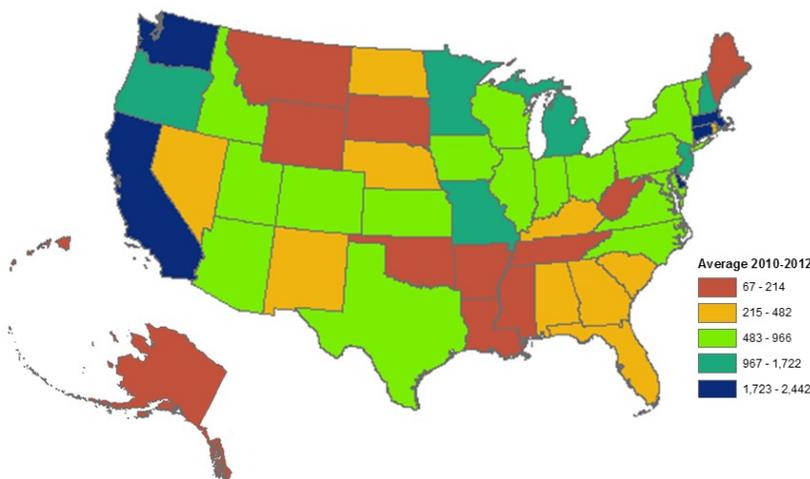


## Innovation and Economic Performance: How Does Wisconsin Compare?

Businesses have one of two ways to drive profitability: one is to drive costs as low as possible while the other is to innovate and bring new products to market. Focusing solely on costs is at best a short-term strategy and cannot ensure the long-run growth of the business. Being innovative, on the other hand, is the only way to ensure that long-term growth and profitability. If investing in research and development (R&D) is vital to the future success of any business, it follows that R&D is vital to the Wisconsin economy. But how does Wisconsin fare in terms of R&D investments.

Using National Science Foundation R&D expenditure data, we calculated a three-year average from 2010 to 2012 after adjusting for the size (population) of each state. In Wisconsin, businesses, non-profits, combined with universities and colleges spent \$707.50 per person, which ranks Wisconsin 20<sup>th</sup> in the nation. We can see that some of the lowest levels of R&D

Research and Development Spending Per Capita



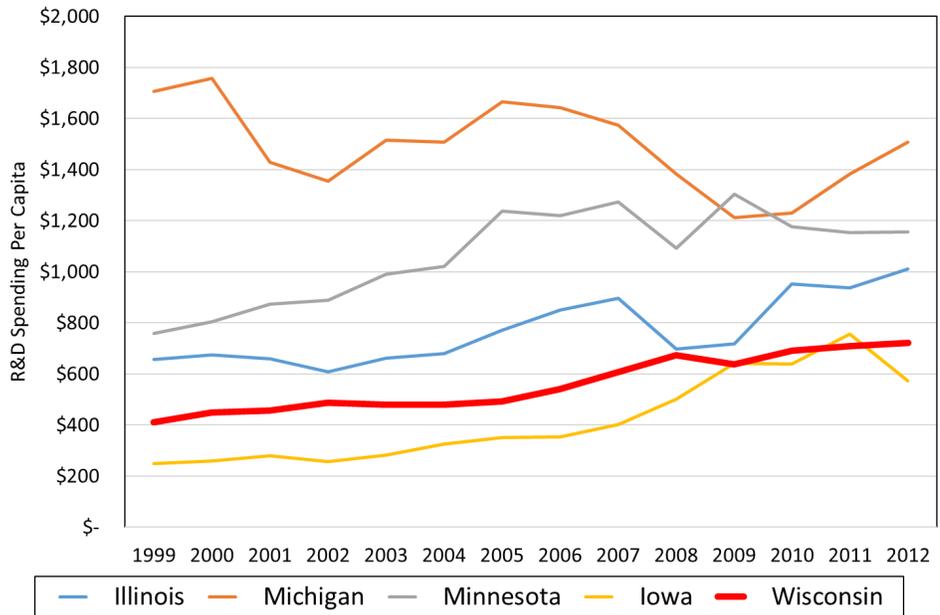
spending tend to be in poorer more rural states. The highest levels of R&D spending are in the lower New England region, particularly Connecticut, Delaware and Massachusetts and the Pacific coast, specifically California and Washington State. This is consistent with the concept that R&D is linked to economic performance and well-being.

If we group states into five equal groups based on their R&D spending per capita, we find that Wisconsin falls into the middle group, which includes Texas, Ohio, New York as well as North Carolina. But at the same time, our regional competitors, namely Missouri, Minnesota and Michigan are placed into a higher spending group.

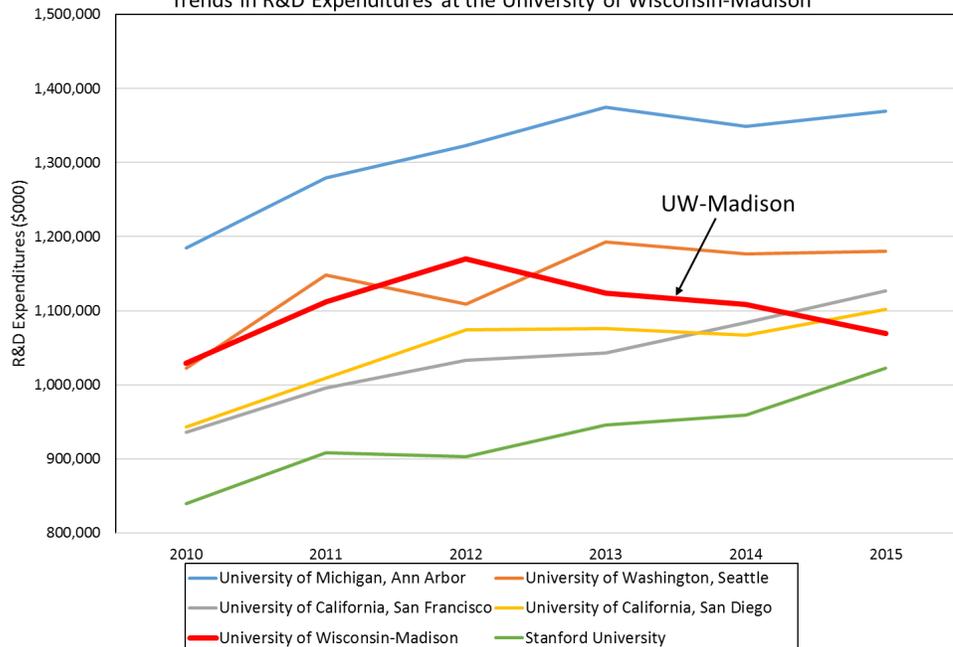
Consider how Wisconsin has compared to its immediate neighbors. Historically, Wisconsin has ranked 4<sup>th</sup> of the five states only ahead of Iowa. Michigan has consistently lead the region, but downturns linked to economic recessionary periods are clear. This is likely due to fluctuations in the automobile industry. Overall spending on R&D in Wisconsin has remained stable and modestly growing, compares favorably to many other states, but remains low compared to our immediate neighbors.

While the University of Wisconsin-Madison is a national powerhouse in research and development investments, the levels of investment have been declining over the past several years. As recently as 2009 the UW-Madison ranked only behind John Hopkins University (which administers the Applied Physics Laboratory thus is somewhat of an anomaly). Indeed, the national 6<sup>th</sup> place ranking is the first time in 44 years that the UW-Madison has not been in the top five. Since its peak in 2012 at \$1.17B, the level of R&D spending at the UW-Madison has been declining. But this decline does not appear to be a national phenomenon as other top ranked R&D university have seen expenditures increasing. Other schools, such as Stanford University, University of California at San Diego and University of California at San Francisco have seen strong growth in R&D expenditures. Thus, the UW-Madison is experiencing a decline in R&D expenditures while other universities are seeing a noticeable increase. If innovation is vital to the economic future of Wisconsin, this downward trend is troublesome.

Research and Development Spending Per Capita



Trends in R&D Expenditures at the University of Wisconsin-Madison



Given that Wisconsin has a disproportionate share of employment in low-R&D industries, coupled with the steady decline in R&D spending by the University of Wisconsin suggests that Wisconsin is not well positioned to build on the innovation driven economy.