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ANALYSIS AND ASSESSMENT OF
MONTANA'S ECONOMIC PERFORMANCE

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Montana Gov. Steve Bullock attends a town hall at the American Federation of Teachers in Washington, D.C., in 2019. (AP Photo, Tom Williams)

BUREAU OF BUSINESS AND ECONOMIC RESEARCH
UNIVERSITY OF MONTANA

The Bureau of Business and Economic Research has been providing information about Montana's state and local economies for more than 70 years. Housed on the Missoula campus of the University of Montana, the bureau is the research and public service branch of the College of Business. On an ongoing basis the bureau analyzes local, state and national economies; provides annual income, employment and population forecasts; conducts extensive research on forest products, manufacturing, health care and child well-being; designs and conducts comprehensive survey research at its on-site call center; presents annual economic outlook seminars in cities throughout Montana; and publishes the award-winning Montana Business Quarterly.

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COVER
The Montana state flag on a wooden surface. (Enrique Ramos)

MESSAGE FROM THE PRESIDENT AND CHIEF EXECUTIVE OFFICER OF NORTHWESTERN ENERGY

NorthWestern Energy is a proud sponsor of the 2020 Economic Outlook Seminar and we extend our welcome.

NorthWestern Energy's Montana customers face unprecedented exposure to volatile regional power markets when energy is critical. No other electric company depends on the market to meet almost half of its customers' peak needs as we do. As plants close, the supply in that regional market is shrinking.

Our plan to buy an additional share of Colstrip Unit 4 for $1 from Puget Sound Energy is the most affordable option to provide reliable and affordable energy, even in the harshest weather conditions. It allows for a smoother transition to an even more sustainable energy mix for Montana for years to come.

The Colstrip purchase is included in NorthWestern Energy's commitment to reduce the carbon intensity of our energy generation by 90 percent by 2045, from a 2010 baseline. We have already reduced carbon intensity by 50 percent since 2010.

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Learn more at MorePowerToYou.org.

Robert C. Rowe
President and Chief Executive Officer
Northwestern Energy

THE YEAR IN REVIEW

Statewide Economic Performance

Montana's Growth Engine is Humming

BY PATRICK M. BARKEY

Some have said that forecasting state and local economies is like trying to drive a car by looking only at your rearview mirror. We've got a great view of where the economy has already been, but seeing what's ahead, or even where we are right now, presents a challenge. As we assess the economic climate for the state in 2020 and beyond, one thing is clear: Montana has enjoyed a good economic year. Tax receipts are strong, unemployment rates are low and visible signs of economic activity are all around us.

The major exception to this cheery news continues to come from the state's farms and ranches, mired in what has been a nearly three-year run of weak prices that have presented agricultural producers with serious financial challenges. The added burden of retaliatory tariffs on U.S. agriculture exports has been an unwelcome addition to the list of woes facing farmers.

It is a tribute to the strength of the rest of the economy that the state's overall growth has not reflected these rural setbacks. Indeed, the Bureau of Economic Analysis now puts inflation-corrected nonfarm earnings growth at 2.6 percent in calendar year 2018, up substantially from its preliminary estimate of 1.5 percent. The stronger growth is showing up in state general fund tax receipts, which are up strongly for the fiscal year.

Total wages paid, while not completely describing income, do offer some insights on sources of growth that continued into 2019. Some trends are not new – construction growth was the strongest of any major industry, with places like Bozeman and Missoula posting gains. But more than half of the growth in construction was accounted for by Billings and the state's less urbanized and rural counties. The growth of tech-related activities was apparent from the $70.1 million increase in professional business services wages.

There are also some surprises. Mining wages, which include those of oil production jobs, posted respectable gains in the 12-month period ending in June of last year. Outside of government, growth was broad-based. Health care grew – nothing surprising there. Medicaid expansion has added fuel to existing growth in that industry. Yet the statewide growth masks the declines suffered in the Kalispell and Butte regions, a surprising development.

There was plenty of evidence of growth in the state's tourism-related activities, from visitor volume to tax receipts on things like accommodations and rental cars. The Bureau of Economic Analysis released new state-level data on outdoor recreation that showed Montana's $2.4 billion industry was a higher fraction of state GDP than any other state except Hawaii.

Growth statewide remains low by Western standards. Montana's 2.6 percent expansion in nonfarm earnings in 2018 was surpassed by Idaho (3.9 percent) and Wyoming (3.8 percent), but was better than North Dakota (2.3 percent) or South Dakota (2.2 percent). High flying coastal and inner mountain states are an order of magnitude higher yet. Growth in the western third of the country has outpaced national growth for years.

There are plenty of question marks ahead for Montana – from tariffs on agriculture goods to declining business confidence. But there is no doubt that our state enters this new year with good growth in the bank.

Patrick M. Barkey is director of the Bureau of Business and Economic Research at the University of Montana.

Figure 1. Percent growth, inflation-corrected nonfarm earnings, Montana. Source: U.S. Bureau of Economic Analysis.

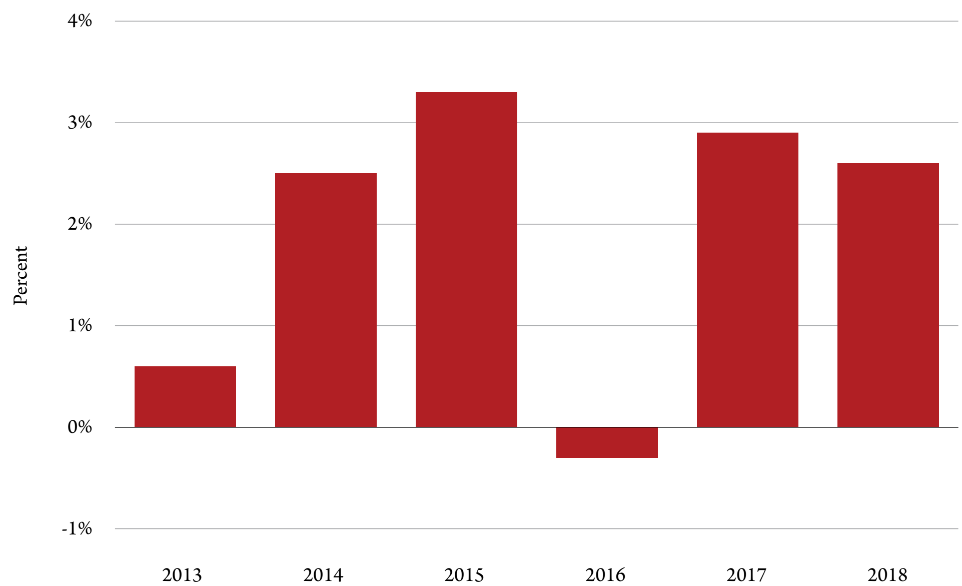
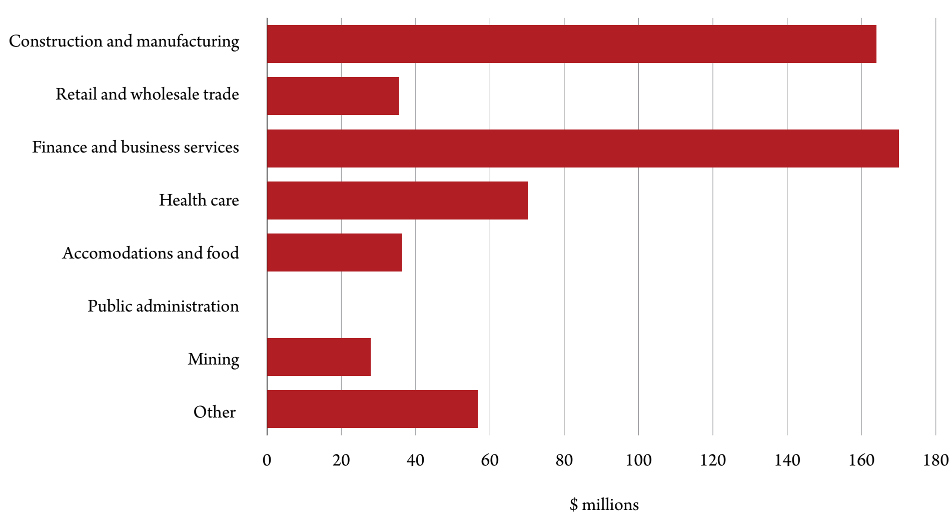


Figure 2. Inflation corrected earnings growth, Montana, FY2018-19, $ millions. Source: U.S. Bureau of Economic Analysis.



The Performance of the BBER Forecast

Improving Accuracy

BY BRANDON BRIDGE

Forecasts from the Bureau of Business and Economic Research have performed fairly well in recent years. Our 2018 forecast of 2.4 percent in inflation-adjusted nonfarm earnings for Montana was only slightly lower than the published actual growth of 2.5 percent. It appears that growth in 2019 will come in around 2.4 percent, higher than the 2.2 percent we projected for the year.

Recurring revisions of historical data on economic growth continue to adjust the accuracy of the BBER forecast. Particularly, in five out of the last six years of data these revisions have improved our projections of growth in inflation-corrected nonfarm earnings. Updates to the official data have reflected on average .25 percent higher growth in Montana than previously calculated in every year from 2013 through 2018.

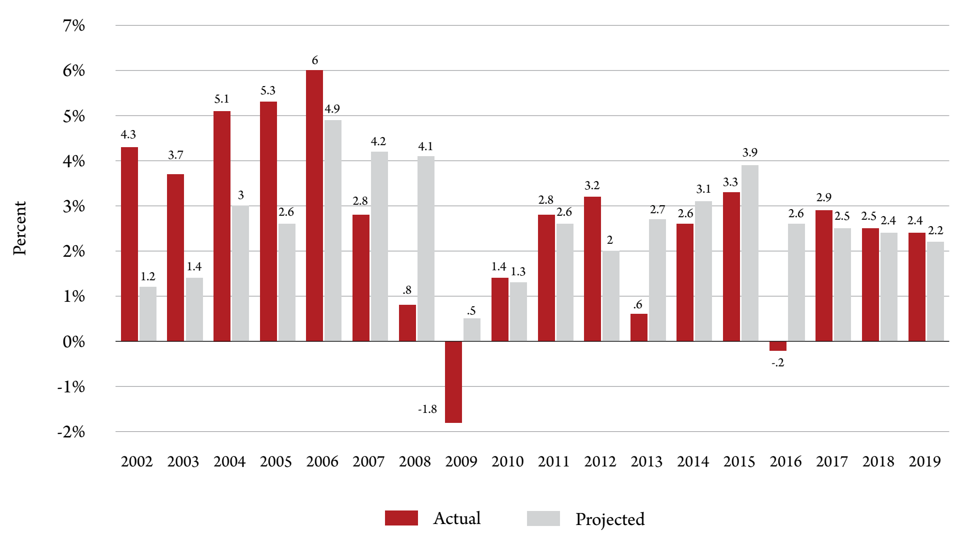
These updates to the data have resulted in BBER's forecast predicting the continued economic recovery fairly well. Forecasted growth since 2002 has missed the mark by an average of 1.47 percentage points per year. This is lower than the 1.6 percentage point average historical deviation that was reported last year. Due in part to the data revisions, this is also a reflection of the more recent years' predictions falling closer to the published numbers. As the tumult of the Great Recession and its ensuing forecasting challenges lay further in the past, economic activity in the state has experienced less variance and hence less unpredictability on average.

If we look at the years after the economic crash (2010 onward), the average deviation between the projected and actual growth is lower still – .82 percentage points per year. And if we focus only on the most recent six years, the average percentage point deviation per year falls to .77.

Time will tell how BBER's forecast accuracy holds up. These recent data points will continue to be revised in the coming years, and the relatively stable growth experienced through much of the economic expansion will not remain stable nor predictable forever. But the increasing accuracy in the BBER forecast is currently a trend – one which we will continue to work on improving.

Brandon Bridge is an economist and director of forecasting at the Bureau of Business and Economic Research at the University of Montana.

Figure 1. Actual and projected change in real nonfarm earnings, Montana, 2002-19. Sources: Bureau of Business and Economic Research, U.S. Bureau of Economic Analysis.



Montana's Cities and Regions

Gallatin County Economy Now State's Second Largest

BY PATRICK M. BARKEY

Rome wasn't built in a day, it is said. But residents of Gallatin County might be forgiven if they sometimes feel that each day's passing brings on growth that is visible – a new building shell, a new store opening or a new traffic light. Since recovering the ground it lost in the Great Recession in 2012, the region has grown to become the second largest economy in the state.

Given that the previous No. 2, Missoula County, hasn't exactly been standing still in that same interval of time, that is quite an accomplishment. Since 2007, Missoula's economy has grown by about 24 percent, roughly in line with Yellowstone County (Billings) and slightly faster than Flathead County (Kalispell). Growth in Gallatin County over this same period has been more than 47 percent, almost double what the state's other two largest cities have registered.

Factors Driving Regional Growth

One of the oldest questions in regional economics is understanding what drives growth. Do cities and regions grow because the industries that they specialize in are thriving? Or do they grow by attracting talent and investment that grows the businesses those talented people bring with them? Montana's economies feature a little of both.

Agriculture, natural resources, mining and tourism industries are important drivers, to one degree or another, of the local economies around the state. The stabilization and gradual rise of oil prices has helped end the free fall of oil patch counties on Montana's eastern border, just as the heavy visitor volumes at our national parks have given a push to the economies of the nearby urban areas.

But there is also a robust inflow of new residents to many Montana communities – especially in the West – that has invigorated the construction sectors of those areas. Flathead and especially Gallatin counties have a higher concentration of construction employment and earnings than the rest of the state. In the past two years, Missoula, Ravalli and Madison counties, among others, have also seen healthy in-migration and new construction focused on residential and commercial markets.

Growth Around the State

Data on economic activity in Montana's counties and regions through the midpoint of calendar year 2019 reveal some changes to the three-year-old pattern of western growth and eastern challenges within the state. Western urban areas continue to grow, with growth extending across the border to neighboring counties. But growth in Billings has resumed as well. And the steep declines in oil patch counties have ended, with communities like Sidney and Glendive in eastern Montana now posting positive growth.

Cascade County

The Great Falls economy saw inflation-corrected nonfarm earnings grow a bit faster in 2018. Growth in personal income, which includes both earned and nonearned (property) income, rose by 5 percent before correcting for inflation. The better performance stemmed from a number of factors: a better construction season, continued strength in health care, and respectable growth in the region's military and government facilities. There was also a surge in temp help earnings, related to tech and manufacturing activities.

Great Falls has been challenged by the financial hardships faced by Montana grain and cattle producers, due to both lower prices and retaliatory tariffs placed on U.S. exports. Retail trade, especially equipment dealers, as well as transportation industries have experienced some hardships. The new manufacturing growth that took place in 2014-15 has tapered off and no significant growth has occurred in that segment of the economy.

Flathead County

The faster growth that resumed in the Flathead County economy with the resumption of strong in-migration after the Great Recession showed signs of cooling in 2018 and through the first half of 2019. A third of its $66 million increase in inflation-corrected nonfarm earnings came from growth in the construction industries. Strong housing markets also showed up in growth in finance and insurance businesses. Visitor spending supported robust accommodations and retail trade activity.

On the other side of the ledger are the setbacks for regional health care, which shows some signs of possible overbuilding. In contrast to the impacts of Medicaid expansion showing up around the rest of the state, health care earnings in Flathead County were virtually flat in 2018, and wage growth actually turned negative through the first half of 2019.

Gallatin County

The Bozeman-area economy continued to fire on all cylinders in 2018 and through the first half of 2019, posting the state's strongest growth both in dollar and percent terms. In addition to the growth drivers of the past few years, which have included advanced manufacturing, professional services, Montana State University and visitor-related spending, more recent growth has been spurred on by expansion in health care and retail trade.

One aspect of the area's rapid growth that shows some change is the spread of growth beyond Bozeman. There were more residential housing starts in Belgrade than all but four other cities in the state, one of which is Bozeman itself. As recently as 2012, less than 10 houses were built there. Madison County to the west and Park County to the east have pushed up the rankings and are now in the top quarter of Montana counties in terms of earnings growth.

Lewis and Clark County

The county including the state's capital city experienced another sideways year in earnings growth in 2018. But the more fragmentary data available for 2019 suggests that the pace of growth picked up more recently. Growth in health care and manufacturing, the latter solidified by the growing footprint of Boeing, helped push wage growth in 2019 above recent trends. The region's most important driver continues to be state government, which has seen modest growth.

With the urbanized area (Helena city) located at the southern edge of a county that's two and half times larger than the state of Rhode Island, closely bordered by the northern edges of Jefferson and Broadwater counties, the Helena region is one that is not served well by county-level economic statistics.

Missoula County

Missoula's growth trajectory ratcheted up significantly two years ago as tech-related growth and a commercial construction surge helped offset reductions at the University of Montana to produce faster overall growth. The county's nonfarm earnings growth was the third fastest in the state in 2018, helped along by a one-time injection of cash when technology consulting company ATG was acquired by Cognizant. The latter event made professional services growth in Missoula the highest in the state.

Like other areas in the western third of the state, evidence of strong real estate markets is showing up in the earnings data for Missoula County. There was a two-year spurt of rapid construction in multi-family dwellings that fell back to earth in 2018. Finance and insurance industries, health care and building trades continue to prosper, with wage growth data showing no slowdown in growth through the midpoint of 2019.

Silver Bow County

The smallest of the state's seven urbanized counties, both in terms of income and area, has shown more volatility in its overall growth since the Great Recession. Not only does its overall size limit the degree to which it can diversify, but the continued importance of mining earnings in its economic mix exposes it to the fluctuations of global commodity price swings. Butte-Silver Bow's overall economic trajectory has been roughly flat for the past several years. Yet 2018 was the second consecutive year of modest growth in nonfarm earnings, largely due to a $21.5 million increase in mining earnings, and to a lesser extent growth in visitor spending related activities.

Masked by the volatility has been growth in the county's professional services and manufacturing employers, partially offset by turbulence in health care businesses and at Montana Tech. Recent expansions and upgrades in the area's accommodations facilities has led to noticeable growth in that sector.

Yellowstone County

After experiencing a fairly mild recession followed by some of the super-fueled growth related to the Bakken boom, the state's largest economy has endured a much more lethargic economic performance following the oil price declines at the end of 2014. The low point came in 2016 when nonfarm earnings declined by more than 2 percent, headlining a statewide weakness that ultimately provoked a special session of the Legislature to address its budget implications.

2018 marked the second consecutive year of inflation-corrected growth above 3 percent for the Billings region, with partial data indicating an extension of growth into 2019. A pickup in construction, continued strength in transportation and warehousing, and a second consecutive year of earnings growth in the region's three oil refineries helped produce this result. Since a big chunk of Billings construction is industrial, subject to swings as large projects are started and completed, the prospects of continued strong growth in 2019 are less certain.

Remainder of the State

Montana is one of the few states in the country that is not dominated by its largest cities, in contrast to Idaho (Boise), Washington (Seattle) or Oregon (Portland). The 49 counties not directly discussed here make up an incredibly diverse spectrum of agriculture-based, natural resource-oriented, amenity-focused counties of all types, some of which are closely linked to the state's larger counties. The drivers of their economic activity are similarly diverse, but in aggregate the remainder of the state has seen an improvement in growth through the midpoint of 2019, helped along by construction, services and health care growth.

Patrick M. Barkey is director of the Bureau of Business and Economic Research at the University of Montana.

State Revenue Report

Another Strong Growth Year

BY PATRICK M. BARKEY

After experiencing a pronounced, down-up cycle in general fund revenues for the previous two fiscal years, the state treasury enjoyed a second consecutive year of strong revenue growth in fiscal year (FY) 2019, which ended in June. The growth surge in the U.S. economy has clearly shown up in Montana's bottom line.

The overall growth was propelled by strong growth in Montana personal income tax revenues, the state's largest source of tax revenues. The double-digit percent growth pushed FY19 collections past $1.4 billion, an increase of $131.2 million over a strong year in FY18. Almost every component of income tax revenues showed strength, with growth in withholding ($65.1 million) and current tax payments ($49.5 million) contributing the most to overall growth.

Growth in other general fund tax revenue sources was more restrained, but generally positive. The exception to this pattern was the hard to predict corporation income tax, which grew slightly faster than personal income tax revenue growth. Even some natural resource tax revenues, most notably royalties from federal lands distributed to the state and proceeds from metal mines, showed significant growth. Stagnation in crude oil prices and challenges for coal producers kept production taxes for those commodities in check. Tourism and visitor-related taxes on rental cars and hotel rooms were up sharply.

In an income tax-dependent state like Montana, it is difficult to assess a revenue year until after the spring. But thus far, revenues are continuing to run strong in FY20, an indicator of continued expansion in the state economy.

Patrick M. Barkey is director of the Bureau of Business and Economic Research at the University of Montana.

Table 1. Montana general fund revenue sources, $ millions. Source: Montana Legislative Fiscal Division.

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019		FY 2018-19
Top Seven Sources						**Growth**	**Pct. Growth**
Individual Income Tax	1,175.7	1,184.8	1,168.2	1,297.8	1,429.0	131.2	10.1
Property Tax	247.9	257.1	260.2	276.4	289.2	12.8	4.6
Corporation Income Tax	172.7	118.4	134.0	167.1	186.5	19.4	11.6
Vehicle Taxes & Fees	106.4	108.5	109.2	109.5	109.5	-	-
Oil & Natural Gas Production Tax	73.2	39.1	46.3	54.5	54.2	(0.3)	(0.6)
Insurance Tax & License Fees	66.6	69.3	75.6	75.3	76.1	0.8	1.1
Video Gambling Tax	59.8	60.6	60.0	60.3	63.2	2.9	4.8
Other Selected Taxes							
Lodging Taxes	19.7	21.5	21.8	24.1	26.7	2.6	10.8
Railroad Car Tax	3.7	3.6	3.8	3.6	3.6	-	-
Rental Car Sales Tax	3.9	3.9	3.4	3.7	4.4	0.7	18.9
Telecommunications Excise Tax	18.3	16.8	15.6	13.7	13.2	(0.5)	(3.6)
Coal Severance Tax	16.1	14.2	13.8	14.1	14.1	-	-
Metalliferous Mines Tax	8.3	4.2	4.8	6.3	6.9	0.6	9.5
U.S. Mineral Royalty	27.0	16.8	17.3	20.1	21.6	1.5	7.5
Wholesale Energy Tax	3.8	3.5	3.5	3.6	3.5	(0.1)	(2.8)
General Fund Total	2,199.7	2,121.3	2,141.5	2,405.4	2,573.6	168.2	7.0

Major Economic Events of 2019

Another Year of Growth

BY PATRICK M. BARKEY

2019 was a year of continued respectable growth for the Montana economy overall, but behind that big story were a number of significant individual stories that have had important impacts in many communities:

- The Montana state treasury enjoyed a second straight strong revenue year, with income tax collections growing by $131.2 million in fiscal 2019 over strong growth the previous year. General fund revenue growth was 7 percent.

- After bottoming out in 48th place among states ranked by per capita income in the year 2000, Montana has quietly improved its standing relative to other states. Census data show that Montana per capita income of $47,538 in 2018 ranked 35th among other states and the District of Columbia, ahead of Utah (39th), Arizona (43rd) and New Mexico (49th).

- Newly released economic data on personal income for Montana counties show that Gallatin County (Bozeman) is now the second largest county in the state by this measure, ahead of Missoula. Yellowstone County, at $8.381 billion in 2018, remains the states largest county economy, followed by Gallatin ($6.123 billion) and Missoula ($5.879 billion).

- The owner of the state's largest coal mine filed for bankruptcy in May, and subsequently sold its Spring Creek mine to Navajo Transitional Energy Company in the fall. After some turbulence relating to the legal status of its permit and the tribe's immunity to state environmental regulations, the mine resumed operations in October.

- Kalispell Regional Healthcare System settled a whistleblower case brought by a former executive for $24 million that alleged that it broke federal law by paying kickbacks for referrals in previous years. After several years of expansion and rapid growth, the region's health care economy managed only very modest growth in 2018, the most recent year with data available.

- Multiple bankruptcies and a planned joint operation between Arch Coal and Peabody Energy have changed the landscape of Powder River Basin coal operations. Two mines in Wyoming owned by Blackjewel LLC closed in 2019, and Moody's is forecasting further closures in the next few years – a serious blow to a once dominant coal producing region.

- The median home value in Bozeman pushed up to $440,200, according to real estate web portal Zillow.com. The forecasters there are calling for a further 5.2 percent price rise in 2020.

- Montana's farmers and ranchers experienced another challenging year in 2019, with lower prices impacting grain and pulse crop producers, and international trade issues concerning both crop and livestock producers. Since January 2019, Montana wheat and calf prices have declined by over 15 percent.

- China increased their tariffs on U.S. agriculture goods to 33 percent for soybeans and 50 percent for other farm and fish products, in retaliation for U.S. imposed tariffs on its exports. Trade issues with other countries, including Mexico, also threatened Montana agriculture producers.

- The state's travel industry had a growth year in 2019, with healthy increases in airport enplanements, rental car and lodging revenues.

Patrick M. Barkey is director of the Bureau of Business and Economic Research at the University of Montana.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THE U.S. ECONOMIC OUTLOOK

The U.S. and Global Economies

Is Global Growth Rebounding?

BY PATRICK M. BARKEY

The question many of us were asking at the beginning of last year was how much longer could the U.S. economy continue to ride high as the rest of the world seemed to be faltering? Just a few short months ago, we thought the answer was clear – not much longer. Business spending, manufacturing output and even the pace of job growth all seemed to be going in the wrong direction in the U.S. economy, just as the leaves on the trees were turning.

But much has changed in just a few months. The Federal Reserve has lowered interest rates three times, job growth and consumer spending has remained robust, and the global economic malaise induced in part by trade war-related uncertainties has begun to ease. A recession for the U.S. economy is no longer the most likely scenario for 2020, even as the empty calories of the tax and spending stimulus of 2017 fade and obstacles for important pieces of the economy remain.

Here are the top 10 predictions for the U.S. and global economies for 2020 courtesy of our friends at IHS Markit:

1. U.S. growth will return. Two straight years of an extra fiscal stimulus (and trillion dollar Federal government deficits) helped push economic growth up to about 2.5 percent per year beginning in 2017. This year will see a return to trend growth of about 2 percent, with slower growth averaging 1.6 percent per year to follow. The presidential election brings extra uncertainty, with downside and upside risks.

2. Major economies in Europe teetered on the edge of recession in 2019, but fresh signs suggest Germany and Italy may have stabilized at the end of last year. Consumer spending remains the only true bright spot, thanks to low inflation and low interest rates. This year Eurozone growth should be weak but positive, helped with a trove of new stimulus measured from the central bank. The United Kingdom's fresh push towards Brexit has dimmed prospects in that corner of the continent.

3. Japan's economy actually strengthened in 2019 from a growth stumble in the previous year, but closed out the year on a sour note, as its economy was hit by a major typhoon and a big sales tax hike that hammered retail sales.

4. China's growth continues to drift downward, with new uncertainties stemming from its ballooning public and privately-held debt. Trade frictions with the rest of the world have not helped, but the main reasons for the deceleration are structural as the population ages and business costs rise.

5. Emerging economies will move sideways in 2020, as high debt levels, political instabilities, and lethargic commodity prices continue to challenge once high-flying countries like Brazil, Russia and India.

6. Commodity prices will trend down in 2020, especially in the first half of the year, as softening global demand spreads through markets. Producer cutbacks will make these declines reverse later in the year.

7. Inflation will remain subdued this year, with a strong dollar and well-behaved commodity prices helping to ease price pressures caused by higher labor costs. Tariffs remain an important wild card – evidence suggests that producers have shielded consumers from their full force by sourcing products from countries less affected.

8. The cycle of monetary stimulus that started midway in 2019 should come to an end this year. The Federal Reserve's abrupt U-turn in moving swiftly to lower interest rates shortly

Figure 1. Estimates of recession probability. Source: Wells Fargo.

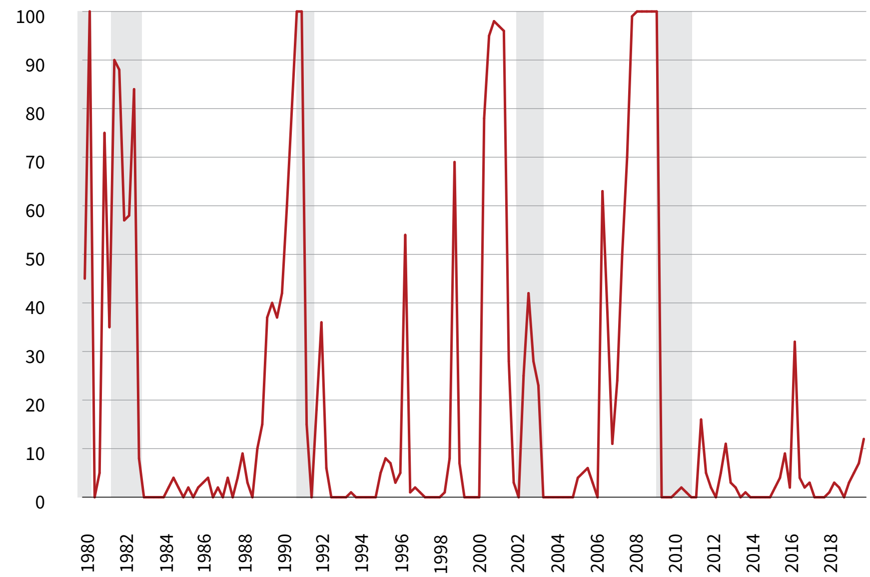


Table 1. A quick look at the numbers (annual rates). Source: IHS Markit.

Annual rates	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2018	2019	2020	2021	2022
Real GDP (% ch.)	2.0	2.1	1.6	2.1	2.3	2.9	2.3	2.1	2.0	1.7
Real consumer spending (% ch.)	4.6	2.9	2.4	2.7	2.8	3.0	2.6	2.8	2.6	2.2
Federal funds rate (%)	2.40	2.19	1.70	1.62	1.62	1.83	2.17	1.63	2.01	2.38
10-yr. T-note yield (%)	2.33	1.80	1.76	1.85	2.05	2.91	2.14	2.12	2.68	2.95
Brent crude price ($/barrel)	68.86	61.93	61.45	59.00	60.70	70.96	63.86	57.01	52.18	56.73
CPI (year/year % ch.)	1.8	1.8	2.0	2.2	1.9	2.4	1.8	1.8	1.8	2.4
Housing starts (millions)	1.256	1.282	1.307	1.301	1.290	1.250	1.264	1.289	1.278	1.279
Unemployment rate (%)	3.6	3.6	3.5	3.5	3.4	3.9	3.7	3.5	3.5	3.8

after gradually increasing them makes policy predictions more difficult, and stimulus is roaring ahead in places like Europe and Japan.

9. The dollar will rise some more. Most of this is due to fundamentals, as the U.S. economy continues to outpace growth among our industrialized peers. It also reflects the "safe haven" aspect of the dollar in global currency markets that has been evident for the last two years.

10. Risks of a recession rose at the end of last year, but have tapered off in recent months. Signs that the manufacturing contractions have stabilized, and the continued strength in consumer spending may have helped the global economy dodge this bullet, but plenty of risks remain. Most prominent, of course, is an escalation in the U.S.-China trade war, with the fragility of growth in Europe and high debt levels in the emerging economies also cause for concern.

Patrick M. Barkey is director of the Bureau of Business and Economic Research at the University of Montana.

FINDING GOOD WORKERS

Finding the Best Solution for Montana

BY PATRICK M. BARKEY

Attend almost any gathering of business people and the topic is sure to come up – finding good workers. After more than a decade of economic growth that has featured strong hiring and steadily falling unemployment rates, labor markets across the country and certainly across Montana are tight. For some the supply of suitable workers for their openings has shrunk to the point where they are questioning how they can continue to fill orders, let alone capitalize on new opportunities.

The data agree with this assessment – at least to a point. The Montana unemployment rate has been below 4 percent for more than two years, with jobless rates for fast growing places like Gallatin County down to an incredible 1.9 percent. At the height of the recession there were more than seven unemployed workers for every job opening in the Western region of the U.S. – now there are fewer than one.

But the story isn't quite this simple. Conventional definitions of unemployment don't count those not looking for work. When taking into account all working age adults, whether in the job market or not, more slack exists than official unemployment rates indicate. Some places in Montana and some subpopulations are faring better than others. Some types of jobs, most notably skilled construction trades, face more acute shortages than others. And through it all we have a quiet revolution in how job candidates and companies find out about each other.

As economic problems go, you might say this is a good one to have – too many jobs, shall we say. But it is a problem nonetheless, and some solutions (e.g., offshoring, turning down business) are worse than others for the economy. Understanding how and why it has come about is critical to crafting strategies and solutions that grow the economic pie.

The Longer View of Tight Labor Markets

A growing economy soaks up unemployed workers – this has been a fundamental part of the economic cycle for as long as data have been recorded. Today's tight labor markets certainly bear witness to that, but other forces are at work

as well. The cycle of demographics is not well understood by many, but its impacts on the labor force are far reaching. Changes in migration of workers and families, both within and from outside the country, have given areas that attract those new residents a distinct advantage. And the preferences and desires of our newest generations – the millennials and the Gen Z's that follow them – present daunting challenges and opportunities for Montana employers today and in the foreseeable future.

The most important event in our modern demographic history – the post-war baby boom – is starting to play out. The retirement of the boomers has played a large role in today's markets, driving down growth in the U.S. working age population (ages 20-64) from over 1.5 percent to just over zero today. But this cycle is turning – the trend of decline in working age population growth will flip to growth in the early 2020s as boomer retirements ebb and Gen Z's mature into the potential workforce.

Domestic and international migration is a wild card that will continue to shape these trends. International migration, particularly of Hispanics, has given a more youthful tinge to U.S. population in recent years. Gen Z makes up almost 20 percent of national population today, higher than any of the

THE MOST IMPORTANT EVENT IN OUR MODERN DEMOGRAPHIC HISTORY – THE POST-WAR BABY BOOM – IS STARTING TO PLAY OUT.

G10 countries in Europe and Asia. Montana communities have experienced both sides of these effects, with faster growing areas attracting younger migrants just as rural communities deal with their exits.

The preferences and desires of those aging into prominence in today's labor markets promise to be of even greater importance for Montana employers in the coming years. Gen Z's want to go to college, just like the millennials they followed. They say they want to work in technology and health care jobs – only 4 percent say they would consider a construction job. And their movement toward cities and large urban areas presents challenges to a state of smaller cities and plenty of open space.

How Markets and Companies Adjust

What academics and researchers say about the future is important, but companies need to survive and grow today. What are they doing and what can they do to address their own staffing problems?

Of course they can boost salaries. What would you expect an economist to say? Nationally, there is some evidence of this with faster growth in hourly wages. In Montana the evidence is less clear – wage growth is more erratic, but showing faster growth in the last year. Higher wages are not a zero-sum solution, as they can lead to higher participation rates in the population by making employment more attractive.

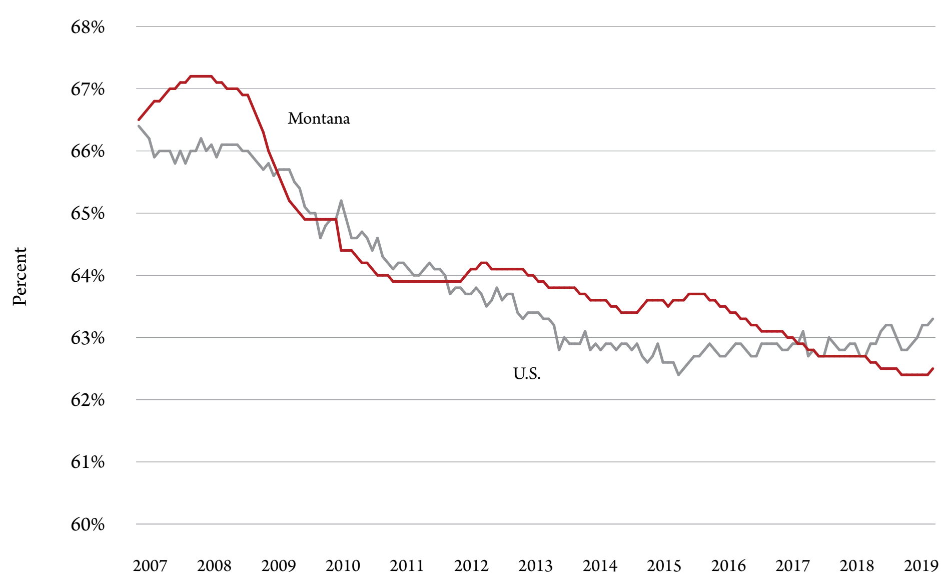
That solution is not available for many employers who lack the ability to pass on cost increases to their customers. There are a variety of other actions that might be considered:

- Reorganizing roles in the workplace, redefining some jobs to fill the gaps created by unfilled vacancies;
- Hiring less qualified workers, investing in training to bring them to the required level of skill, even at the risk of losing their investment when they take jobs elsewhere;
- Pursuing automation as a way to reduce staffing requirements;
- Outsourcing or offshoring tasks once performed in-house;
- Broadening the search process to address different geographies, subpopulations and information platforms, especially those afforded by innovations in job search technology.

The information age has produced marked shifts in how job openings are filled. The demise of the newspaper classified ad is obvious from the stock prices of surviving print media companies. In its place is a world where data is cheap, but extracting information from the noise is not. It's also a world where workers review you, and managing your company's online reputation can boost or defeat your efforts.

The solution of turning down work that is offered, or even cutting back on current operations, is another kind of

Figure 1. U.S. and Montana labor force participation rates, seasonally adjusted, 2007-19. Source: U.S. Bureau of Labor Statistics.



adjustment that is clearly on the menu of choices as well. And some Montana employers have doubtlessly gone down this path.

Another solution, if you can call it that, will inevitably occur in the next economic downturn when market power swings back to employers as disruptions and layoffs increase the number of job seekers.

Thinking Outside the Box

Is it time for fresh thinking on recruiting and retaining good workers? Nothing fuels innovation like scarcity. Some solutions to finding good workers for openings are hiding in plain sight, although making them work might be more than an individual company can take on. Perhaps policy could help.

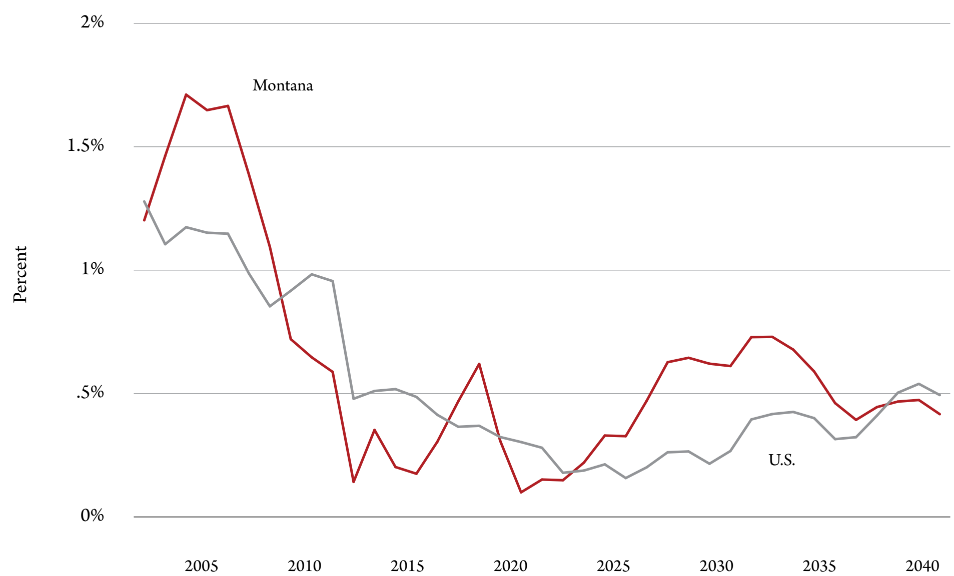
Some of these ideas are different. Some might even be considered dead on arrival. Yet they address a real problem and could offer some relief. They include:

- Tapping the teenage labor force. Teenager participation rates are down almost 20 percentage points from 2000, when more than half of those aged 16-19 worked.
- Reconsidering drug testing. With recreational cannabis gaining public acceptance, is it time to revise our thinking on drug testing as an absolute requirement for employment?
- Convicts and ex-convicts – with 4 percent of the world's population, the U.S. has 22 percent of the world's prisoners. Is this an opportunity?

A RECENT SURVEY REPORTED THAT A LARGE FRACTION OF HIGH SCHOOL STUDENTS WOULD NOT CONSIDER A CAREER IN CONSTRUCTION EVEN FOR A SIX FIGURE SALARY.

Other ideas are perhaps less controversial, yet no easier to implement. The most straightforward is devising better

Figure 2. Growth in working age population (20-64), U.S. and Montana. Sources: Census Bureau, Bureau of Business and Economic Research.



tools and policies to accommodate fuller participation of young women in the workforce. While narrower than some other countries, in the U.S. women have participation rates that are 10 percentage points lower than men. And they work less hours. Child care is ferociously expensive when it is available, which in many places it is not.

It is also a time for employers of all kinds, but especially for those requiring skilled trades employees, to start reaching out to potential workers at a younger age. A recent survey reported that a large fraction of high school students would not consider a career in construction even for a six-figure salary. That's a daunting challenge that should spur employers to action to dispel perceptions that may pose a dire threat to their pipeline of new workers.

And then there are older workers. They are already more numerous in the workplace, with a quarter of the workforce aged 55 and older in 2024, compared to just 12 percent in 1994. Abolishing mandatory retirement ages and pushing up the Social Security and Medicare ages would strengthen the incentive to work, certainly. But only if employers want them – and there is evidence that older worker's higher costs and relatively lower motivation to learn new things makes them less attractive. Addressing these challenges wouldn't be easy, but there are clearly rewards to doing so.

What's Best for Montana?

As a sparsely populated state that straddles the Mountain West and the Great Plains, Montana has some advantages and also some special challenges in addressing its own workforce challenges. Migration trends favor us, especially in the western portion of the state. But we are also a less diverse, less urbanized state with limited resources to pursue expensive policy options, even if we could agree on what those might be. That puts the ball squarely in businesses' court to grow through these workforce challenges – will we like the solution?

Patrick M. Barkey is director of the Bureau of Business and Economic Research at the University of Montana.

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THE TRADE WAR COMES TO MONTANA

Tariffs Hit Farmers, Ranchers and Manufacturing

BY ROBERT SONORA AND BRIGITTA MIRANDA-FREER

In early 2018, the Trump administration announced its first round of trade tariffs – none of the administration's trade policies have been ratified by Congress. The first round began in January 2018 on consumer appliances, and was quickly followed by tariffs on imported steel and aluminum. In May 2019, an additional $50 billion in tariffs were added on Chinese imports. The repercussions of these restrictive trade policies resulted in predicted retaliatory tariffs on U.S. exports.

The impacts of these tariffs are being passed on and paid for by U.S. consumers – because tariffs lead to higher domestic prices for protected goods. A recent study by the Peterson Institute for International Economics found that tariffs on steel and aluminum imports are costing the U.S. economy an astounding $900,000 per job saved. Similarly, economists from the University of Chicago and the Federal Reserve found the cost per a job saved to be about $815,000. Another study conducted by economists from the New York Federal Reserve, Columbia and Yale found that 100 percent of the tariffs are being passed onto consumers in the form of higher final goods prices.

But U.S. tariffs on imported goods are only half the story. They have sparked a trade war – which are far from easy to win – and other countries have retaliated with tariffs of their own on U.S. exports.

In response to tariffs on Chinese imports, China has severely restricted imports from U.S. sources, primarily in manufactured and agricultural goods. Because tariffs were done unilaterally, other countries have simply substituted U.S. exports for third country exports. For example, China shifted consumption of U.S. soybeans to those produced in third countries like Brazil. In 2016-17, U.S. soybeans accounted for about 60 percent of Chinese imports, while

Brazil's share was just over 30 percent. By 2018-19, Brazil's share was roughly three-fourths of Chinese imports and the U.S. export share fell to 10 percent.

This is significant – before the trade war soybeans were the largest agricultural U.S. export to China. Montana's largest export to China is wheat, which through August 2019 has declined 90 percent compared to 2018 to $10.3 million.

None of these measures have improved the U.S. trade deficit, the plausible reason for raising tariff barriers. If anything, the deficit is widening.

According to the most recent data, U.S. exports are falling faster than imports. Figure 1 shows and annual percent change in exports and imports adjusted for inflation from 2012-19. There is a distinct decline in export growth beginning in the first quarter of 2018, which began to shrink in 2019. Import growth has slowed, but not yet started to fall.

But tariffs are not the whole story on the decline in U.S. exports. With tariffs comes an appreciation of the U.S. dollar versus other currencies. Tariffs reduce the relative demand for foreign currency. Imports are more expensive, which causes the dollar to strengthen and makes imports less expensive for U.S. consumers and U.S. exports costlier for foreign consumers.

Finally, while the U.S. is relatively less reliant on trade, which accounts for about 27 percent of economic activity, for other trading partners the percent of GDP exposed to world markets is higher. For example, South Korea's exposure to trade is 83 percent of GDP. By restricting imports, U.S. tariffs may cause these economies to slow down, further reducing demand for U.S. exports.

The end effect of the ongoing trade dispute is a slowing down of overall global economy. The subtitle of the International Monetary Fund's October 2019 economic outlook is "Global Manufacturing Down, Rising Trade Barriers." The combined effects of these two factors have reduced the 2020 global forecast from 3.3 percent in April to 3 percent today. Moreover, the growth rates for the U.S., Chinese, European and Japanese economies are estimated to be below the global growth rate average through 2024.

Effects of Trade Policy on the Montana Economy

The impact of mercurial trade policy tied to tariffs can be felt broadly across Montana. Farmers and ranchers are experiencing decreased market opportunity and manufacturers are facing increased input costs that must be passed along to their customers.

To provide further insight on the impact of U.S. imposed tariffs, let's highlight a few case studies of the effects on Montana's farms and businesses.

First, let's consider Montana's manufacturers using steel and aluminum for their finished products. Industrial equipment manufacturers across the state rely on steel and aluminum to fuel their businesses.

One small business owner stated, "Montana manufacturers are already at a disadvantage due to geographical remoteness, which results in increased shipping costs. Increased raw material costs due to tariffs adds insult to injury. Raw steel prices doubled for us seemingly overnight. It wasn't something we could have planned for. We had no choice but to increase the price to our end users accordingly... In the longer term, all of this uncertainly really impacts our ability to make capital investments or even think about expanding."

Another Montana-based firm selling outdoor retail products globally recently shared similar concerns in a Washington Examiner article. It sheds light on the cumbersome process of pursuing tariff exemptions.

"We are certainly hopeful that our petitions are successful, but it will likely be months before we know the outcome, and in the meantime we need to make important long-term business decisions," said Ben Christensen, senior director of development at Simms Fishing. Christensen added, "We launch products about seven to eight months prior to actually shipping our products to customers. We have salesmen who go out and give our retailers an advance preview of the products that are coming, so they can write hard orders for them... So, we've already written a lot of orders for spring 2020. Normally, once those orders are written they're firm."

Turning to the reshoring argument (the practice of bringing manufacturing and services back to the U.S. from overseas), another longstanding Montana firm with global operations and predominantly China-based supply chain reports that the net impact of tariffs on its bottom line will be nearly $1.2 million in 2019 – that's with an exemption to a 25 percent tariff it was able to secure on a primary input. Firm management and others describe a backlog created by tens of thousands of exemption requests filed with U.S. Customs and Border Protection, meaning the 90-day ruling period has been extended in some cases by months. Nonetheless, reshoring isn't a viable option in the near term.

"We've worked for decades with tens of millions invested to build and refine our supply chain partnerships. That work and those relationships just can't be recreated overnight. And even if we did finally make the decision to try to source from suppliers from elsewhere or to reshore operations here

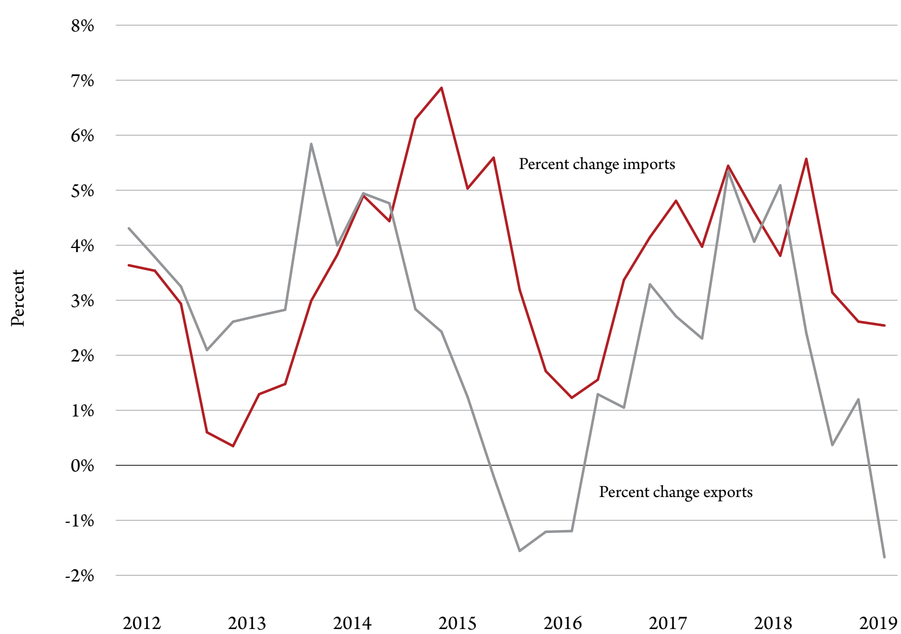

Figure 1. Annual growth rate of real exports and imports. Sources: Bureau of Economic Analysis and Federal Reserve Bank of St. Louis.

MONTANA MANUFACTURERS ARE ALREADY AT A DISADVANTAGE DUE TO GEOGRAPHICAL REMOTENESS, WHICH RESULTS IN INCREASED SHIPPING COSTS. INCREASED RAW MATERIAL COSTS DUE TO TARIFFS ADDS INSULT TO INJURY.

in the U.S. at the cost of two times over our current investments, who's to say that a deal won't be made tomorrow with China? That puts us at a substantial competitive disadvantage relative to our competitors who are largely choosing to wait out the storm."

Finally, there's Montana's front line in international trade – agricultural producers that operate in a local and global market. As China predictably retaliates against U.S. imposed tariffs with countervailing duties on agriculture, Montana's producers are hurting. Despite efforts to cushion the blow with some relief – the Trump administration extended farm aid over 2018 to 2019 to $28 billion – direct payouts do not make up for total lost revenue. They also do not address the long-term financial consequences of losing major markets like China – a country to which Montana exported over $65 million of wheat in the market year prior to the start of the current trade war.

Michelle Erickson Jones' experience is echoed by many agricultural producers across Montana when speaking about the impact of trade policy to Congress.

"China is the world's largest wheat consumer with a significant trade opportunity in their market. In market year 2016-17, China was our fourth-largest customer. But when China placed a 25 percent retaliatory tariff against U.S. wheat, not one new shipment has been purchased from the United States since March, and the last shipment arrived in June... There have been very few issues in my career as a farmer that have caused me to lose sleep. But these tariffs are one of them."

Since March 2018, with the exception of a single, small purchase by a private company, China has continued to source wheat from our top competitors in Canada and Australia. Recently, China returned to international markets to purchase soft white wheat from Washington, however that wheat has not yet shipped.

References

Amiti, Mary, et al. "The Impact of the 2018 Trade War on U.S. Prices and Welfare - Department of Economics." *Princeton University*, The Trustees of Princeton University.

DeBarros, Anthony, and Josh Zumbrun. "Companies Struggle While Awaiting Rulings on Tariff Exemptions." *The Wall Street Journal*, Dow Jones & Company, 10 Oct. 2019.

Flaaen, Aaron, et al. "The Production, Relocation and Price Effects of U.S. Trade Policy: The Case of Washing Machines." *BFI*.

Higgins, Sean. "Businesses Seeking Exceptions to China Tariffs Say What They Really Need Is Certainty." *Washington Examiner*, 30 Oct. 2019.

Hufbauer, Gary Clyde, and Euijin Jung. "Steel Profits Gain, but Steel Users Pay, Under Trump's Protectionism." *PIIE*, 15 Jan. 2019.

"Montana Wheat Farmer Testifies on the Impact of Tariffs on Agriculture and Rural Communities." *U.S. Wheat Associates*.

U.S. National Oceanic and Atmospheric Administration. "Mapping $8.5 Billion in Trade Assistance." *American Farm Bureau Federation - The Voice of Agriculture*, 12 June 2019.

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HOW DOES MONTANA'S TAX SYSTEM MEASURE UP?

An Overview of Montana Taxes

BY DOUGLAS J. YOUNG

Taxes are an important and often contentious public policy issue. What one pays and what those taxes pay for varies state to state. So, how does Montana's tax system compare to other states? Before discussing the numbers, it's worth considering what constitutes a "good" tax system.

First, a good tax system is one that promotes economic opportunity. For many years Montanans have seen large numbers of young people leaving the state for better opportunities elsewhere, and most of us wouldn't mind an increase in our own incomes as well. To the extent that a tax system can improve that situation, or at least not discourage opportunity, is desirable.

A second criterion for evaluating a tax system is fairness – this has to do with who bears the burden of paying taxes. It is very difficult to pin down exactly what constitutes a fair tax system. In fact, most people's definition of a fair tax is one that somebody else pays, which accounts for the popularity of taxes on tourists and to some extent natural resource taxes.

A third factor is low administrative and compliance costs. These are the costs borne by the government in collecting taxes, and also the costs borne by the private sector in complying with the tax code. A complicated tax system has greater administrative and compliance costs than a simpler system.

A fourth factor is stability. You may recall that the Montana Legislature was called back into a special session in the fall of 2017 – only six months after it had adjourned not expecting to return for 21 months. The primary reason for the special session was that tax revenues had fallen short of projections. The special session cut planned expenditures for mental health, nursing homes and other programs, shifted funds around, and eventually balanced the budget.

A good system also provides adequate revenues. In fact, revenues to fund government services are just about the only good thing about taxes. If it weren't for the police and fire, roads, schools, health care and other services that are provided by taxes, we could just go home and forget the whole thing.

Are Taxes High in Montana?

Montana's overall tax burden is much lower than the national average and significantly lower than three of the four neighboring states, as shown in Table 1. Total taxes include property taxes on residential, commercial, industrial, agricultural and any other property, personal and corporate income taxes, all kinds of sales and excise taxes, and severance and other taxes levied on natural resources. They include taxes levied by all levels of state and local government, including the state, counties, cities and towns, school districts, right down to mosquito control districts.

Montana's taxes in 2016 totaled $3,827 per person compared to a national average of $4,496, making Montana the 37th highest among the states.

The last two columns show taxes as a percentage of personal income, one measure of one's ability to pay. Montana's per capita income in 2016 was 88 percent of the national average, suggesting that the burden may be greater than the per capita tax figures suggest. But taxes are also below the U.S. average when expressed as a percentage of income and have a similar ranking (38th highest).

Natural Resource Tax Revenues

Montana's tax revenues from natural resources are much lower today than in the 1980s, as Figure 1 shows. In the early 1980s they brought in more than $700 per person each year in today's dollars. That was about the amount that a typical state received from its general sales tax. But natural resource revenues declined in the late 1980s as oil and other energy prices fell, there was a partial recovery in the late 2000s, but those revenues have again diminished in recent years.

Composition of Taxes

Montana relies relatively heavily on property, income and other taxes as shown in Figure 2. Montana gets 40 percent of its tax revenues from the property tax, while a typical state gets only 31 percent.

Montana does not have a general sales tax, but it does levy a variety of excise or selective sales taxes on tobacco, alcohol, gasoline, motel rooms, life insurance policies and other items. Altogether, Montana's selective sales taxes are 18th highest in the country as a percentage of income. Still, when general and selective sales taxes are added together, Montana gets less than half as much from these sources as a typical state does.

On the other hand, Montana's personal and corporate income taxes provide about 33 percent of total tax revenues, above the national average of 27 percent.

Finally, Montana gets more taxes from other sources than a typical state. These include motor vehicle taxes and natural resource taxes, and while Montana's natural resource revenues are much diminished from 35 years ago, they are still more than a typical state.

Property Taxes

Data suggests that Montana's average effective tax rates on residential properties are well below the national average and near the midpoint for states in the region (Table 2).

"Average" is an important word here, because property taxes vary dramatically around the state. Property values and mill levies vary across school districts, counties, cities and other taxing districts.

The effective tax rate is the property tax bill divided by the market value of the property – what it would sell for in an arm's length transaction between a willing and informed

Table 1. Total taxes, FY 2016. Sources: Tax Foundation, U.S. Bureau of Economic Analysis.

State	$ per Person	Rank	% of Income	Rank
Montana	$3,827	37	8.7%	38
Idaho	$3,514	45	8.7%	39
North Dakota	$6,630	4	12.6%	3
South Dakota	$3,938	31	8.1%	47
Wyoming	$5,545	13	10.0%	19
U.S. average	$4,946		9.9%	

Figure 1. Natural resource tax revenues. Source: Montana Department of Revenue.

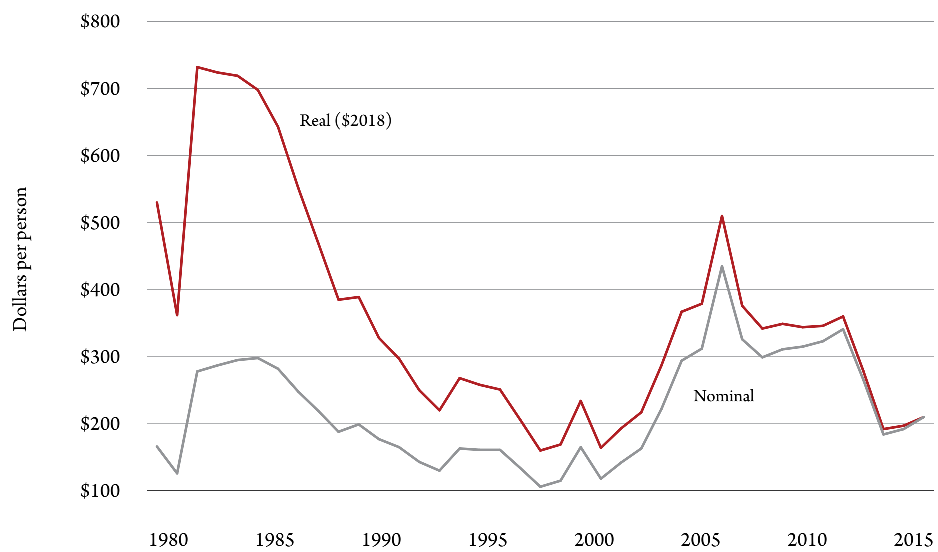
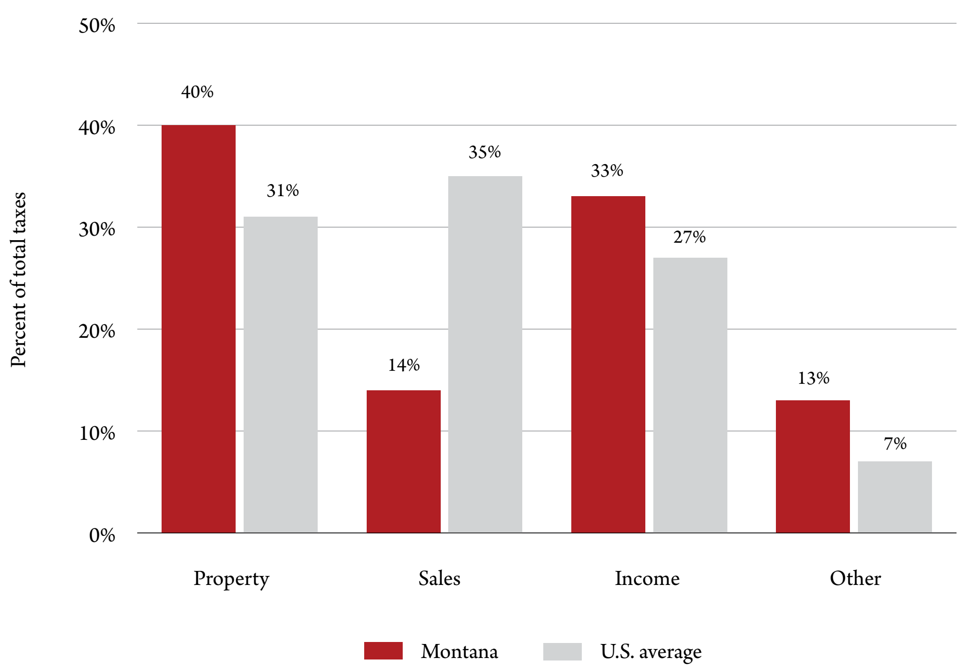


Figure 2. Tax composition, FY 2016. Source: U.S. Census Bureau.



buyer and seller. Table 2 displays two sets of estimates – one from the Tax Foundation and the other from the Minnesota Center for Fiscal Excellence. While the Tax Foundation estimates are based on a statewide sample, the Minnesota Center estimates are specific to the largest city in each state, which for Montana is Billings. Unfortunately, Billings is not representative of the state as a whole or even the larger cities: In any case, both sets of estimates suggest that Montana's average effective tax rates are well below national averages and near the midpoint for states in the region.

The estimated tax rates are even lower for small industrial properties, but higher for larger industrial properties, as Table 3 shows. The small property is based on $100,000 of land and buildings, while the large property is based on $25,000,000 of land and buildings. In addition to the real estate values, each property is assumed to have machinery and equipment, inventories and fixtures, which are taxable at various rates in some states.

Montana's property tax classification system is one of the most complicated in the nation, dividing taxable property into 14 different groups valued by four different methods and taxed at 10 different rates.

Income Taxes

Montana's individual income taxes are slightly below the U.S. average on a per person basis, and above average as a percentage of income (Table 4). Idaho and North Dakota's taxes are somewhat lower, and neither South Dakota nor Wyoming has an individual income tax. Montana's top marginal tax rate of 6.9 percent ranks 13th highest in the country.

Table 2. Effective tax rates on residential property, FY 2018. Source: Tax Foundation and Minnesota Center for Fiscal Excellence.

	Tax Foundation		Minnesota Center for Fiscal Excellence		
	Rate	Rank	City	Rate	Rank
Montana	0.73%	33	Billings	0.94%	40
Idaho	0.72%	34	Boise	0.85%	43
North Dakota	0.90%	24	Fargo	1.07%	36
South Dakota	1.18%	17	Sioux Falls	1.53%	19
Wyoming	0.58%	44	Cheyenne	0.64%	49
U.S. average	1.05%			1.45%	

Table 3. Effective tax rates on industrial property, FY 2018. Source: Minnesota Center for Fiscal Excellence.

		$100,000 Property		$25,000,000 Property	
		Rate	Rank	Rate	Rank
Montana	Billings	0.51%	49	1.25%	27
Idaho	Boise	0.57%	47	1.12%	32
North Dakota	Fargo	0.47%	51	0.47%	51
South Dakota	Sioux Falls	0.64%	43	0.64%	47
Wyoming	Cheyenne	0.63%	45	0.63%	49
U.S. average		1.20%		1.32%	

Montana's individual income tax is more complicated than that in a typical state because Montana law mandates a relatively large number of adjustments to federal adjusted gross income, credits and deductions. Some states just use federal taxable income. Adjustments and deductions, which reduce taxable income in turn require higher tax rates in order to raise a target amount of revenue.

Montana's tax rate on corporate income of 6.75 percent is the 22nd highest in the country, slightly lower than Idaho's (6.92 percent), and considerably higher than North Dakota's (4.31 percent). Corporate income tax collections per person in Montana are the 27th highest in the U.S. Neither South Dakota nor Wyoming has a corporate income tax.

Business Tax Climate

What does this all mean in terms of encouraging or discouraging business in Montana? The overall level of taxation is below average, but Montana relies relatively heavily on property and income taxes. On the other hand, Montana does not have a general sales tax, a significant part of which is paid by businesses in many states. The Tax Foundation has combined information on all these taxes and the unemployment insurance tax into an index of Business Tax Climate. Montana has the fifth best overall business tax climate.

Personal Tax Burden by Income Level

The estimated burden of all personal taxes in Montana is below average for both low income and high income families, as shown in Table 5. Personal taxes include individual income, general sales, property and auto taxes. Estimates are shown for hypothetical families of three. At the $25,000 income level Montana's taxes are among the lowest in the country at 7.5 percent, in comparison with a national average of 10.6 percent. One reason for this is the absence of a sales tax – the average family in the country pays almost $1,000 in sales taxes at this income level. However, the absence of a sales tax is not necessary for low taxes.

At the $150,000 level, Montana's taxes remain below the U.S. average, but our rank moves up from 47th to 37th. Property and sales taxes in Idaho are each about $1,500 more than in Montana at this income level. South Dakota and Wyoming have much lower taxes at the $150,000 income level, because neither state has an income tax. And North Dakota has used a portion of its Bakken revenues to lower other taxes, or at least not increase them.

Montana's tax structure is progressive – taxes rise as a percentage of income as income increases. In Montana the tax rate increases slightly, from 7.5 percent to 8.8 percent as income rises from $25,000 to $150,000. Not a big increase, but greater than zero. In most other states taxes decline as a percentage of income as income increases, indicating a regressive tax structure.

Evaluation

How does Montana measure up relative to the criteria for a good tax system?

Promote economic opportunity: Montana's overall tax burden is much lower than the national average and lower than three of the four neighboring states. The Tax Foundation's index of Business Tax Climate ranks Montana as one of the best in the country. Of course, tax structure affects different types of

Table 4. Individual income taxes. Sources: Tax Foundation and U.S. Bureau of Economic Analysis.

State	$/Capita	Rank	% Income	Rank
Montana	$1,137	23	2.6%	16
Idaho	$905	32	2.2%	30
North Dakota	$465	41	0.9%	41
South Dakota		No income tax		
Wyoming		No income tax		
U.S. average	$1,164		2.3%	

Table 5. Personal tax burden by income level. Source: Government of the District of Columbia.

	Income=$25k		Income=$150k	
State	**Rate**	**Rank**	**Rate**	**Rank**
Montana	7.5%	47	8.8%	37
Idaho	7.8%	46	10.8%	19
North Dakota	8.0%	45	5.3%	48
South Dakota	9.9%	33	5.5%	47
Wyoming	8.7%	38	4.7%	50
U.S. average	10.6%		9.8%	

business differently. For example, some businesses benefit a great deal from the absence of a general sales tax, while this is less important for other businesses. And Montana's property taxes on large industrial businesses are relatively high. But overall Montana's tax structure is friendly to business.

Fairness is very hard to objectively define and often in the eye of the beholder. Direct taxes on individuals in Montana are less regressive than in most other states, which many people view as desirable. Despite evidence that residential property taxes are not especially high in Montana, many citizens are concerned that they are rising rapidly and not reflective of income, thereby making them unfair.

Administrative and compliance costs: Montana's property tax classification system is one of the most complicated in the nation, and the income tax has an exceptionally large number of adjustments, credits and deductions. However, the absence of a sales tax reduces these costs.

Stability: Property taxes are typically the most stable of revenue sources, followed by sales taxes and then income taxes. Resource tax revenues often fluctuate dramatically along with prices for coal, oil, gas and other resources. Thus, Montana relies especially heavily on one stable source (property tax), and on two relatively unstable sources (income and resource taxes).

Adequate revenue: The decline in resource revenues over the past 30-plus years has raised concerns about revenue adequacy. In the end, whether one views current revenue as adequate or not depends primarily on whether one favors more or less government spending. While taxes themselves are a burden, the government services they finance – including education, health care, public safety and infrastructure – help to provide a skilled, productive work force and community environment that make Montana an attractive place to live and do business.

Tax Reform?

If Montana wishes to provide property tax relief and at the same time compensate for the loss of resource revenues, it will need to find additional revenue elsewhere. Some additional income tax revenue would be garnered from adjusting rates and brackets, and eliminating some deductions and credits, but Montana's income tax is already above national and regional averages as a percentage of income.

Proposals for sales taxes are again under discussion. They range from expanded taxes on tourists to local option sales taxes to a statewide general sales tax. The latter option would generate the most revenue and therefore provide both for property tax relief and revenue adequacy. Sales taxes take a larger share of income from the poor than the rich; this regressivity could be offset with a refundable income tax credit for low income Montanans.

A sales tax has been controversial issue in Montana for decades. Gov. Tim Babcock proposed a sales tax in the 1970s that was defeated. The very popular Gov. Marc Racicot got a sale tax referendum on the ballot in the 1990s - it was voted down 3 to 1. Will a sales tax be adopted this time around? We'll have to wait and see.

Douglas J. Young is professor emeritus in the Department of Agricultural Economics and Economics at Montana State University.

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Includes smelter, base metal refinery and analytical laboratory
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At Sibanye-Stillwater, we believe our mining improves lives. We are committed to creating superior value for all of our stakeholders, including employees, suppliers and communities.

Over **1,600** Montana employees
Over **$16.8 million** in local taxes annually
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Over **$40 million** in annual employee taxes
Over **$490 million** in total annual purchases
Over **$55,000** in scholarships awarded
Nearly **$400,000** in charitable contributions annually with focus on rural emergency and healthcare services, STEM education, local community improvement activities and environmental stewardship

ASSESSING MONTANA'S KEY INDUSTRIES

Farming and Ranching

Price Declines and Exports Make for a Challenging Year

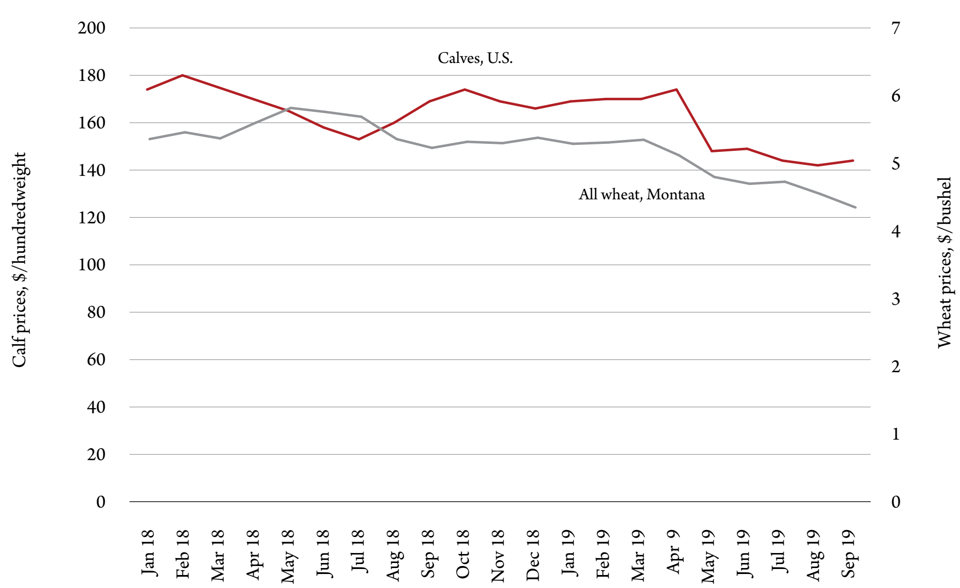
BY GEORGE HAYNES AND KATE FULLER

Montana's farmers and ranchers experienced another challenging year in 2019, with lower prices impacting grain and pulse crop producers, and international trade issues concerning both crop and livestock producers. Since January 2019, Montana wheat and calf prices have declined by over 15 percent. In general, agricultural prices have been hovering around breakeven levels for the past couple of years. Price forecasts for the next five years suggest steady prices in wheat and other grain markets, and somewhat higher prices in the hay and cattle markets.

Crop Production and Prices

Crop production has returned to normal production levels over the past two years. A favorable growing season resulted in higher production for many wheat, barley and hay producers throughout most of Montana. Total production

Figure 1. Calf and wheat prices, January 2018-September 2019. Sources: USDA Quickstat.



of winter wheat increased by 21 percent, primarily because of additional harvested acres. Total production of barley increased by 32 percent because of additional harvest acres and 4 percent higher average yields. Finally, alfalfa and grass hay production increased slightly, because of increased hay acreage, although average yields were slightly lower.

A relatively good production year was met with mixed prices for grain, pulses and hay by early fall. All wheat and barley prices trended downward in 2019. Winter wheat prices decreased by nearly 19 percent; spring wheat and barley prices were over 5 percent lower than the previous year. Pulse prices trended downward with lentil prices declining by 15 percent and dry peas and dry beans prices declining slightly. Hay prices remained stable to slightly lower than the previous year; however, price forecasts for hay are optimistic. Price forecasts for the next five years suggest steady prices in the wheat, barley and pulse markets.

Livestock (Cattle) Production and Prices

U.S. beef production increased by less 1 percent in 2019. U.S. beef production forecasts suggest that production will increase by 3 percent in 2020 to 27.7 billion pounds. U.S. beef exports decreased by 10 percent from 2018, but are expected to increase by 6 percent in 2020.

Beef exports to Indonesia, China, Vietnam, South Korea and the Philippines increased; but they decreased to Japan, Mexico and Hong Kong. U.S. beef imports declined by 2 percent from 2018, and are expected to decline further in 2020. Montana ranchers are largely cow-calf producers, who market about 1.5 million calves each year. Calf prices declined by over 15 percent from the previous year; however, price forecasts for the next five years suggest higher prices in the cattle market.

Farm Financial Conditions

U.S. net farm income increased by over 4 percent from 2018 through 2019. The average U.S. farm balance sheet has remained healthy with a debt to equity ratio below 16 percent and debt to asset ratio below 14 percent. One important challenge facing producers is liquidity, where the average U.S. farm current ratio (current assets/current liabilities) has declined from 2.87 in 2012 to 1.48 this year. As reported last year, these ratios suggest that U.S. agriculture is facing short-term liquidity challenges, but not long-term solvency challenges.

George Haynes is an agricultural policy specialist with the Department of Agricultural Economics and Economics at Montana State University. Kate Fuller is an assistant professor and extension specialist in the Department of Agricultural Economics and Economics at Montana State University.

Forest Products

Positive Signs for Montana

BY TODD MORGAN, KATE MARCILLE AND STEVEN HAYES

Lumber prices in the United States reached the highest prices seen in two decades during June 2018. After peaking, lumber prices plunged through January 2019 and ended the year approximately 35 percent below the 2018 high point – but still hovering above the 20-year average. In the face of declining lumber prices and rising interest rates through July 2019, Montana's sawmills and loggers feared hard times. However, several factors including a 2 percent increase in new home starts during the third quarter of 2019, falling mortgage rates, declining lumber production capacity in Canada, as well as tariffs on Canadian lumber coming into the U.S., helped keep Montana mills afloat.

Lumber production in Montana through the first nine months of 2019 was 364 million board feet (MMBF), down only 2 percent compared to the same period in 2018. Though employment at Montana mills over the same period was down less than 1 percent, wages for production workers slipped by about 6 percent since 2018.

Total employment in Montana's forest industry was estimated to be about 8,020 for 2019, up 1 percent from 2018 (Figure 1). Employment gains were estimated in the forestry, logging and forestry support sectors, but wood products manufacturing remained flat and showed signs of slight decreases. Income to workers in the overall forest industry was estimated to be relatively unchanged from 2018, with increases for in-the-forest workers offset by income declines on the wood products manufacturing side.

Total timber harvest volume in Montana during 2019 was estimated to be more than 390 MMBF Scribner, up almost 3 percent from 2018 (Figure 2). While timber harvest from private, state and tribal lands declined slightly, harvest volume from national forests in Montana was estimated to have increased over 12 percent, based on figures for the first half of 2019. National forests account for roughly 60 percent of the timberland available for harvest in Montana, and since 2010 have provided about 40 percent of the harvested volume in the state. During 2018, more than 174 MMBF Scribner was harvested from national forest lands in Montana, representing the highest volume removed from national forests in the state since the Great Recession. National forest harvests have averaged 136 MMBF since 2010, after recovering from record lows during the 2006 to 2008 time frame.

Like many businesses in Montana, forestry operations and wood products manufacturers are challenged by low unemployment rates, an aging workforce, recruiting and retaining new employees, and appealing to the next generation of potential labor force participants.

Expectations for 2020 are mixed. There are positive signs for Montana on the forest management side, as state and federal agencies cooperate through the 2014 U.S. Farm Bill's Good Neighbor Authority to restore forest health, reduce wildfire hazard and harvest timber to meet ecological and economic objectives. Signs are more mixed for Montana's forest industry in the housing and wood products markets, which are challenged by broader economic forces, including the slowing of new home construction, low timber prices and high capacity competitors in the U.S. Southeast coupled with an ongoing trade war with China.

Todd Morgan is director of the Forest Industry Research Program at the Bureau of Business and Economic Research. Kate Marcille is a forest economist and Steven Hayes is a senior research forester with the Forest Industry Research Program.

Figure 1. Montana's forest industry employment by sector, 1990-2018. Sources: Bureau of Economic Analysis, Bureau of Labor Statistics and Bureau of Business and Economic Research.

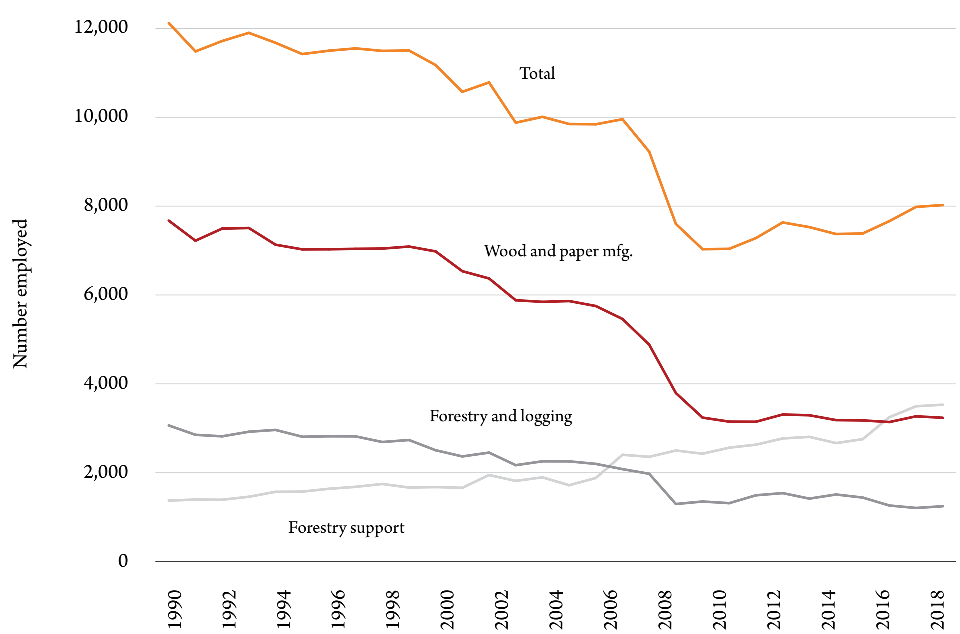
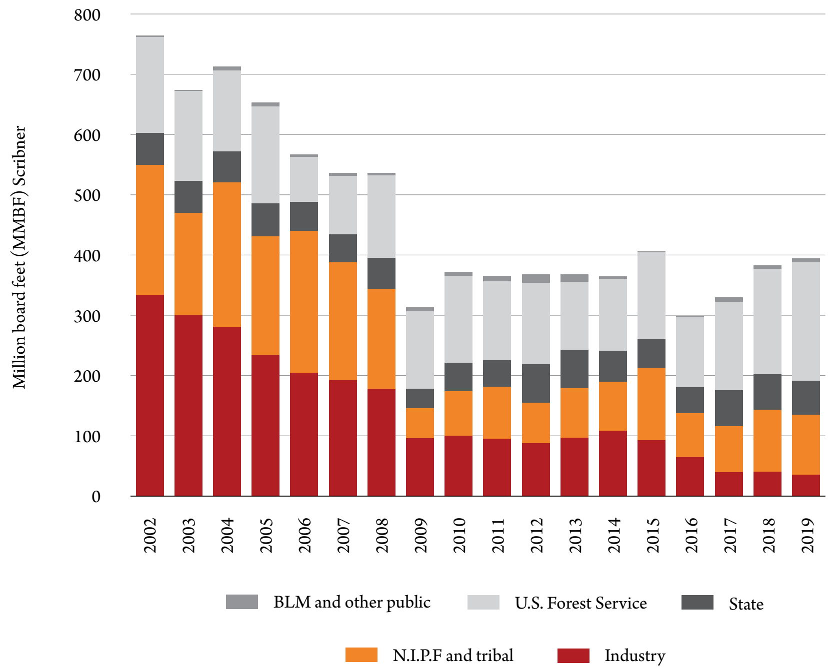


Figure 2. Montana timber harvest volume by ownership class, 2002-2019. Sources: USDA Forest Service, Montana DNRC and Bureau of Business and Economic Research.



Energy

What to Watch for in 2020

BY BILL WHITSITT

Montana's energy outlook for 2020 is likely to be one of stability, punctuated periodically by a market or news event signaling some change in future energy production, consumption, transportation or prices in the state. This punctuated stability is largely due to our diverse energy portfolio, with technology improvements and deployment in the oil and gas sector, revenues generated for state and local governments, and below average consumer energy prices.

There are more challenging potential – and real – trends related to coal markets and the use of coal for power generation in Montana, integration of intermittent renewables into a changing electric power system in the face of demand growth, and effects of low oil and gas prices.

Energy Consumption and Costs

Montanans continue to use more energy per person (per capita) than we see in all but 11 other states – we also spend more overall per capita, with only eight states ahead of us. The fact that we have more reasonable residential electricity prices than most other states (33rd at 12.03 cents per kwh) undoubtedly helps keep our overall energy costs from being even higher.

Electric Power

We can expect proposals from the major utilities and the cooperatives serving Montana to meet growing demand in general and peak power needs as at least two of the four Colstrip baseload generating units are scheduled for early closure. It is even more challenging as peak demand periods come when wind may not blow and the sun may not shine.

More natural gas-fired generation as a solution to meet peak needs and avoid over-reliance on having to buy power on the open market is signaled in utility Integrated Resource Plan documents filed with the Montana Public Service Commission.

Projects like the future Absaroka Energy Pumped Storage project near Martinsdale could begin to help, and encourage more investment in wind energy. Wind has only been contributing some 8 percent of Montana's electricity production over the past several years, but is constrained by a lack of export transmission line capacity.

Coal

Montana's coal production has remained generally stable over the past year despite two significant producer bankruptcies and restructurings – demand continues to be met. A slight downturn to a projected 37.5 million tons is attributed to last February's weather.

The Navajo Transitional Energy Company operation of the Spring Creek Mine that was bought in 2019 from Cloud Peak Energy will be watched for indications of how strong domestic markets are for Montana's quality coal. And Asian coal demand remains high, with Montana companies having additional capacity to meet more of it, if more coal port capacity can be built.

Oil and Gas

We'll be watching crude oil prices for any signs of longer-term firming. Given what we've seen of technology use and operational improvements in the Bakken play of North Dakota, and its continued production growth, that sense of price improvement could have a remarkable effect.

Perhaps most interesting on the price front is the trend of Montana crude oil first-purchase prices. Montana take-away prices have been both significantly higher and lower over long periods. The past couple of years' oil production perhaps reflects that prices could have been worse.

We'll be watching for more CO2 flooding enhanced-recovery production, including for the longer-term as a result of Denbury Resources' planned new carbon dioxide pipeline from Wyoming.

Bill Whitsitt is executive-in-residence at the Bureau of Business and Economic Research at the University of Montana.

Figure 1. Montana energy consumption estimates, 2017. Source: Energy Information Administration.

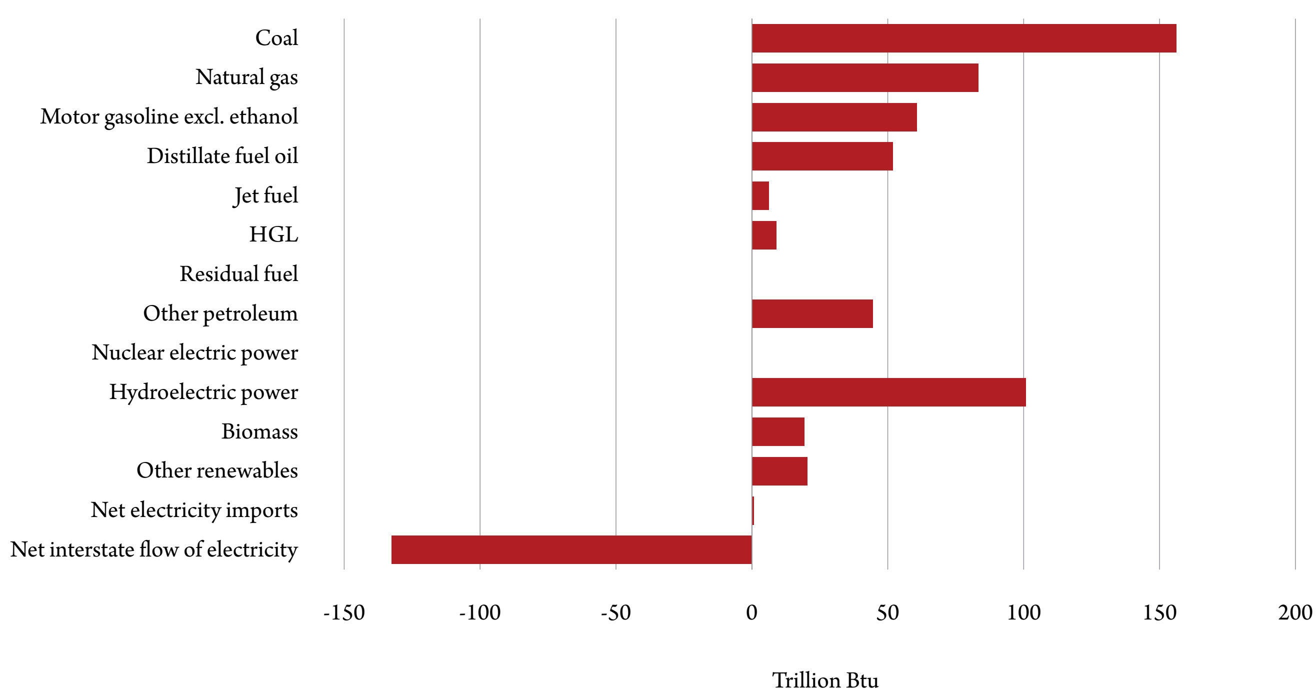
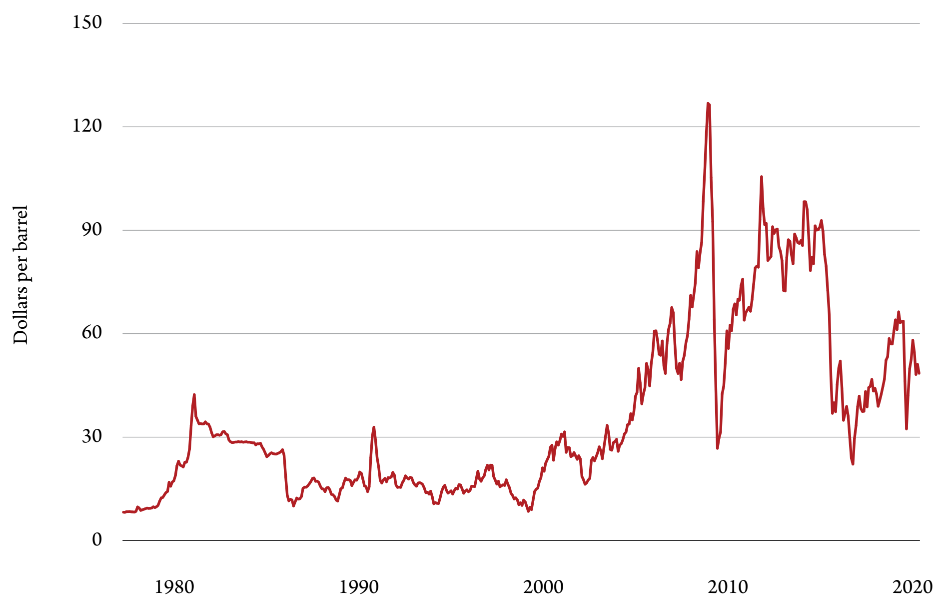


Figure 2. Montana crude oil first purchase price, dollars per barrel. Source: Energy Information Administration.



Manufacturing

Montana Outpaces Nation as a Whole

BY ROBERT SONORA

Since 2000, Montana manufacturing growth has outpaced nationwide manufacturing. Figure 1 shows the ratio of Montana manufacturing to the U.S. for overall, durable and nondurable manufacturing, indexed to 2001. As the figure shows, the majority of growth is in the nondurable goods sector, which includes food, beverages, apparel, and petroleum and coal manufacturing. Durables have largely grown slower than they have nationwide, but began to outpace the nation in 2013.

Manufacturing employment has likewise been affected. Overall manufacturing accrued 720 jobs, averaging 4 percent annual growth between 1998 and 2018, but durable manufacturing lost 1,061 jobs (-6 percent). Nondurable employment rose by 1,787 workers (Figure 2).

In 2018, there were 25,498 workers employed in manufacturing in total. The industries with the most employees remain wood product and food manufacturing, with 3,252 and 3,123 employees respectively. Fabricated metals, "miscellaneous," and beverage and tobacco make up the rest of the top five, with a total of 7,500 employees. The smallest industries in Montana, in terms of employment, are leather, primary metal, textile, electrical equipment and apparel.

Between 2010 and 2018, employment in the beverage and tobacco products sector was the fastest growing in the state, averaging 9.6 percent per year. Much of this is due to employment growth in breweries, averaging 17.8 percent per year, distilleries (28.7 percent), and wineries (16.7 percent). Other fast growing industries are plastics and rubber, averaging 9 percent growth; leather (8.2 percent), and primary metals at 8.1 percent. Computer and electronics is averaging 7.2 percent per year employment growth and had 755 workers in 2018.

"Other" transportation manufacturing experienced the highest sustained annual average income growth in Montana, averaging 23.2 percent between 2010 and 2018. The "other" category includes rail, aerospace, ship building and associated parts. Primary metal, and computer and other electronics round out the top three income gainers, averaging 19 percent and 15.6 percent respectively.

In 2018, the Bureau of Labor Statistics reported there were 1,634 manufacturing firms in Montana. The vast majority of these firms (92 percent) have less than 50 employees. Montana had 136 firms with between 20 and 500 employees.

The faster manufacturing growth in Montana over the past decade compared with growth nationwide was accompanied by several national and multinational corporate acquisitions in the state. Examples include GlaxoSmithKline in Hamilton, and an additional $100 million investment announced earlier this year; Boeing increased investment in Helena in 2017; and Applied Materials with over 500 employees in Kalispell. In Bozeman, ILX Lightwave was purchased by Newport Corporation in late 2011 and FLIR purchased Scientific Materials in 2005 to enhance their laser expertise.

Manufacturing Environment

Despite the success of manufacturing in the state, there are some significant headwinds for the foreseeable future. First, raising concerns for metal manufacturing are the tariffs imposed on the steel imports. According to the Association of Equipment Manufacturers, the tariffs could result in 400,000 manufacturing jobs lost over the next 10 years. A second possible headwind, particularly for the aerospace industry, is the ongoing discussion about the airworthiness of the Boeing 737 Max. There may be no direct impact to the state's manufacturing production, but indirect impacts could lead to a decline in investment and production.

Lastly, there is an increasing uncertainty that is having deleterious effects on investment. The ongoing trade wars and slowing global growth are contributing to nervousness. Moody's Analytics Survey of Business Confidence continues to display weakness citing uncertainty as the primary culprit.

Montana Manufacturing Survey

Despite the less-than-hospitable economic environment, Montana manufacturers remain somewhat bullish. Unlike in 2017, fewer respondents to the annual Bureau of Business and Economic Research manufacturing survey experienced a shortage of workers. Survey respondents remained optimistic about the future. Sixty-one percent stated that they believed 2019 would be better than 2018 and about the same anticipated hiring more workers. Overall, 58 percent of Montana manufacturing firms responded the overall outlook in 2019 to be better than 2018. Most bullish were food and beverages with a 65 percent positive response. Most bearish were wood products.

Robert Sonora is associate director and director of health care research at the Bureau of Business and Economic Research at the University of Montana.

Figure 1. Manufacturing output. Index of Montana to U.S. Source: Bureau of Economic Analysis.

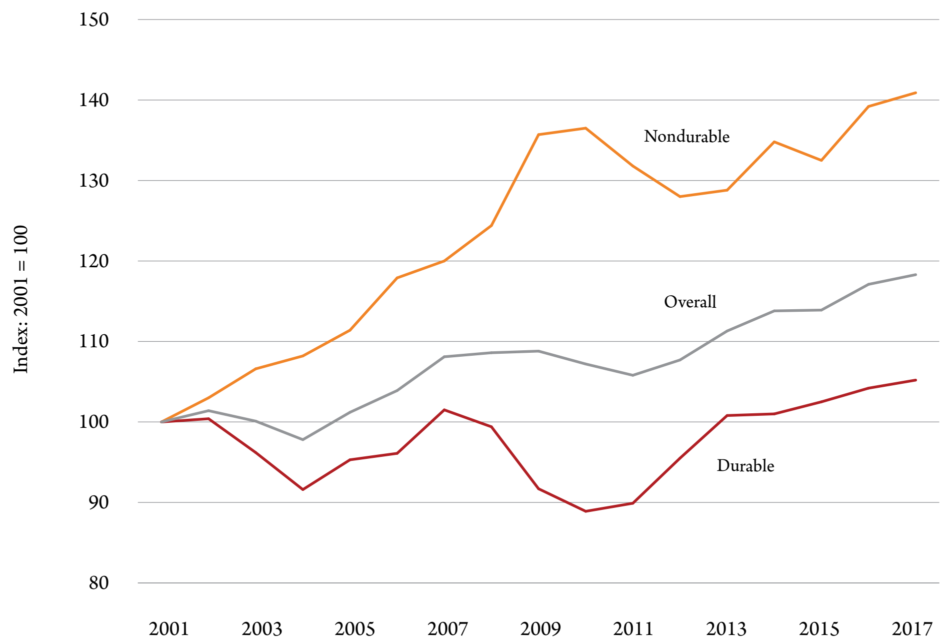
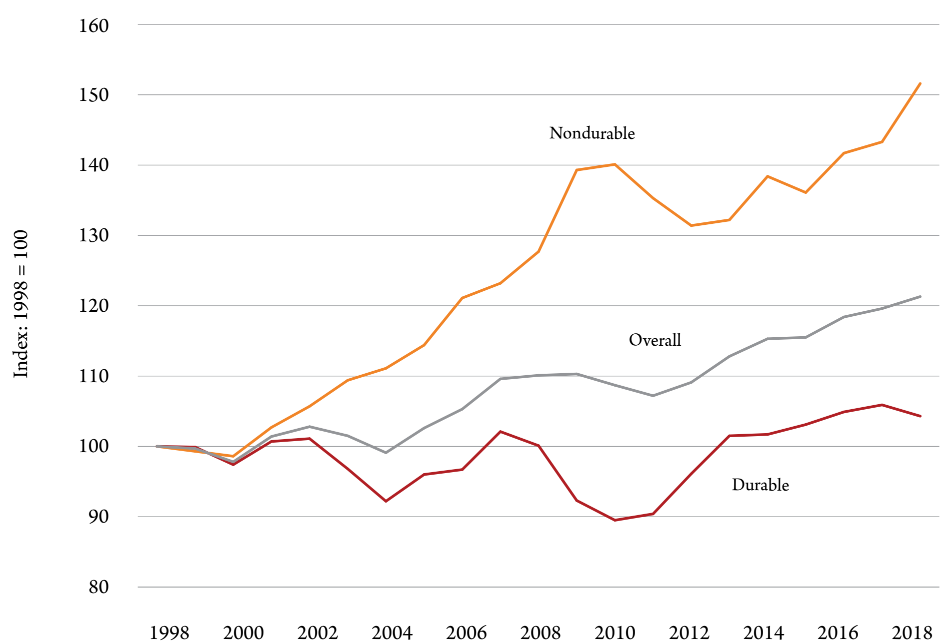


Figure 2. Manufacturing employment in Montana. Source: Bureau of Economic Analysis.



Travel, Tourism and Recreation

Nonresident Visitation Stable

BY NORMA NICKERSON, JEREMY SAGE AND KARA GRAU

The 2020 outlook for travel, tourism and recreation is fairly positive with an expected 2 percent growth over 2019 in visitation to Montana. In 2019, visitor/customer volume increased from 44 percent to 56 percent for business owners, depending on their region. Additionally, 51 percent to 78 percent of the same business owners expect an increase in 2020 (Figure 1). Business owners in Southeast Montana are the most optimistic for 2020.

Tourism and recreation trends provide a variety of opportunities and challenges for Montana:

Worker shortage: With unemployment at an all-time low, businesses are cutting hours, closing some days or working themselves ragged. In our annual outlook survey, 81 percent of tourism business owners said finding quality seasonal workers is becoming more difficult, and 71 percent said finding quality year-round workers is more difficult. Some of this is due to the availability of housing indicated by 65 percent of employers (Figure 2).

Short-term rentals: Some communities in Montana are struggling with the growth in homes being converted to short-term rentals. These business opportunities ultimately provide good income for the owners, but at the same time take housing stock out of the market and generally drive rental and housing prices upward. However, small communities that are not in high amenity locations can use online reservation platforms like Airbnb and Vrbo to draw visitors to areas where lodging is scant.

Aquatic invasive species (AIS): Montana Senate Bill 363 requires all anglers to purchase an AIS pass. The cost, $2 for residents and $15 for nonresidents, will help Montana keep rivers and lakes free from invasive species that could ultimately destroy the waterways. Thirty-eight percent of

Figure 1. Percent of tourism businesses indicating an increase in 2019 and percent expecting a 2020 increase. Source: Institute for Tourism and Recreation Research.

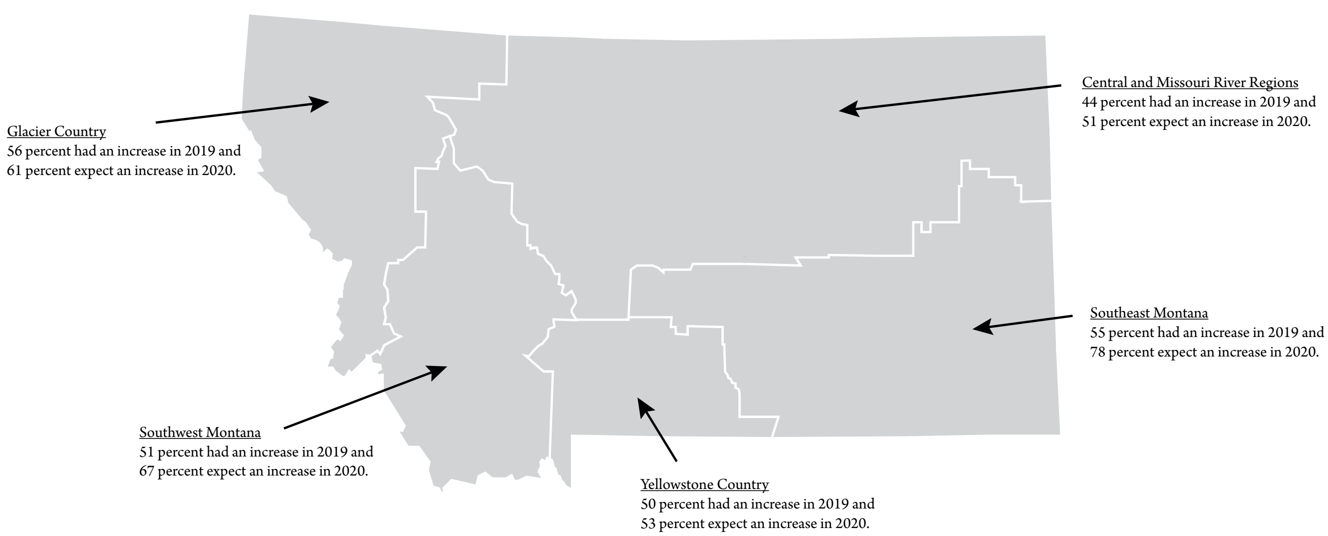
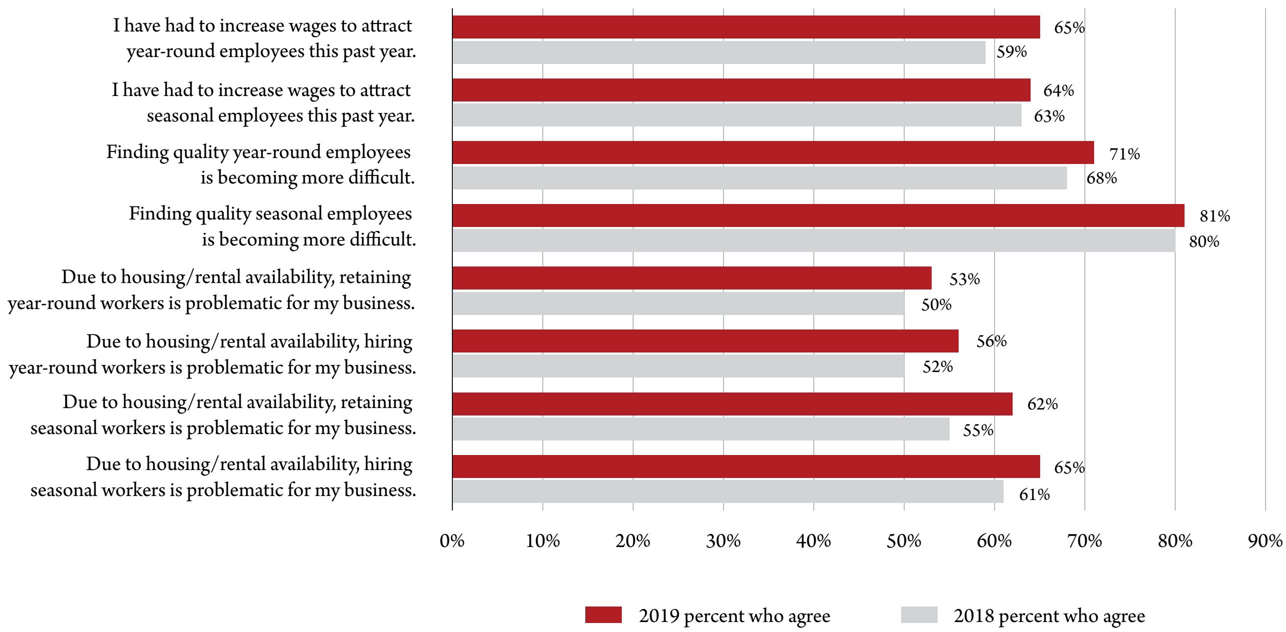


Figure 2. Challenges for tourism business owners in Montana. Source: Institute for Tourism and Recreation Research.



nonresidents who visit in the summer say they are attracted to our lakes and 46 percent are attracted to Montana's rivers. A loss of good fishing could greatly reduce the contribution of nonresident spending to Montana's economy.

Overcrowding in some areas, lagging visitation in others: Yellowstone National Park, Glacier National Park and their gateway communities continue to grapple with too many people or cars, causing a strain on infrastructure and the landscape. However, many in eastern Montana would love to have more visitors. The challenge is to spread visitors beyond the parks.

Outdoor recreation industry impact: Public lands and open spaces are good business for Montana. According to the Outdoor Recreation Industry Association, outdoor recreation in Montana accounts for $7.1 billion in consumer spending and more than 71,000 jobs. It also can be used as a driver for new businesses to locate in Montana.

Chronic wasting disease (CWD): In the past two years, CWD has been found in ungulates (deer, elk, moose) in southeast Montana and along the Canadian border. This disease can easily wipe out deer and elk populations, impact hunting, the balance within our ecosystems and ultimately the revenue generated from a loss of hunting licenses. Guided hunting alone provided over $55 million in outfitter revenues in 2017.

Airline growth: About 10 years ago, Montana's airports serviced only four destinations directly. Today, with the help of communities around Montana "promising and delivering" a high-seat occupancy, the number of direct flights out of Montana has almost quadrupled. Bozeman leads the way (18 different direct cities), followed by Missoula (13), Kalispell (12), and Billings (11 different direct cities, plus flights to five eastern and northern Montana communities). Much of this is due to Montana's nonresident visitor growth, which in turn provides opportunities for resident travel and business expansion within the state.

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Health Care

The Impact of Medicaid Expansion

BY ROBERT SONORA

In 2019, the health care sector was dominated by the debate over the extension of Medicaid expansion in Montana. HB 658 reauthorized the expansion for a number of low-income residents in the state following the passage of the HELP Act in 2015. Prior to the debate, the Bureau of Business and Economic Research updated their study of its economic impact. Sponsored by the Montana Health Care Foundation and Headwaters Foundation, the study found that from 2016 to 2020, the overarching economic impact would be about $1.6 billion in additional personal income and just over $2 billion in gross state product.

In addition, federal funding would support an additional 6,000 jobs, as well as help increase the overall population. It's important to note that while the expansion is in the health care sector, the ripple effects are felt throughout the economy. For example, while 2,400 of the jobs are specific to the health care industry, an additional 1,000 jobs will be added to the retail sector and 600 to construction.

This past May, Gov. Steve Bullock signed HB 658, but the new law added some requirements, including a work requirement, an increase in premiums and more red tape, such as providing documentation of residency. This last requirement is especially difficult for vulnerable groups, including the homeless who may have difficulty verifying residency. The number of Montanans that will lose coverage is expected to be about 4,100 individuals – out of approximately 100,000. Independent analysis has hinted that it will likely be higher, citing evidence from other states' experience with work requirements.

However, the Montana Department of Public Health and Human Services recently announced that these requirements will not take effect in January 2020, as scheduled in

Figure 1. Uninsured in Montana. Source: The Henry J. Kaiser Family Foundation.

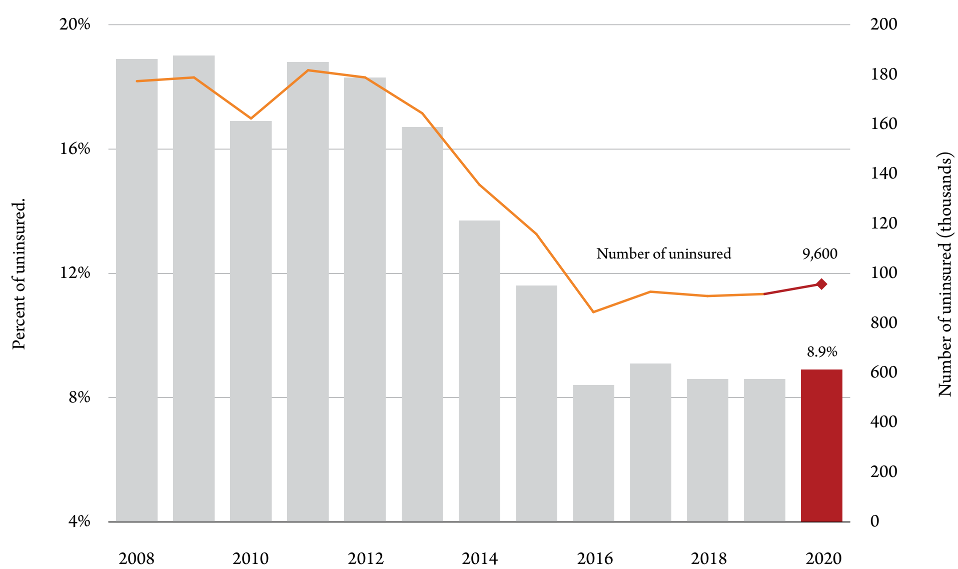


Figure 2. Index of per capita health care, population and state GDP. Sources: Bureau of Economic Analysis and U.S. Census Bureau.

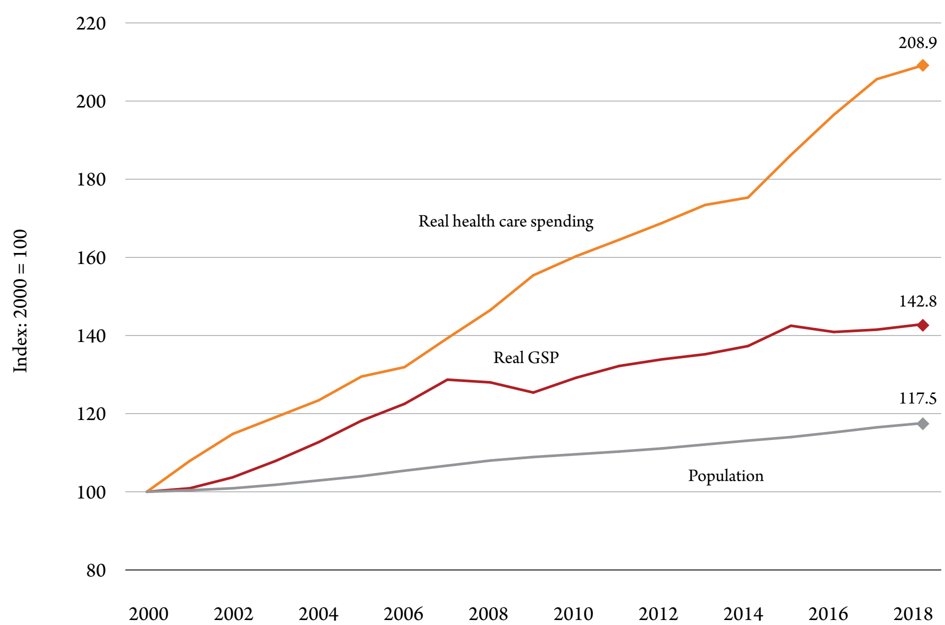
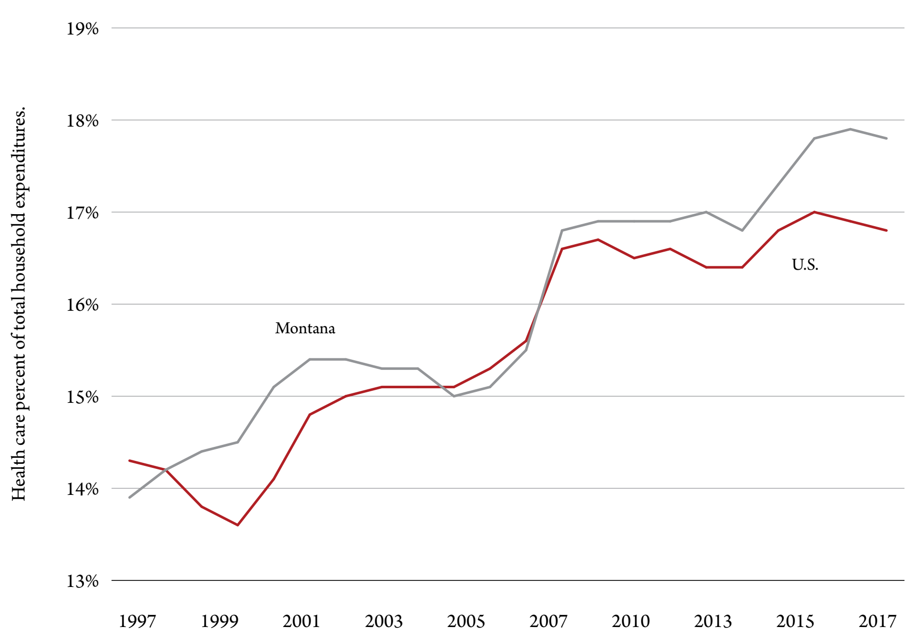


Figure 3. Per capita health care expenditures as a percent of total household expenditures. Source: Federal Reserve Bank of St. Louis.



the bill. Moreover, a federal judge has blocked similar work requirements in four other states. Figure 1 shows the number of uninsured in Montana and estimates the uninsured for the years 2008-20. Data for 2020 are estimates based on assumptions in the law.

Growth of Health Care

In the years leading up to the passage of the HELP Act, health care in Montana increased. Figure 2 shows three indices, 2000 = 100. The first is the inflation adjusted level of per capita expenditures on health care. In 2018, health care spending was about 109 percent higher than it was in 2000, growing at average of 4 percent per year over the period. By comparison, population and inflation adjusted output (Real GSP) have averaged 0.9 percent and 1.9 percent growth, respectively. At these rates, per capita health care consumption will double in about 18 years, population in 75 years, and the state economy in 37 years.

When we compare state per capita health care expenditures to the nation as a whole, with the exception of the period of the Great Recession, we see that Montanans spend a higher percentage of their income on health care; about one percent more than the national average (Figure 3).

While there is no likely single cause, a recent study by the RAND Corporation found that Montana hospitals charge private insurance companies roughly 280 percent of what they charge Medicare patients – the nationwide average is 234 percent. These reported prices are the negotiated paid per service rendered. According to a recent study, the average level of health care spending in the U.S. is about $80,000 – hospitals account for 44 percent of that.

Given the changes in aging demographics in Montana, the ratio of retired Montanans relative to those under 18 that is growing faster than the national average, we can expect health expenditures to continue to rise for the foreseeable future.

References

French, Eric B., et al. "End-Of-Life Medical Spending in Last Twelve Months of Life is Lower Than Previously Reported." Health Affairs, Vol. 36, No. 7, 2017, pp. 1211–1217.

Robert Sonora is associate director and director of health care research at the Bureau of Business and Economic Research at the University of Montana.

Transportation and Logistics

A Shortage of Drivers Continues to Cause Concern

BY PAUL E. POLZIN

The transportation industry is closely tied to economic conditions because it carries goods and materials to and from Montana and from one part of the nation to another. The latest data show declines in railroad traffic with relative statewide stability in other sectors. The outlook for the future in this industry has some of the same features as the overall economy; with the exception of railroads, relatively stable short-term performance, but major uncertainties about the future. Long-distance trucking and railroads are the two most important transportation industries in Montana.

As reported in Table 1, there were 2,576 workers in long-distance trucking during 2018. These data do not include the truckers employed by out-of-state companies and simply driving through Montana.

Missoula and Yellowstone counties are both located on the east-west corridor of Interstate 90 and are the two major centers of long-distance trucking in the state. Taken together, they accounted for slightly more than one-half of total statewide employment.

Overall, statewide employment in long-distance trucking has been relatively stable. Total jobs have remained in a relatively tight range of 2,400 to 2,700 throughout the 2008 to 2018 period. In Missoula, an all-time high of 634 jobs were reported during 2018.

A truck driver shortage is the major issue facing this industry. There are a number of reasons for the lack of drivers, but major factors include the high average age of current drivers and the working conditions – long hours and time away from family. This shortage has spurred recruiting efforts, such as highway signs and bumper stickers offering higher wages, and improved working conditions. These efforts appear to be working as wages and salary growth in long-distance trucking has outpaced the average for all workers. As shown in Table 2, average annual wages in long-distance trucking have been growing almost twice as fast as the economy-wide average in both the U.S. and Montana.

Two major rail systems cross Montana: the Hi-Line and the Low Line. BNSF and Montana Rail Link are the two major railroads in the state, with several smaller lines serving specific areas. The major centers of railroad employment are Billings, Missoula, Havre and Whitefish.

Railroads are relatively more important to Montana than most other states. The Association of American Railroads reports that there were 3,719 miles of rail lines in Montana in 2017, ranking it 12th in the nation. The same source reported 3,115 rail employees in the state, ranking it 22nd of all U.S. states.

The Association of American Railroads reports that the trade war with China and the worldwide slowing of economic activity continues to weigh on railroad traffic. The number of carloads was down 4.3 percent during the first 10 months of 2019, as compared to the previous year. Of particular interest to Montanans – grain shipments are down 6.2 percent and coal shipments are down 7.6 percent from the previous year. On the positive side, petroleum and petroleum product shipments are up 15 percent, perhaps due to the fracking boom.

Paul E. Polzin is director emeritus at the Bureau of Business and Economic Research at the University of Montana.

Table 1. Employment in long-distance trucking, Montana and selected counties. Sources: U.S. Bureau of Labor Statistics and QCEW.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Montana	2,512	2,435	2,421	2,509	2,593	2,659	2,652	2,692	2,715	2,609	2,576
Missoula County	504	472	452	556	591	605	539	546	558	565	634
Yellowstone County	733	822	810	872	871	845	857	879	846	831	853

Table 2. Annual wages and salaries, U.S. and Montana. Sources: U.S. Bureau of Labor Statistics and QCEW.

Area	2018 Wages and Salaries	Percent Change 2008-18 (constant dollars)
U.S. All Industries	$57,200	9.3
Long-Distance Trucking	$59,900	21.3
Montana, All Industries	$40,700	4.9
Long-Distance Trucking	$52,400	10.7
Missoula County	$52,800	12.1
Yellowstone County	$55,200	11.2

Technology and Innovation

Record Revenue, Jobs and Venture Capital Investment

BY CHRISTINA QUICK HENDERSON

Montana's booming tech economy hit new heights in 2019. The state's high-tech and manufacturing companies grew nine times faster than other sectors and generated a record $2 billion in revenues in 2018, according to a survey conducted by the Bureau of Business and Economic Research.

Survey respondents estimated adding more than 1,700 new jobs in 2018 – approximately a 40 percent increase over 2017. Wages in the sector are high and steadily rising. Surveyed high-tech firms pay an average annual salary of $65,000, more than twice the state median wage and a five percent increase over 2017.

One of the biggest developments tech in 2019 was the formation of the Whitefish-based venture capital firm Two Bear Capital (TBC). It's led by Michael Goguen, a Montana philanthropist who spent 20 years as a partner at the Silicon Valley venture capital firm Sequoia Capital. The firm aims to "accelerate advancements for good" with an emphasis on biotech and artificial intelligence.

According to Goguen, TBC plans to raise an initial fund in the range of $100 million to $150 million for investments in Montana and the western U.S. That's approximately three times the largest fund raised in Montana, previously raised by Bozeman's Next Frontier Capital (NFC). Goguen is also one of the largest limited partners in NFC.

TBC joins a number of growing firms investing in Montana tech companies. Existing funders like NFC, Frontier Angels and Goodworks Ventures have nearly doubled per capita VC funding in Montana since 2015. Apart from TBC, Montana is on target to surpass a milestone of more than $100 million in total annual venture capital dollars invested in the state in 2019.

In addition to the increased availability of capital from Montana-based VCs, Montana tech startups continue to attract investors from outside the state. In April 2019, the tech-enabled childcare platform MyVillage in Bozeman closed a $5.95 million seed round, the largest ever closed by a Montana company. And in May 2019, Bozeman photonics company Blackmore Sensors and Analytics was acquired by Aurora Innovation in Silicon Valley after raising an $18 million Series B round in 2018.

Alongside venture-backed startups are bootstrapped companies like LumenAd, a Missoula marketing technology firm that was ranked fourth among software companies and 29th overall on the 2019 Inc. 5000 list of the nation's fastest-growing companies.

Clearly the growth of high-tech is a good news story for Montana. But in order to keep the momentum going, community leaders need to work together to solve three challenges.

1. Grow the talent pool.

For five years, the main barrier to growth for Montana high-tech firms has been finding enough skilled talent. Partnerships among business, education and government leaders to increase tech skills, retain Montana graduates and promote Montana jobs will help fast-growing companies fill positions.

2. Address workforce issues like housing, child care and health care.

While the fast growth of wages in the tech sector is good for families and the economy, it also helps contribute to shortages of affordable housing, particularly in tech hubs like Bozeman and Missoula. A lack of affordable, high-quality child care is a frustration for many working parents in Montana, and the rising costs of health care are a growing concern for both employees and businesses. While many of the issues are complex, we need to seek innovative solutions to our shared challenges.

3. Invest in entrepreneurs.

Venture capital investment has increased tenfold in the past five years, but more opportunities exist to support high-growth Montana businesses. We can do more to support programs like the Blackstone LaunchPad for student entrepreneurs at the University of Montana and Montana State University, and the Early Stage Montana program for startups. State grants for technology commercialization, job training, marketing and trade shows should be expanded. New programs like tax credits for investors could help spur increased innovation.

Christina Quick Henderson is executive director of the Montana High Tech Business Alliance.

Real Estate and Construction

Housing Markets Lack Inventory

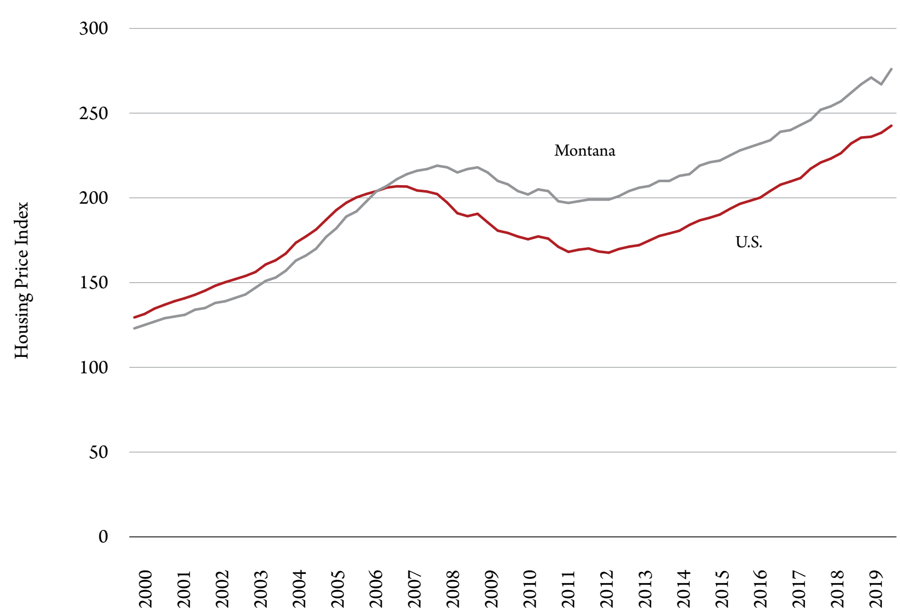
BY BRANDON BRIDGE

The housing market in Montana, while showing strength in many areas, has recently been sending mixed signals. In the first quarter of 2019, home prices experienced their first stutter since 2011, with the state's home price index falling by 4 points (Figure 1). This decrease in the price index came on the heels of the highest 30-year mortgage interest rate spike since 2011.

However, with the interest rate falling in the second quarter of 2019 the home price index rose rapidly, continuing its upward trajectory. According to the most recent data, prices have continued to show strength in the major housing markets across the state. The strongest price appreciations continue to be in Flathead, Missoula and Gallatin counties, with the median sale price in Gallatin County (2018, Montana Department of Revenue) being a record $364,200.

Sales volumes in 2018 showed their first yearly decline since 2011 (Figure 2). While remaining quite high, volumes fell in Flathead, Gallatin, Lewis and Clark, Missoula and

Figure 1. Housing Price Indices, 2000Q1-2019Q2. Source: Federal Housing Finance Agency.



Ravalli counties. Flathead County experienced the sharpest decline in volumes, going from 2,153 home sales in 2017 to 1,436 in 2018. Again, these volume reductions coincided with interest rates that climbed steadily throughout 2018, making homes more expensive relative to 2015-17 levels. From November 2018 through September 2019 interest rates fell from close to 5 percent to a low of 3.49 percent, and have been oscillating in that range since.

Despite the reduced volumes and price index, housing markets in the major populated areas of the state continue to be sellers' markets, particularly with starter homes available to first-time buyers.

Table 1 shows the available inventory for selected counties. It shows housing in the number of months supply in the low - and high-price tiers. Generally, a supply of lower than six months indicates a seller's market – meaning that it would take about six months for every listed property to sell if no others were made available to the market. What we see in Table 1 is that in all but Ravalli and Yellowstone counties, homes in the low-price tier are in relatively tight supply.

This is particularly the case in Gallatin County, where according to the most recent data (2018) there was only a 3.2 months' supply of homes in the low-price tier. This is contrasted with homes in the high-price tier, which have relatively abundant supplies in most counties throughout the state. While first-time buyers in large Montana markets are facing affordability and availability challenges, those looking to upgrade to higher priced homes are experiencing a buyer's market and are relatively more at ease.

One indicator of strength in the Montana housing market is the relatively low risk profile exhibited by mortgages in the state. The Federal Housing Finance Agency has developed a metric called the "stressed default rate," meaning the proportion of mortgages that are likely to default given a market shock similar to the one experienced in 2007. As seen in Figure 3, the latest stressed default rate for Montana mortgages is 8.8 percent, which is among the lowest rates in the Western U.S., and below the national average of 9.7 percent.

With all of the mixed signals, housing markets in Montana remain strong. They will continue to be complex and interesting, driven by innumerable factors.

Brandon Bridge is an economist and director of forecasting at the Bureau of Business and Economic Research at the University of Montana.

Table 1. Months' supply of homes by price tier, 2018. Source: American Enterprise Institute.

County	Low-Price Tier	High-Price Tier
Cascade	4	19
Flathead	5.3	24
Gallatin	3.2	8.9
Lewis and Clark	4.5	24
Missoula	4.2	24
Ravalli	7.2	24
Silver Bow	3.9	-
Yellowstone	8.5	24

Figure 2. Montana home sales. Source: Montana Department of Revenue.

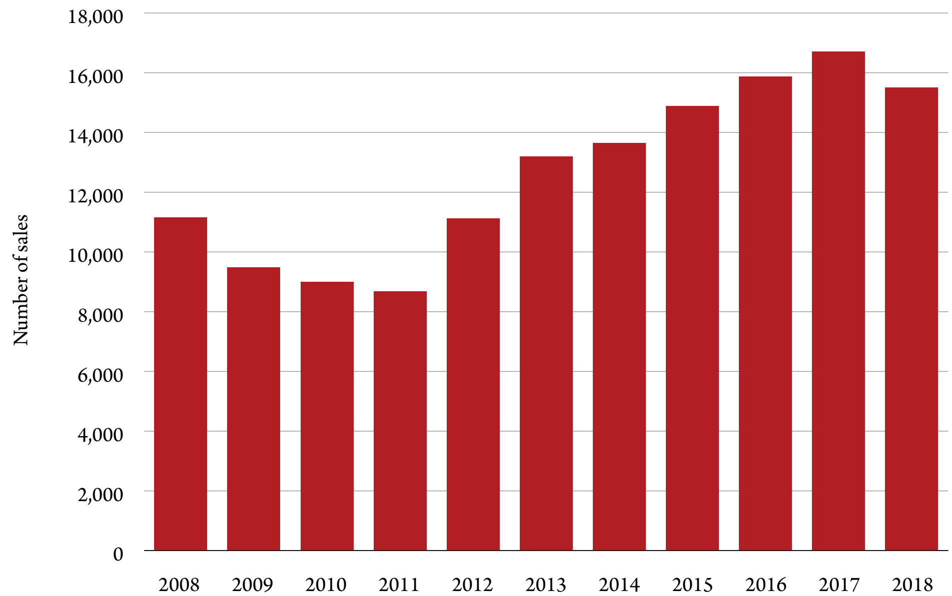
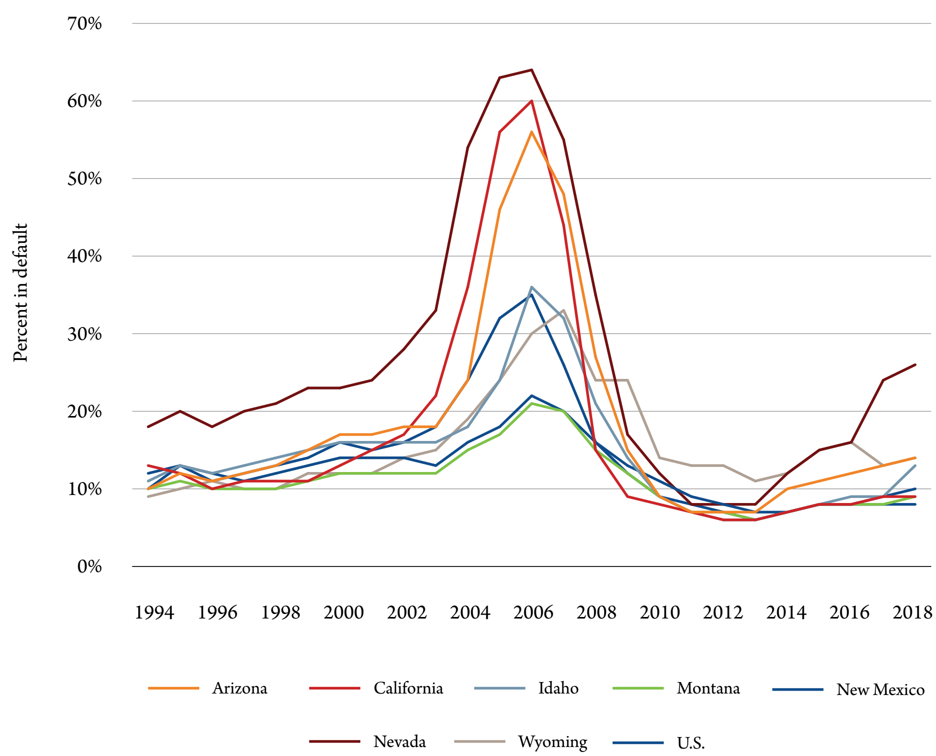


Figure 3. Average shocked stressed default rates in the Western United States and the U.S. overall. Source: FHFA



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