 3.3%, which is just 0.1 percentage point higher than Minnesota's.

Football Outlook

With the exception of 1906, Wisconsin and Minnesota have played every year since 1890. The series is tied at 60-60-8, but Wisconsin has won 14 of the past 15 matchups, with last year being the sole Minnesota victory. Minnesota is eager to prove its undefeated streak earlier this year was no fluke, and return to national prominence. Quarterback Tanner Morgan leads an effective aerial attack with 26 touchdowns and only five interceptions, but he will have to contend with an elite Wisconsin defense that ranks eighth in the nation and has allows only 14 points per game. Wisconsin was allowing a frighteningly low 4.8 points per game through six games, before back-to-back losses to Illinois and Ohio State disrupted their season. Badger running back Jonathan Taylor will also be a handful—he has mounted an epic campaign on the ground, rushing for 1,685 yards and 18 touchdowns. Wisconsin is favored by 2.5 points, and we suspect that will be about the margin of victory for whichever team comes away from Saturday's game swinging Paul Bunyan's Axe.

Wells Fargo Securities Economics Group

Jay H. Bryson, Ph.D.	Acting Chief Economist	(704) 410-3274	jay.bryson@wellsfargo.com
Mark Vitner	Senior Economist	(704) 410-3277	mark.vitner@wellsfargo.com
Sam Bullard	Senior Economist	(704) 410-3280	sam.bullard@wellsfargo.com
Nick Bennenbroek	Macro Strategist	(212) 214-5636	nicholas.bennenbroek@wellsfargo.com
Tim Quinlan	Senior Economist	(704) 410-3283	tim.quinlan@wellsfargo.com
Azhar Iqbal	Econometrician	(212) 214-2029	azhar.iqbal@wellsfargo.com
Sarah House	Senior Economist	(704) 410-3282	sarah.house@wellsfargo.com
Charlie Dougherty	Economist	(704) 410-6542	charles.dougherty@wellsfargo.com
Erik Nelson	Macro Strategist	(212) 214-5652	erik.f.nelson@wellsfargo.com
Michael Pugliese	Economist	(212) 214-5058	michael.d.pugliese@wellsfargo.com
Brendan McKenna	Macro Strategist	(212) 214-5637	brendan.mckenna@wellsfargo.com
Shannon Seery	Economic Analyst	(704) 410-1681	shannon.seery@wellsfargo.com
Matthew Honnold	Economic Analyst	(704) 410-3059	matthew.honnold@wellsfargo.com
Jen Licis	Economic Analyst	(704) 410-1309	jennifer.licis@wellsfargo.com
Hop Mathews	Economic Analyst	(704) 383-5312	hop.mathews@wellsfargo.com
Coren Burton	Administrative Assistant	(704) 410-6010	coren.burton@wellsfargo.com

Wells Fargo Securities Economics Group publications are produced by Wells Fargo Securities, LLC, a U.S. broker-dealer registered with the U.S. Securities and Exchange Commission, the Financial Industry Regulatory Authority, and the Securities Investor Protection Corp. Wells Fargo Securities, LLC, distributes these publications directly and through subsidiaries including, but not limited to, Wells Fargo & Company, Wells Fargo Bank N.A., Wells Fargo Clearing Services, LLC, Wells Fargo Securities International Limited, Wells Fargo Securities Canada, Ltd., Wells Fargo Securities Asia Limited and Wells Fargo Securities (Japan) Co. Limited. Wells Fargo Securities, LLC. is registered with the Commodities Futures Trading Commission as a futures commission merchant and is a member in good standing of the National Futures Association. Wells Fargo Bank, N.A. is registered with the Commodities Futures Trading Commission as a swap dealer and is a member in good standing of the National Futures Association. Wells Fargo Securities, LLC. and Wells Fargo Bank, N.A. are generally engaged in the trading of futures and derivative products, any of which may be discussed within this publication. Wells Fargo Securities, LLC does not compensate its research analysts based on specific investment banking transactions. Wells Fargo Securities, LLC's research analysts receive compensation that is based upon and impacted by the overall profitability and revenue of the firm which includes, but is not limited to investment banking revenue. The information and opinions herein are for general information use only. Wells Fargo Securities, LLC does not guarantee their accuracy or completeness, nor does Wells Fargo Securities, LLC assume any liability for any loss that may result from the reliance by any person upon any such information or opinions. Such information and opinions are subject to change without notice, are for general information only and are not intended as an offer or solicitation with respect to the purchase or sales of any security or as personalized investment advice. Wells Fargo Securities, LLC is a separate legal entity and distinct from affiliated banks and is a wholly owned subsidiary of Wells Fargo & Company © 2019 Wells Fargo Securities, LLC.

Important Information for Non-U.S. Recipients

For recipients in the EEA, this report is distributed by Wells Fargo Securities International Limited ("WFSIL"). WFSIL is a U.K. incorporated investment firm authorized and regulated by the Financial Conduct Authority. For the purposes of Section 21 of the UK Financial Services and Markets Act 2000 ("the Act"), the content of this report has been approved by WFSIL, an authorized person under the Act. WFSIL does not deal with retail clients as defined in the Directive 2014/65/EU ("MiFID2"). The FCA rules made under the Financial Services and Markets Act 2000 for the protection of retail clients will therefore not apply, nor will the Financial Services Compensation Scheme be available. This report is not intended for, and should not be relied upon by, retail clients.

SECURITIES: NOT FDIC-INSURED/NOT BANK-GUARANTEED/MAY LOSE VALUE

WELLS
FARGO

SECURITIES