

# Anticipating the Next Recession

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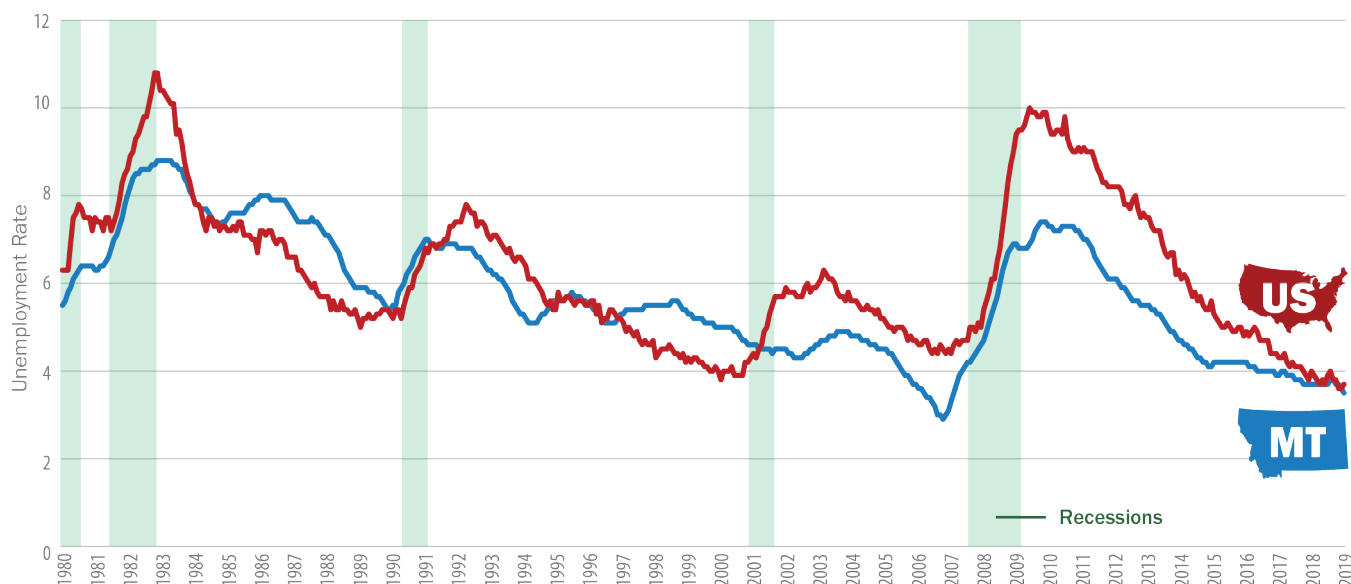
In July 2019, the current U.S. economic expansion became the longest in modern history with 121 months of continuous economic growth, beating out the period from 1991-2001. The long duration of the expansion, combined with a feeling of inevitability, may have many wondering when the next recession will occur. The recent benchmark interest rate cut announced by the Federal Reserve Open Market Committee fanned these recession fears, leaving many to speculate on whether the next recession is already here.

Economists are quick to point out that recessions are difficult to predict. Part of the difficulty is due to a lack of data – recessions do not happen that frequently, and access to the current level of economic data and computing power for analysis is still relatively recent, in historical terms. Additionally, recessions are often triggered by unforeseen geopolitical events with economic consequences, such as oil shocks, terrorist

attacks, trade wars, or other political disputes. Another part of the difficulty is that the important components of long-term growth, such as the rate of innovation and expanding the quantity and quality of labor, are not necessarily the same factors that influence short-term economic growth.

However, one thing is known – recessions are not caused by continued steady economic growth. The nervous can take heart knowing that the U.S. and Montana economies continue to expand, and are at all-time peaks for employment, output, and other economic metrics. Expansions do not die of old age; the risk of a recession is unrelated to the length of the current expansion. But for the pessimists who fear a turnaround is near, this Economy at a Glance highlights various metrics used in recession forecasting and the indicators promising continued growth.

**FIGURE 1:**  
**U.S. and Montana Unemployment Rates**



Source: CPS and LAUS, MTDLI, and BLS

# Business Cycles

The macroeconomy typically follows a cyclical pattern, with periods of economic expansion followed by recessions. This cyclical pattern is shown in **Figure 1**, which illustrates the U.S. and Montana unemployment rates through the five recessions that have happened since 1980. During economic expansion, the economy expands and add jobs, reducing unemployment rates gradually. When a recession occurs, unemployment spikes, along with output falling, wage growth slowing, and business profits shrinking,

However, there isn't a single metric that defines a recession. Typically, a recession has at least two consecutive quarters of negative GDP growth, but GDP is not the only factor considered. A business cycle is made "official" by the National Bureau of Economic Research's Business Cycle Dating Committee, a non-profit, non-partisan group of economists who work to promote economic data and research. The committee uses a variety of economic metrics in defining whether a contraction is a slowdown or an official recession. Employment, industrial production, consumer spending, personal income, and other metrics may also be used to determine when a business cycle officially starts and ends. Further, economic metrics can worsen without an official recession occurring. For example, personal income was negative in the 1st quarter of 2013 from the fiscal cliff but did not qualify for a recession. Unemployment increased in 1994 and 1995 without a recession declaration, and unemployment continued to increase after the recession ended in 2002, even though other metrics indicated the recession was over. Recessions are sustained contractions indicated across many metrics, not just a few negative indicators.

Recessions are, in general, becoming less frequent over time. **Figure 2** illustrates the number of months the economy was in recession from January 1855 to July 2019

summarized into four blocks of time. From 1855 (when the data series began) to December 1899, there were 11 recessions, with the economy in recession for 243 months, or 45% of the time. During the next 50 years from 1900 to 1949, the economy was in recession for 222 months, or 37% of the time. The frequency of recessions decreased to 15% of months during the next 30 years from 1950 to 1979, and slowed even further since 1980. Only 12% of the months since 1980 have been spent in a recession.

Optimistically, the decreased frequency of recessions could be due to improved economic knowledge about how to prevent recessions and better application of this knowledge through appropriate monetary and fiscal policy to moderate business cycles. Economists now have better metrics to track performance in real-time, rather than having to wait for data until it's too late to act. Appropriate monetary and fiscal policy can be used to slow economic growth before the economy overheats (which often triggers recessions) and to spur economic growth when it starts to slow. The boom and bust cycle of the Bakken oil development provides recent evidence that rapid economic expansion also brings challenges and social frictions; maintaining a moderate and steady growth rate is the goal of monetary policy.

## Business and Consumer Sentiment – A Self-Fulfilling Prophecy

Why does the economy behave cyclically? The answer illustrates why economics is a social science, despite the heavy use of math, data, and statistics. The cyclical nature of the economy is caused by individuals rationally following their self-interest by anticipating changes in the future economy, attempting to maximize their economic benefit by being the first to cut back before the recession, or the first to take advantage of rising consumer demand before the expansion. For example, a businesswoman may have noticed that sales were down slightly in the past quarter. After reading the financial

**FIGURE 2:**  
**Frequency of Recessionary Periods Since 1855 by Timeframe**

Timeframe	Number of Months During Timeframe	Number of Recessions During Timeperiod	Number of Months Economy was in Recession	Percent of Months in Recession
1855-1899	540	11	243	45.0%
1900-1949	600	13	222	37.0%
1950-1979	360	5	55	15.3%
1980-2019	475	5	56	11.8%

Source: MTDLI analysis of Federal Reserve Bank of St. Louis, NBER based Recession Indicators for the United States from the Period following the Peak through the Trough [USREC], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/USREC>, August 4, 2019.

news, the businesswoman anticipates the slowdown will continue and decides to slow production. The lower production level will maximize her profits and reduce the inventory left over from last quarter back to zero. The cut in production is more than the decline in sales because of the unsold inventory, making a small production cut into a larger one, perhaps even one that cuts the hours of her employees.

If just one businesswoman makes this choice, the economy can likely withstand the change. Suppliers will find other customers, and workers will find other jobs. However, this small change can cause a chain-reaction if suppliers also cut back on production, or if local workers decide to cut back on spending after hearing news of layoffs. If pessimistic or uncertain views of the future economy are the norm due to politics, policy changes, terrorist attacks, or other external events, the small change in demand from one business might be seen by others as a sign that they should also decrease production. If all business owners and consumers decide to cut back in anticipation of a coming recession, the belief of a recession can lead to an actual recession. Collectively, the rational actions of individuals following their self-interest can lead to a very irrational outcome of a recession.

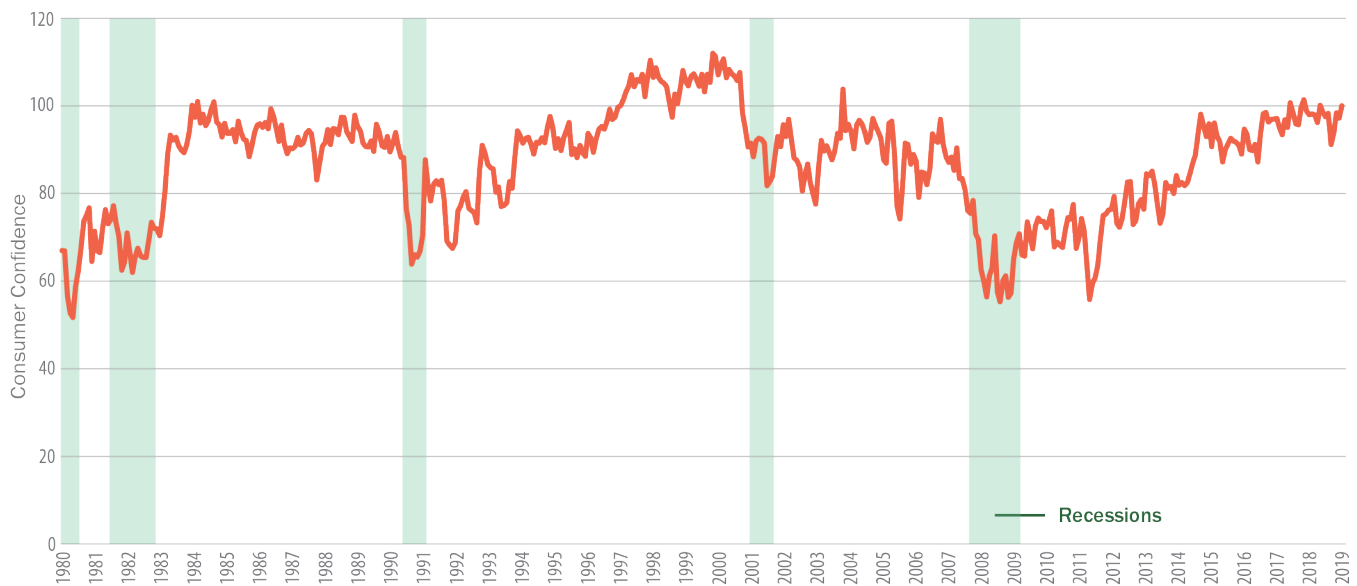
For this reason, the opinions of business owners are closely tracked by many business and economic organizations, with surveys of business owners often being used as a leading indicator. For Montana, the level

of business optimism or uncertainty is captured by the Federal Reserve Bank of Minneapolis in the 9th district's 'Beige Book.' The most recent Beige Book described growth in the 9th district to be "modest to moderate" pace with continuing labor market tightness and "worsening" conditions in the agricultural sector.<sup>1</sup> Prices for inputs are also closely tracked, as businesses are often quite sensitive to changes in prices for labor, investment capital, or other inputs to production. If input prices spike unexpectedly, businesses must also react quickly, shutting down production if their goods are no longer profitable. The 1980 recession, for example, is typically attributed to a spike in oil prices, which caused production and transportation costs to increase for businesses.

The opinions of consumers are also tracked to anticipate changes in demand. Consumer sentiment has proven to be a good indicator for future economic conditions, and is included in many leading indicator indexes. Dips in consumer confidence are present at the start of every recession, and the size of the dip is correlated with the severity of the contraction. **Figure 3** illustrates the University of Michigan's consumer sentiment index, which is a monthly survey of 500 consumers asking about their attitudes and expectations about the economy.

Based on recent data, which is trending upwards, consumers are poised for continued economic expansion with few worries of an impending recession. However, as evident in **Figure 3**, the metric is quite "noisy,"

**FIGURE 3:**  
**U.S. Consumer Confidence**



Source: Surveys of Consumers, University of Michigan: Consumer Sentiment (C) (UMCSSENT), retrieved from FRED, Federal Reserve Bank of

1 <https://www.minneapolisfed.org/news-and-events/beige-book-archive/2019-07-mi>

meaning that there are often dips and jumps in consumer sentiment that are unrelated to actual economic conditions. A wide variety of factors contribute to the volatility of the consumer sentiment index, including error in the sample, seasonal changes, changing economic news, policy changes, the news cycle, and more. Recently, political affiliation has become a larger concern in measuring consumer sentiment, with large differences in perception of the economy between Republicans versus Democrats. Researchers have posited that increased income inequality has created groups that experience economic growth quite differently, plus economic news is provided through and interpreted by different news sources depending on political views.<sup>2</sup> If political affiliation affects consumer sentiment in such a large degree, the consumer sentiment index may be less effective in predicting future recession severity.

## Access to Capital: Income and Savings Rates

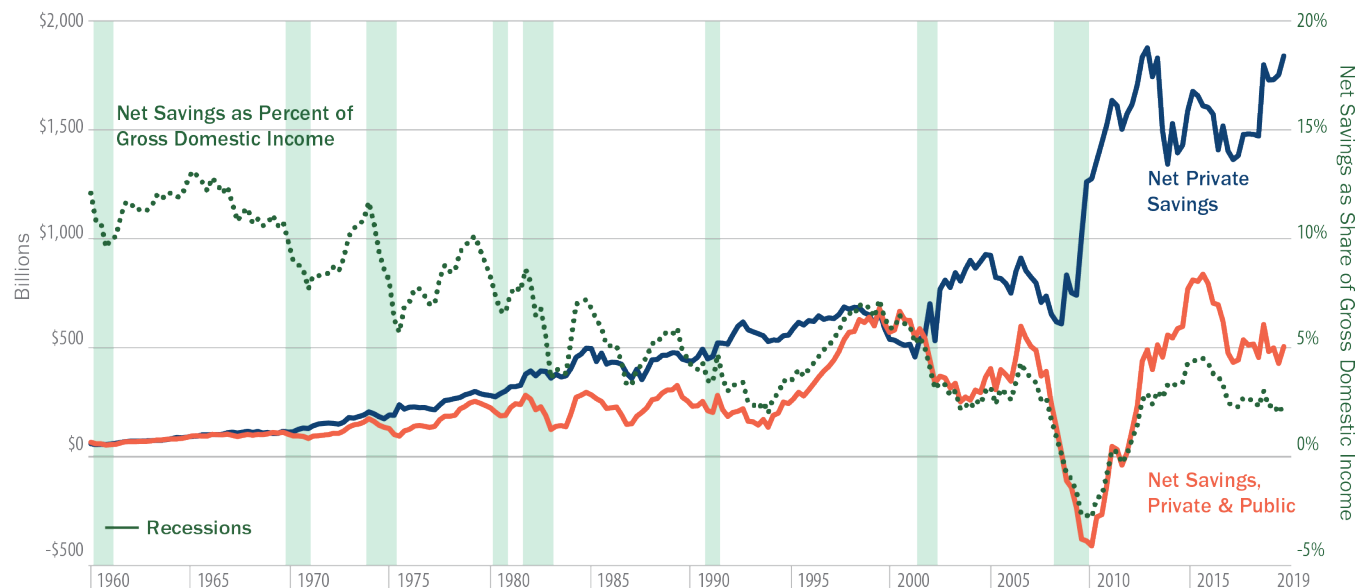
Consumer sentiment is a useful forecasting tool because it predicts future consumer demand. But consumers can only buy what they can afford, making income and savings rates another important predictor of recessions. Consumers receive their income from a large variety of sources – wages, business profits, rents or royalties, interest on savings, government transfers (like social security), or withdrawing from their savings or retirement

accounts. Specifically, Montanans earn approximately 50% of all income from wages, with an additional 24% of income from dividends, royalties, and rents. These metrics are tracked by national economists to anticipate changes in consumer demand.

While income and wage growth are critical for strong consumer demand in the future, it is not a good metric to use for recession prediction due to the timing of data availability. Wages tend to be a trailing indicator because they are typically paid two weeks to one month after the work hours were performed. Instead, monitoring the level of private savings available for investment can be done through the financial system. Further, the availability of savings for investments is also important from a supply perspective, affecting a business's ability to expand production, particularly in industries that are very capital intensive. Just like a business cannot expand production if there are no workers to hire, businesses cannot finance new ventures or expansions without sufficient capital availability.

**Figure 4** illustrates net savings back to 1960, illustrating that a drop in savings precedes most recessions. Net savings is shown using three slightly different metrics. Net private savings includes the total savings from households and businesses. Net savings from both the private and public sector is also shown, with the gap between the two illustrating the size of the government deficit in that particular year. Government deficits

**FIGURE 4:**  
**Net U.S. Savings**



Source: Bureau of Economic Analysis, retrieved from FRED, Federal Reserve Bank of St. Louis

<sup>2</sup> Curtin, Richard. "Consumer Economic Expectations: Persistent Partisan Differences" University of Michigan. Presented at the 2018 Cirt Conference, Rio de Janeiro. September 12-14, 2018. Available at <https://data.sca.isr.umich.edu/fetchdoc.php?docid=61141>. Accessed on Aug. 1, 2019.

reduces the amount of savings available for private investment. Both metrics are shown in billions of U.S. dollars. Therefore, the net savings rate is also shown to illustrate the size of the savings and investment pool as a share of domestic income. Although net savings is increasing, it is decreasing as a share of the economy.

Net savings (and the net savings rate) include saving by both households and governments. Softness in the economy can reduce tax revenues, increasing the budget deficit and reducing the savings available for investment. For households, wages or income from nonwage sources might start softening before the start of an official recession, requiring families to reduce savings. For example, job losses in the construction industry were evident in the fall of 2007, and home prices stagnated in the summer of 2007, prior to the official start of the 2007 recession in December. Such losses of income and assets can cause private households to save less or even withdraw from savings before the official start of the recession.

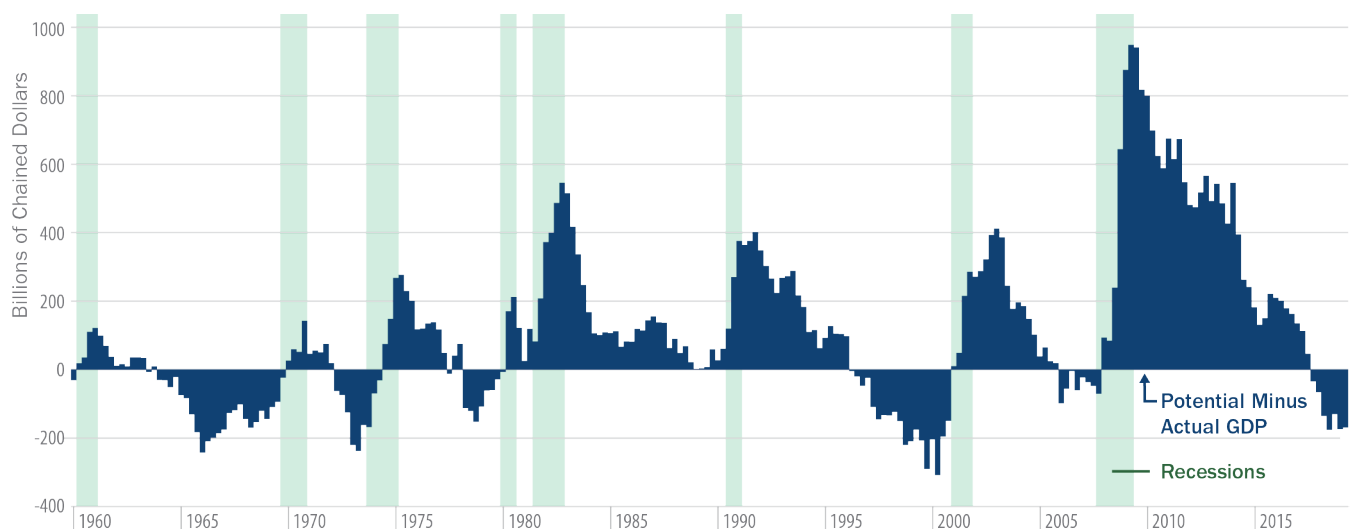
However, economic theory suggests that a decline in the savings rate may also cause recessions. First, it is also possible that consumer and business overconfidence leads private entities to over-spend, assuming the economy is going to continue to grow rapidly in future years. Second, a restriction in savings also restricts the investment available for businesses, thus increasing the “price” of investment capital due to short supply. The reduced availability and increased cost of capital may result in businesses having difficulty financing operations. Access to investment capital is particularly important for short-term economic growth.

Therefore, there is a bit of a chicken and the egg argument for using savings as a predictor of recessions—are recessions caused by a lack of investment capital resulting from lower savings by private and public entities (perhaps due to overconfidence), or does weakness in the economy lead to reduced savings because of lower earnings and therefore lower savings? Regardless of whether the saving rate causes or is a symptom of a recession, a decline in the savings rate has been a leading indicator for many U.S. recessions.

## Bubbling Up: Growth Beyond Capacity

Earlier, this article discussed how a belief in a recession could lead to an actual recession when individuals rationally follow their self-interest to maximize their economic benefit. But there is also a risk of over-confidence resulting in recessions as well. In the most basic macroeconomic models, the economy has limited levels of labor and capital, which are used to produce goods demanded by consumers as efficiently as possible, given the current level of technology and knowledge. The total amount of goods that the economy can potentially produce (potential output) is limited and can only be expanded by increasing the amount of labor, the amount of capital, or our current knowledge and technology. In the short-term, the economy can over-extend itself and produce beyond its capacity (think of having workers fill extra shifts for a month or two), but such production is unsustainable in the long-term. The concept of economic production beyond appropriate levels for the economy

**FIGURE 5:**  
**Output Gap**





is often called a “bubble,” and typically involves over-valuation of stocks and other assets and high levels of inflation.

Therefore, economists often estimate the “potential output” achievable by the U.S. economy. Estimating potential output is complicated and sensitive to several assumptions, but guesses at the output that can be produced with our current levels of capital, labor, and technology. Potential GDP can be compared to the actual GDP to calculate the “output gap,” which is the difference between actual production and the hypothetical potential output. The output gap is illustrated for the U.S. since 1960 in **Figure 5**.

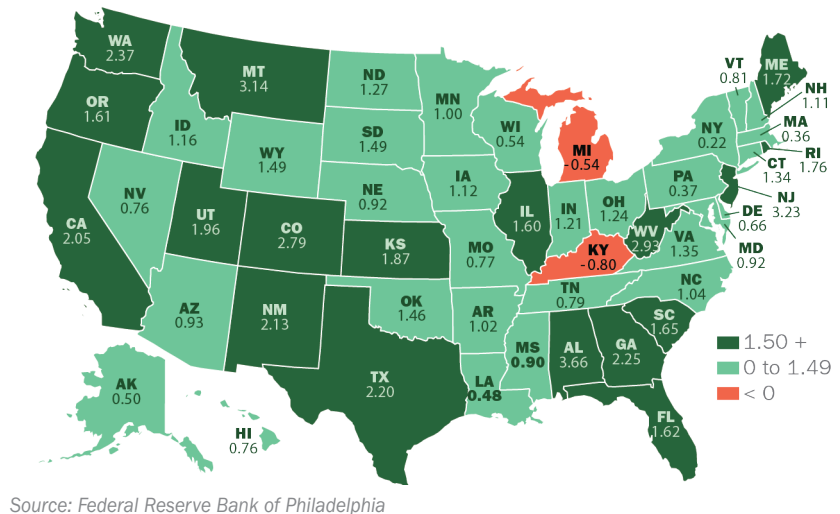
During recessions, the output gap spikes up because labor and capital are not being used to their full potential. Unemployment is high, signaling that workers are not fully employed. However, several of the recessions shown (the 2001 and 1970 recessions in particular) are preceded by a negative output gap, meaning that actual GDP was above potential output. The negative output gap suggests that the economy is over-extended and will need to contract to bring actual production back in line with fundamentals. Given the output gap shown in **Figure 5**, the U.S. economy is currently over-extended and is signaling that a recession may come soon.

However, there is a catch: potential GDP is difficult to estimate and is highly sensitive to assumptions. The current negative value of the output gap can be attributed to unemployment rates being below their long-term average. Further, an over-extended economy typically exhibits high inflation, yet current inflation is quite low, historically. In other words, the output gap suggests a future contrary to other indicators, and perhaps should not be trusted. As the saying goes, economists have successfully predicted 11 out of the last nine recessions. Perhaps these forecasters were using the output gap indicator.

## Leading Indexes

No one indicator is correct all of the time. The challenge is to find an indicator that provides economic information while there is still time to adjust monetary and fiscal policy and to find one indicator that predicts all recessions, even though not all recessions have similar causes. Economists have thus far addressed the problem

**FIGURE 6:**  
**Expected 6-Month Change in State Coincident Indexes**  
June 2019



by combining several different economic metrics into one index measure, called a leading index. The idea is to combine the prediction power of all potential metrics, as there is no one metric that universally signals recessions successfully.

For Montana, the Federal Reserve Bank of Philadelphia produces leading indexes for states, combining data on housing permits, unemployment insurance claims, delivery times for manufacturing (as a measure of sales), and interest rate spreads.<sup>3</sup> **Figure 6** compares Montana’s leading index for the most recent month of June 2019 to the indicators for other states, and suggests that Montana is poised for stronger growth than our neighbors in the next six months. Only two states – Michigan and Kentucky – are expected to decline in the next six months. Montana’s value of 3.14 is relatively high compared to both other states and the index historically, suggesting that economic growth will accelerate in the last half of 2019. The indicators for the rest of the nation also suggest expansion for the nation.

Will this growth occur, or will fortunes change to plunge Montana into the next recession? Even economists don’t know. The leading indicators generally suggest that economic expansion will continue, and a recession is unlikely to occur. However, as economists joke, the best way to cause a recession is to start talking about a recession, as consumer confidence and consumer savings are highly influenced by people’s expectations of what is going to happen in the future. That’s the thing about predictions – we won’t know the future until we get there.

<sup>3</sup> Federal Reserve Bank of Philadelphia, State Leading Indexes. Accessed Aug. 1, 2019. [www.philadelphiafed.org/research-and-data/regional-economy/indexes/leading/](http://www.philadelphiafed.org/research-and-data/regional-economy/indexes/leading/)