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from the Montana Economic Outlook Seminar

2025 MONTANA ECONOMIC REPORT

ANALYSIS AND ASSESSMENT OF MONTANA'S ECONOMIC PERFORMANCE

ARTIFICIAL INTELLIGENCE ON THE FRONTIER

EXPERTS ANALYZE TRENDS IN HOW MONTANA BUSINESSES LEVERAGE AI

ALSO INSIDE

- U.S. AND STATE ECONOMIC OUTLOOKS
- STATE GOVERNMENT REVENUE REPORT
- UPDATES FROM MONTANA'S REGIONS
- BRIEFS ON THE STATE'S PRIMARY INDUSTRIES

A message from the President
of the University of Montana

For 50 years, the Bureau of Business and Economic Research's Montana Economic Outlook Seminars have provided critical information about Montana's state and local economies to people across our great state. While many aspects of Montana's business ecosystem have changed since 1975, the importance and impact of the information provided at these seminars have not. The University of Montana is honored to be the home of this good work and to celebrate BBER's half century of service to Montana.

As BBER launches the next 50 years of Economic Outlook Seminars, it seems fitting to focus on Artificial Intelligence with a keynote from Paul Gladen, the esteemed Director of Accelerate Montana and the Associate Vice President for Research and Economic Development at the University of Montana.

Here at UM, we acknowledge the transformational role of AI across all sectors. As an institution committed to innovation and excellence in teaching, learning, and research, UM delivers AI education as a way to empower Montanans, unlock opportunity, and build a more resilient Montana workforce, all while emphasizing ethical use of AI for the good.

As part of UM's commitment to being at the forefront of AI in higher education, we held an AI symposium in January 2024 where administrators from across the Montana University System traveled to UM to forge collaborative ideation and strategy formation on this topic. As we build UM's capacity to create an AI-empowered workforce, partnerships with private industry will be critical. Your University of Montana is your partner in ensuring the Montana economy and citizens are prepared to use AI to our advantage and for the good of our state.

I hope you enjoy this issue of the Montana Economic Report and best wishes for a prosperous 2025.

Seth Bodnar
President
University of Montana

MONTANA ECONOMIC REPORT

WINTER 2025

OFFICES
Bureau of Business and Economic Research
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Cover illustration by Jayme Fraser

The cover started as this photo from Adobe Stock. The illustrator used Adobe's generative AI tools to add a cabin with a technological blue glowing from the doorway. Some details were cleaned up but others were left unpolished for your scrutiny: a tree added umprompted, unnatural log shapes, curves in lines that should be straight, and shadows casting the wrong direction, among others.

YEAR IN REVIEW

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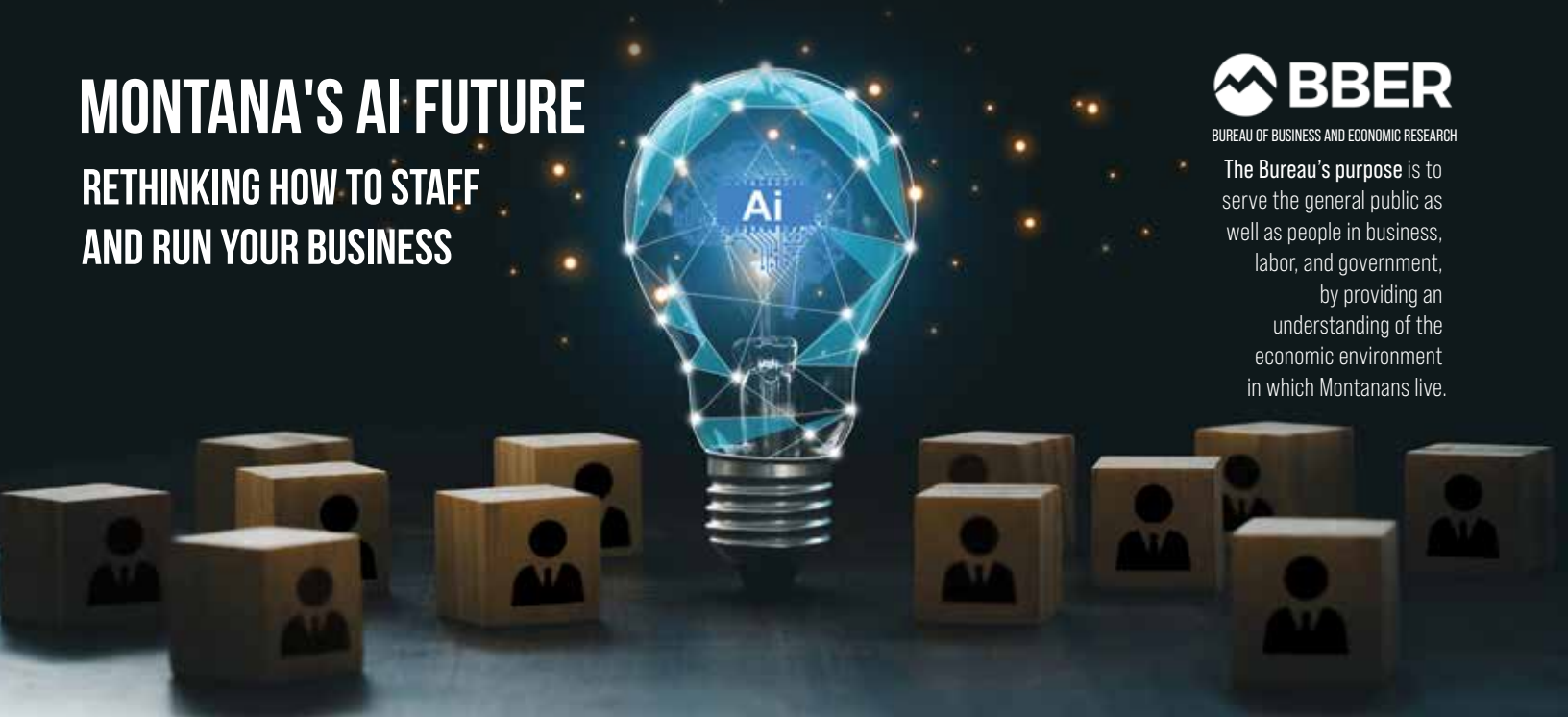

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The Bureau's purpose is to serve the general public as well as people in business, labor, and government, by providing an understanding of the economic environment in which Montanans live.

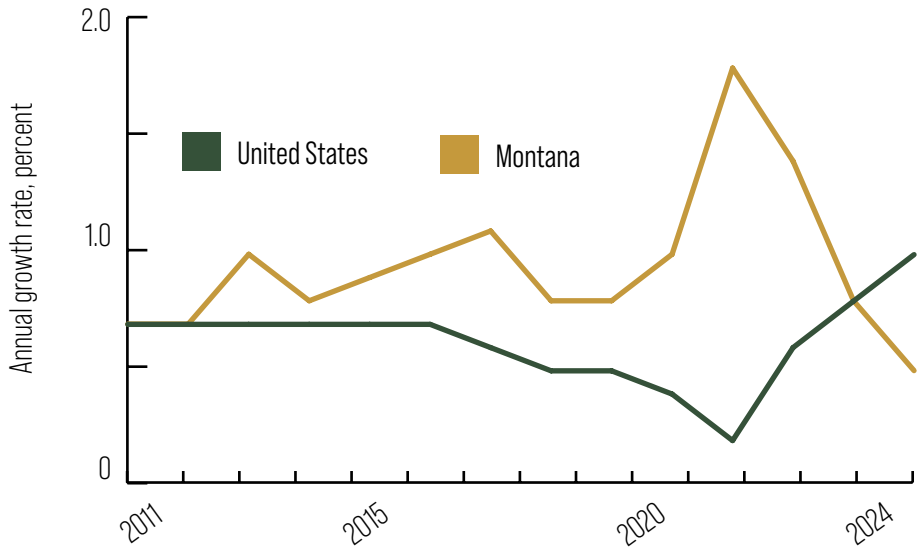
Montana's growth falls back after pandemic-era boom

By Jeffrey Michael

After a pandemic-era boom in which Montana had one of the fastest-growing economies in the United States, Montana has now experienced two years of declining growth in 2023 and 2024. In 2023, the state's growth fell back to a level closer to the historical average (Figure 1).

However, 2024 has brought a more significant slowdown as population growth fell to its lowest level in decades and Montana's traditional resource-based industries of agriculture, mining, and forest products all experienced downturns in 2024. Continued strength in service sectors and construction kept Montana's economy growing in 2024, albeit at a much slower rate than in recent years.

FIGURE 1 Annual population growth



Source: U.S. Census Bureau

Montana's Growth Falls Behind the U.S.

Recently released data show that Montana's population grew slower than the U.S. for the first time since 2012. In fact, Montana's 0.5% population growth rate in 2024 is the lowest in two decades. This is driven by multiple factors. First, net migration into Montana from other states has declined substantially to 5,400 in 2024 from a peak of 20,500 in 2021. Second, Montana has not felt the surge in international in-migration that has powered recent population growth in other states. Montana ranks last in international migration and is the only state with fewer than a thousand international migrants in 2024. Finally, it is worth noting that births slightly exceeded deaths last year, the first natural population increase in several years.

Similar to inflation, where prices remain high even after inflation recedes, the impacts of rapid population growth are still being felt around the state even

TABLE 1 Growth in real earnings ranked by 1-year change, inflation-adjusted

Industry	1-year change, 2023 to 2024: Difference, thousands of dollars	1-year change, 2023 to 2024: Percent change	Annual average change, 2019 to 2024: Difference, thousands of dollars	Annual average change, 2019 to 2024: Percent change
Construction	272,387	6.3	226,152	6.5
Health care	146,707	2.3	168,725	3.0
Retail trade	101,382	2.9	78,270	2.4
Federal civilian	97,494	5.3	60,231	3.7
Administration and support services	94,117	5.9	107,588	9.3
Wholesale trade	84,561	4.3	91,389	5.7
Other services (private)	70,892	4.1	57,236	3.7
Prof., scientific, and tech services	61,262	1.6	239,759	8.5
Arts, entertainment, recreation	55,375	8.7	30,470	5.7
Accommodation and food	55,318	2.3	126,802	6.9
Management of companies	44,774	16.3	15,774	6.6
Finance and insurance	41,565	2.0	63,549	3.5
Utilities	39,170	9.8	-1,184	-0.3
Transportation and warehousing	34,521	2.0	28,506	1.7
State and local government	25,127	0.5	16,485	0.3
Educational services (private)	15,463	4.2	17,806	6.1
Military	9,255	1.6	5,678	1.0
Manufacturing	-18,272	-0.9	50,826	2.9
Forestry and related activities	-19,129	-5.9	4,220	1.5
Real estate	-82,932	-3.7	210,851	19.1
Information	-84,017	-10.0	31,948	5.4
Mining, oil and gas	-190,004	-14.1	2,167	0.2
Farm	-537,409	-50.5	-89,199	-9.2

Source: U.S. Bureau of Economic Analysis

after a sharp drop in 2024. The most notable impacts are high housing costs that persist. Montana's population growth will likely remain slow until housing prices and incomes become more balanced, and it may take years for housing supply to catch up with previous growth.

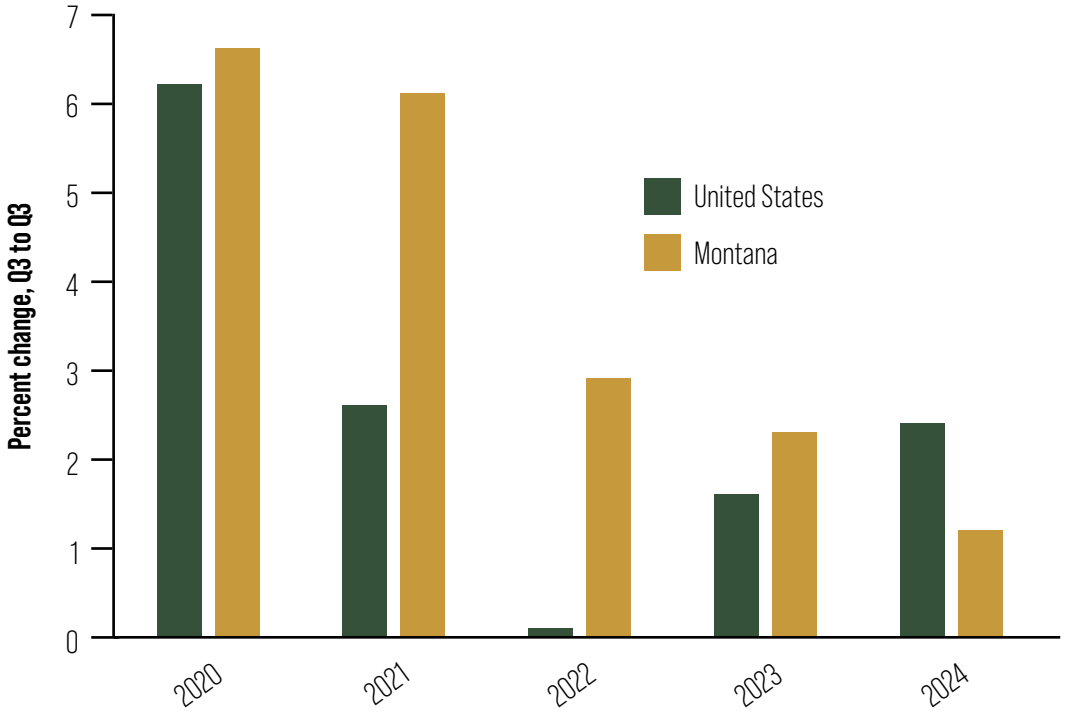
Performance of Montana's Industries and Income

Total inflation-corrected (real) personal income growth slowed to 1.2% in Montana during 2024, about half of the 2.3% growth in 2023 and notably slower than the more than 6% growth experienced during 2020 and 2021. This was the first year since the Covid pandemic that Montana income grew slower than the U.S.

Comparing Montana's earnings growth by industry shows mixed performance, with construction and service sectors outperforming historical resource-based industries over both one-year and five-year periods (Table 1). Construction is the one pandemic-boom sector that has maintained its rapid growth, leading all industries in real earnings growth in 2024 at $272 million, followed by health care and retail trade that both experienced over $100 million in earnings growth in 2024.

In Montana, three industries have experienced more than $1 billion in real earnings growth since 2019: professional, scientific and technical services; construction; and real estate. Professional, scientific and technical services includes many of the remote-work jobs that increased during the pandemic and much of the state's emerging tech sector. Growth in this sector declined in 2024, perhaps mirroring the slowdown in domestic migration into Montana. Real estate earnings declined in 2024, most likely due to the decrease in sales transactions,

FIGURE 2 Total real personal income growth



Source: U.S. Bureau of Economic Analysis

a notable reversal after several years of leading earnings growth when the real estate market was booming. It is important to note that the real estate earnings decline is from an elevated state, and that 2024 industry earnings are still on pace to be $1.05 billion more than in 2019.

Montana's resource-based industries have experienced a very difficult 2024. Farm earnings are notoriously volatile, and preliminary data show a very sharp decline in 2024 that is mirrored in other Northern Plains states. After a strong earnings year in 2022, farm earnings have declined for the past two years while experiencing weak prices and dry conditions. Mining earnings also declined by about $190 million in 2024, and the full effects of the Sibanye-Stillwater mine closure may not be fully captured in this data, so the industry may have further to drop. Forestry activities experienced a $19 million earnings' decline in 2024, and wood products mill closures are a factor behind an $18 million decline in manufacturing earnings.

While income and population growth have fallen back below the U.S. average in Montana, **job growth continues to outperform.**

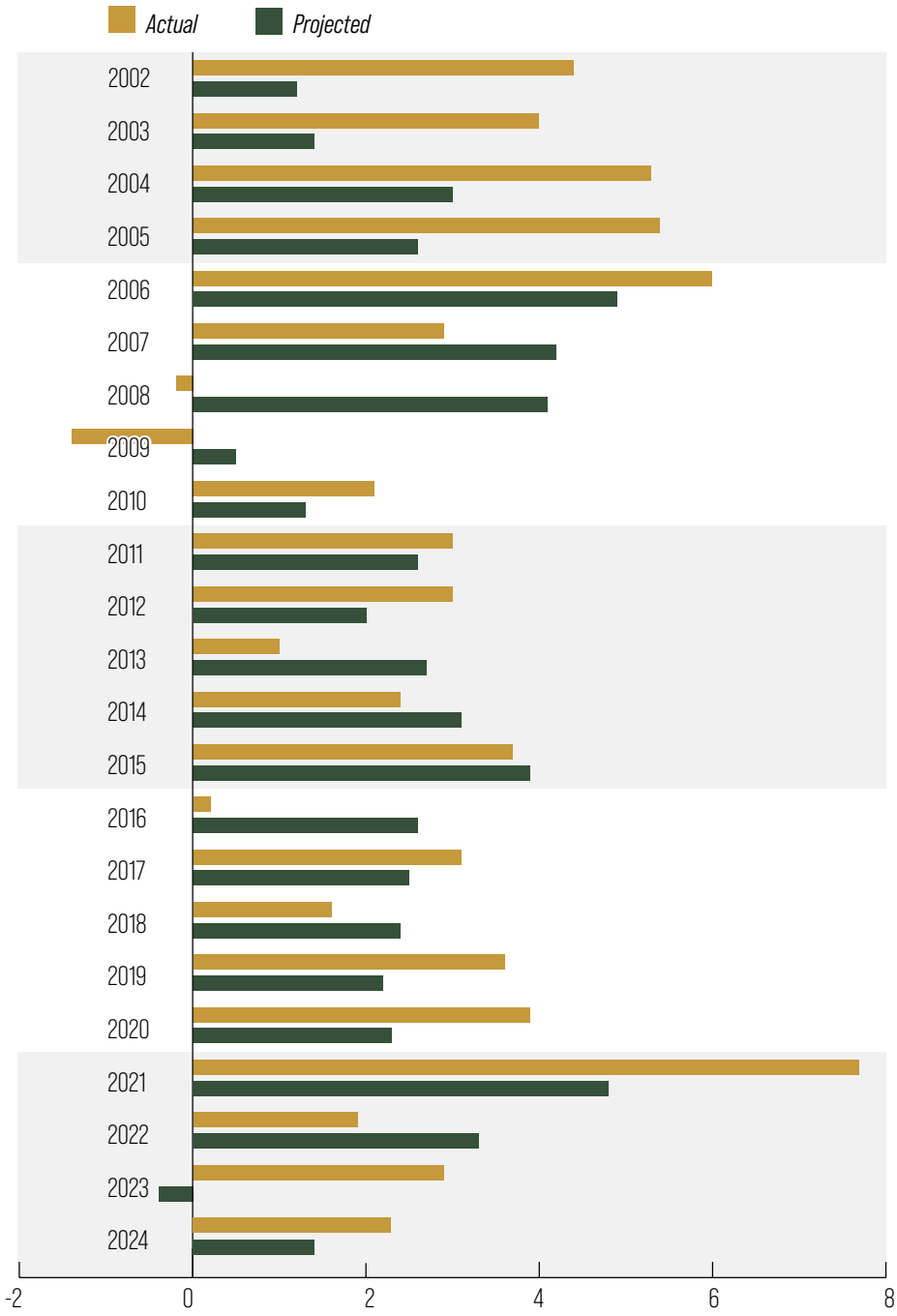
While income and population growth have fallen back below the U.S. average in Montana, job growth continues to outperform. Jobs are less affected by the declines in commodity prices and real estate sales that have pulled down incomes. Montana's job growth was 1.5% in 2024, strong enough to rank in the top five states, but half the 3% job growth seen in 2023. Following income growth, jobs grew fastest in construction and services, with declines in mining, finance, and real estate.

In conclusion, Montana's growth rate slowed significantly in 2024, and the economy continues to be more oriented around services in technical, health care, and tourism-related fields. Construction is the bright spot in goods-producing sectors, whereas resource-based industries experienced a difficult 2024. As the outlook for the U.S. and global economies is highly uncertain in 2025, Montana is likely to maintain slow to moderate growth in 2025. Because Montana is less dependent on international trade and immigration than other states, it should be somewhat less effected by growing global uncertainty and changes in federal policies expected in 2025. ■

Jeffrey Michael is director of the Bureau of Business and Economic Research at the University of Montana.

Predicting the Covid rebound

FIGURE 1 Performance of BBER forecast actual and projected growth in real nonfarm earnings, percent



Source: University of Montana Bureau of Business and Economic Research

By Patrick M. Barkey

Just about the only nice thing you can say about the poor performance of the BBER's forecast of the Montana economy in the current decade is that we have plenty of company. We missed the downturn of 2020, like most people. No one foresaw a pandemic that would at one point put almost 75,000 Montanans out of work in the summer of 2020. Just as no one saw the economy coming back so strongly immediately afterward.

In fact, the recession of 2020 was so brief that averaged over the full calendar year, which ended with strong growth, you can't even see it. As the chart shows, inflation-corrected nonfarm earnings actually grew faster in 2020 (4%) than it did in the previous year. Our forecasts were too low for that year, and have been too low every year since. The biggest prediction error was in 2021, when the state economy roared ahead at an 8% growth rate, well in excess of what we thought was a bullish forecast of almost 5%.

Our most recent forecasts have been influenced by national forecasts of slower growth due to Federal Reserve rate hikes. As we now know, those rate hikes did not produce the recession or even much of a slowdown in the national economy. The last two years have seen the actual economy outperform out forecasts. ■

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

When will Montana's growth tigers slow down?

By Patrick M. Barkey

It's been a familiar reprise with the national economy: slower growth next year. For several years running, forecasters have looked at things like interest rates and consumer credit and have solemnly pronounced that the fuel for faster growth is depleted. But the economy has refused to go along, and we continued to grow faster than expected.

Some version of that story has unfolded in the Montana economy as well, at least for the fastest growing parts of the state. Since the Covid downturn, job growth has been on a tear in the hot spots of Gallatin, Flathead, and to some extent, Missoula counties. Over the entire course of the three-year recovery, job growth in most parts of the state has been robust.

The growth leader, Gallatin County, has added more than 18,000 net new jobs since the spring of 2020, as shown in Figure 1. The number of new jobs added in the state's fastest-growing county is higher than the total number of jobs in Silver Bow County, the state's seventh largest. The second tier of growth leaders is fairly broad, with Yellowstone, Flathead, and Missoula counties each adding more than 10,000 jobs in the last three years. Eastern Montana counties, on the other hand, have struggled to add jobs since the Covid downturn.

If stronger growth really does continue, we are venturing into uncharted territory.

Yet the most recent forecast of county job growth produced by S&P Global, the forecast used by state government, calls for an abrupt slowing of these rates of job growth in 2025 and beyond. By the year 2026, high-flying Gallatin County's job growth rate falls to 1% in the forecast, a big slowdown compared to the 5.5% per year averaged between 2021 and 2024. The story for the other counties' forecasts is the same — much slower growth immediately ahead.

Of course, one can simply reject this forecast and go forward in the expectation that rapid growth in these communities will continue. That may in fact prove to be a more accurate prediction. All models have struggled to understand the factors behind stronger growth in recent years. But models are based on history, and even if inaccurate, their forecasts should remind us that if stronger growth really does continue, we are venturing into uncharted territory.

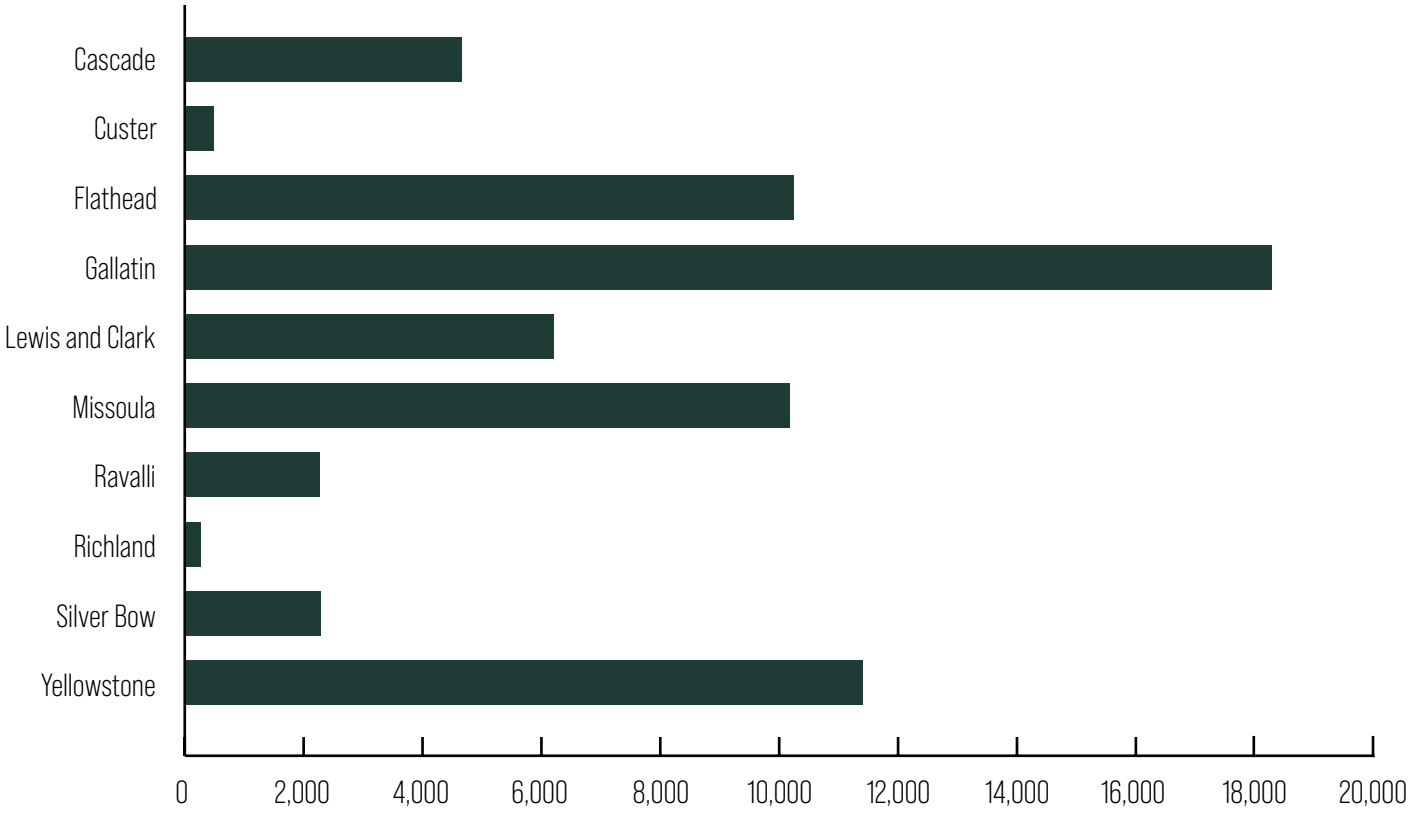
The growth story in 2024

Last year was one that saw a strong U.S. dollar, higher interest rates, a slump in real estate sales, and a cooling in some, but not all, commodity markets. There were some negative events that dominated the news: closures at wood products facilities in Missoula County, and a curtailment in production at the Sibanye-Stillwater mine in Sweet Grass and Stillwater counties were some of the biggest. Here's a look at how the different parts of the state have fared.

Cascade County

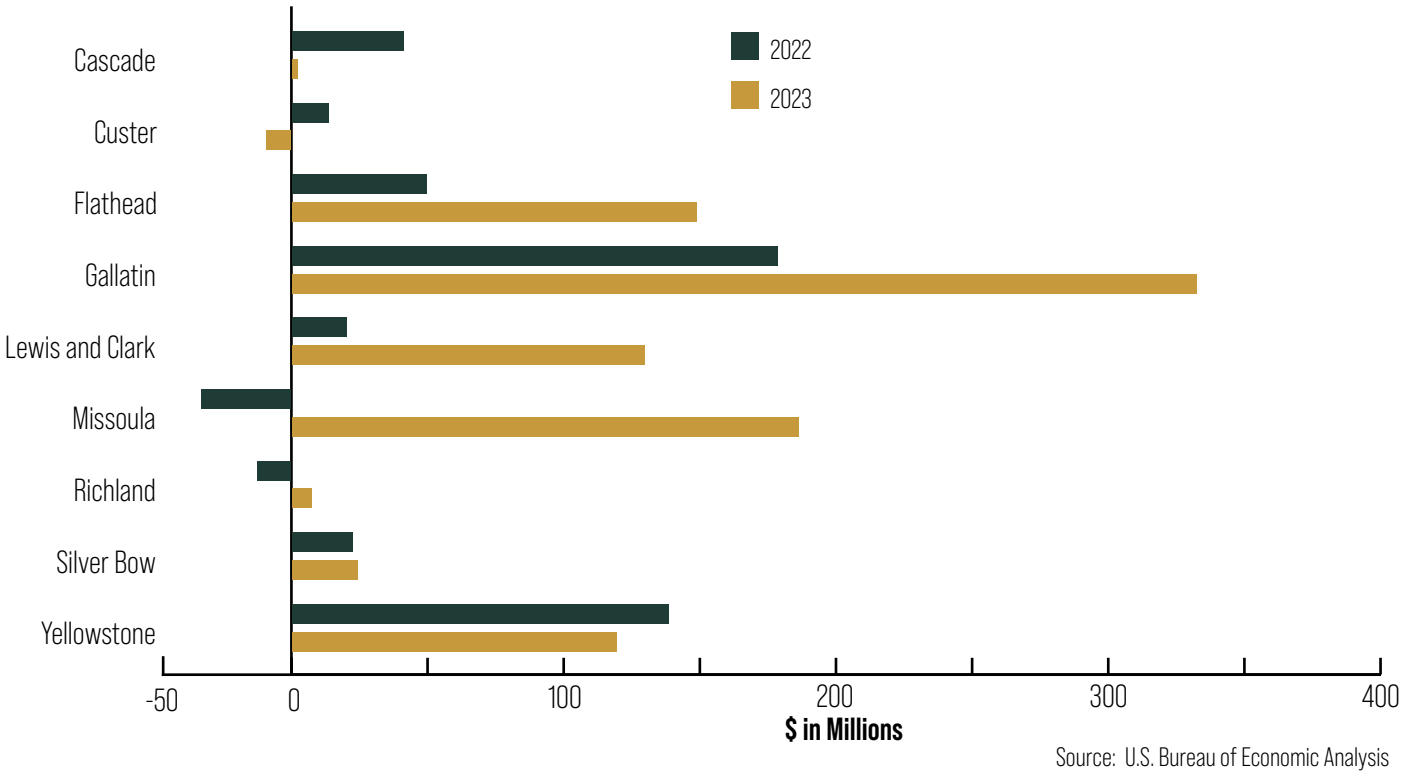
Great Falls' rapid rebound from the Covid downturn came to an end in mid-2022, although growth has remained respectable

FIGURE 1 Net job growth since 2020 Q2, selected Montana counties



Source: U.S. Quarterly Census of Employment and Wages

FIGURE 2 Growth in inflation-corrected nonfarm earnings, selected Montana counties, 2022 and 2023



Source: U.S. Bureau of Economic Analysis

since then. Construction and manufacturing are two of the bright spots, especially with the major project to convert part of Calumet's oil refinery to produce biofuels completed. The federal military presence remains an important contributor to growth as well. The county remains a regional health care hub, and the rebound in that industry's fortunes of late has been beneficial.

Lewis and Clark County

One of the growth drivers in the Helena area has been continued strength in commercial construction, which has slowed but not yet plateaued in the face of higher interest rates. Manufacturing is a smaller piece of the economy, but it also saw growth. But in an economy where government accounts for one out of every four dollars earned, the uptick in public sector employment and wages driven in part by federal transfers has had the biggest influence on overall growth.

Missoula County

The big news in Missoula County — the closures of Pyramid Lumber in Seeley Lake and the Roseburg particle board manufacturer in Missoula — has been too recent to show up in the aggregate data. Those closures were certainly unwelcome, but other news has been better. High tech and health care saw strong growth last year, and an expansion in hotel capacity that was largely completed in 2022 has increased the size of its visitor economy. Stability and modest growth — particularly in research activities — at the University of Montana has helped as well.

Yellowstone County

What remains the state's largest economy has been on a slower growth trajectory than the fastest-growing urban counties in the West since the post-Covid recovery began. Yet almost every other county in the state can say the same thing. Yellowstone's more modest recent growth is largely due to: the weaker economies of the four-state region it serves, the financial challenges facing its dominant health care sector, and its smaller presence in high-tech industries that are supercharging growth elsewhere. Construction is where this slower growth shows up the most, although St. Vincent's plans to replace its hospital with a new facility will probably change that.

Gallatin County

Descriptions of growth in Bozeman and adjacent areas have been full of superlatives for many years, and that largely continued last year. There was certainly no slowing the rapid growth of tech-related activity, which continued to post double-digit gains. It was also a strong visitor year, with Yellowstone National Park visits high for a second-consecutive year. Growth continues to extend geographically — Belgrade is now the eighth-most populous city in the state, and Madison County to the west has a larger residential property tax base than Cascade County. But a closer look reveals that overall growth has cooled slightly since the explosive growth in the immediate aftermath of the Covid downturn.

Butte-Silver Bow

One of the biggest changes in Montana since Covid has been the change in Butte-Silver Bow's economic fortunes. What was flat or often negative growth in inflation-corrected nonfarm income before 2020 has been replaced with steady, if modest, positive growth. Some of this has been attributable to its relatively affordable housing costs, especially relative to an overheated market in Bozeman just one hour away. But its traditional economic drivers — mining, health care, and utilities — have been pivotal, especially the relative health of the Montana Resources copper mine, buoyed by high global prices in 2024.

Flathead County

The story in Flathead County — for better or for worse — continues to be the strong in-migration of both people and businesses that has abated only slightly since the Covid downturn. Most of the economic drivers for the valley were running strongly last year. Tech growth was unabated, specialized manufacturing had a good year, and even health care put its recent stumbles behind it and had a strong year. Construction has softened with the rise in interest rates and the decline in residential sales volumes. Wood products manufacturers, once the primary driver growth, managed a difficult year with low prices.

Richland County

Nestled against North Dakota on Montana's eastern border, Richland County and other oil patch counties on both sides of the border continue to struggle to find good economic news. The most recent blow was the closure of Sidney Sugars in 2023, adding challenges to its agriculture producers that the oil industry has faced since the price bust of 2016. But the economy has stabilized and recent construction activity helped produce an uptick in growth in 2024.

Custer County

The Miles City region has experienced slow but reasonably steady growth in jobs since the Covid downturn, with payroll employment now about 4% higher than the downturn of 2020. Much of that gain occurred since the end of 2023 with expansions in wholesale trade industries adding 100 jobs. The traditional economic base of government, agriculture, banking, and health care has remained largely stable. There is potential growth in the near term from planned energy infrastructure construction projects. ■

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

General fund revenue collections declined in 2024

By Terry Johnson

As shown in Table 1 for fiscal 2024, total general fund revenue collections were $3.32 billion, with 76.9% collected from income (individual and corporation) taxes. These revenues are used to finance a variety of state services, but most of these funds are used for education, human service, and public safety programs.

Total general fund revenue collections decreased by $620.8 million, or 15.7 %, from collections received in fiscal 2023. This change was unusually large due to a decline in property taxes ($338.8 million), "Other Sources" ($249.9 million), and natural resources (including oil and natural gas tax) ($31.4 million) for a total decline of $620.1 million of the $620.8 million. The property tax decline was due to legislative changes adopted by the 68th Legislature that redirected most of these revenues to a non-general fund account for support of public education. In addition, there is a non-general fund account called the Budget Stabilization Reserve Fund (BSRF). This fund is used to provide funding for the general fund account if revenue collections fall below expectations. The BSRF is funded from general-fund monies that are above a specified amount at the end of each fiscal year. The BSRF, however, is capped at a certain amount. When this cap is reached, the excess is returned to the state general fund. This occurred in fiscal year 2022 ($115.1 million) and 2023 ($260.8 million) and is included as "Other Sources" revenue category shown in Table 1. There was no transfer of these monies in fiscal 2024. The natural resource revenue decline was due to price and production fluctuations for most of the fossil fuel types.

The decline in individual income tax collections ($10.4 million) can be explained by federal legislation enacted to address the impacts of Covid-19. The federal stimulus payments enacted by Congress resulted in substantial payments to Montanans. The economic statistics maintained by the U.S. Bureau of Economic Analysis provide measures of transfer payments to Montanans as well as wage and salary income of employees. Figure 1 shows the year-over-year change in transfer payments since 2014. The amount of change increased by $2.9 billion from 2019 to 2020, a 27.4% increase with a further increase of $1.2 billion from 2020 to 2021 for a total increase of $4.1 billion over the two-year period. Once the stimulus payments were eliminated, transfer payments declined by $1.6 billion from 2021 to 2022. Transfer payments from 2022 to 2023 have now returned to a more normal growth pattern observed prior to 2020. Since these monies are considered taxable income under Montana law, income tax collections changed accordingly based on the tax liability of the taxpayer.

The pandemic also had an impact on the workforce available for Montana businesses. Throughout Montana there were numerous posted signs indicating businesses were searching for workers. This workforce demand increased the wage offerings of businesses.

Higher wages increased total state wage and salary incomes as shown in Figure 2. Total wage income increased by $2.6 billion or 10.9% from 2020 to 2021 and $2.5 billion or 9.4% from 2021 to 2022. Wage growth from 2022 to 2023 has moderated and is now closer to historical trends.

Higher wage income increased state individual income tax collections in fiscal 2022 but were diminished by the decline in transfer payments in calendar 2022. Individual income tax collections are expected to return to a more normal growth pattern after 2024 reflecting more normal growth rates for wages and transfer payments as well as taxpayer behavior payment patterns returning to historical trends. ■

Terry Johnson is the former chief revenue forecaster for the state of Montana. He is now retired.

TABLE 1 State general fund revenue collections

Revenue source	Collections (millions) FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	% of FY 24 total	$ Change FY 23 to 24	% Change FY 23 to 24
Top seven:								
Corporation tax	$187.4	$266.5	$293.7	$309.9	$312.3	9.4%	$2.4	0.8%
Individual income tax	1,435.2	1,765.4	2,393.8	2,254.3	2,243.9	67.5	-10.4	-0.5
Insurance tax	82.5	87.3	97.9	106.2	115.1	3.5	8.9	8.4
Oil & natural gas tax	38.4	39.5	70.5	71.0	64.4	1.9	-6.6	-9.3
Property tax	308.6	310.7	335.1	356.0	17.2	0.5	-338.8	-95.2
Vehicle fee	108.5	117.8	121.1	123.0	124.8	3.8	1.8	1.5
Video gaming tax	57.4	74.9	77.9	80.1	83.4	2.5	3.3	4.1
Business	72.2	69.4	94.1	96.3	99.3	3.0	3.0	3.2
Consumption	88.4	92.9	119.9	135.7	125.1	3.8	-10.6	-7.8
Interest earnings	41.8	21.1	28.3	18.1	19.1	0.6	1.0	5.7
Natural resource	45.4	40.6	54.3	73.1	48	1.4	-25.1	-34.3
Other	67.0	77.6	204.9	319.8	69.9	2.1	-249.9	-78.2
TOTAL GENERAL FUND	**$2,532.8**	**$2,963.7**	**$3,891.6**	**$3,943.4**	**$3,322.6**		**-$620.8**	**-15.7%**

Source: Statewide Accounting, Budgeting, & Human Resource System

FIGURE 1 Year-over-year change in Montana transfer payments

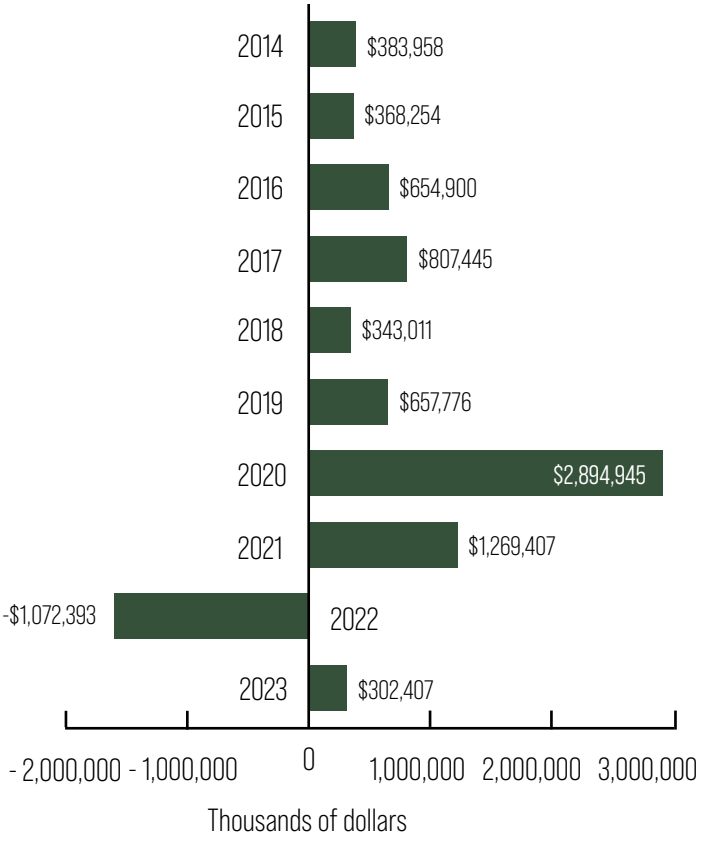
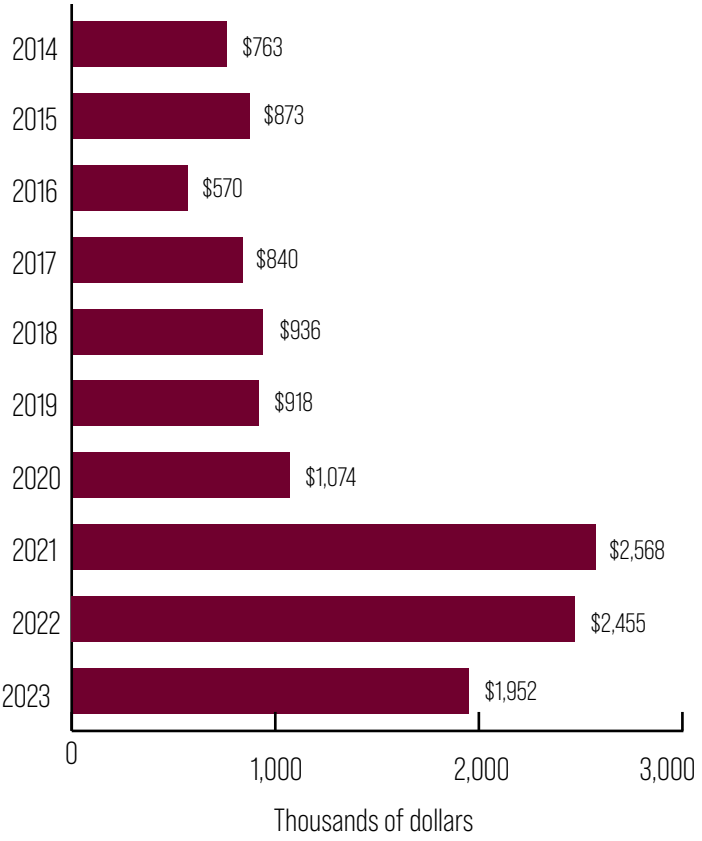


FIGURE 2 Year-over-year change in Montana wage and salary income



Source: U.S. Bureau of Economic Analysis

Was Montana's economy obscured by last year's national political drama?

By Patrick M. Barkey

Somewhere, lost in the noise during the most expensive political campaign season in Montana history, the state economy recorded an eventful year in 2024. Among the most impactful events were:

1 **State personal income tax rate reductions take effect.** The top rate for the Montana personal income tax rate fell from 6.5% to 5.9% on January 1, 2024. An earlier change had reduced the top rate from 6.9% and also folded the state's seven earnings brackets into two.

2 **The galloping prices for residential property caused another jump in market assessments** performed by the Montana Department of Revenue and used by local governments to calculate tax bills. Increases in taxable value of residential and commercial property averaging 31.5% brought intense scrutiny and new proposals for reform for the new Legislature to consider.

3 **Last year saw two painful closures of wood products facilities in Missoula County.** The Roseburg particle board plant closed in May 2024, citing competitive pressures from other, newer facilities. Pyramid Mountain Lumber closed its doors in October after 75 years of operation, due to depressed lumber demand and labor availability issues.

4 **Sibanye-Stillwater laid off 700 people** from its Stillwater and East Boulder mines due to losses caused by the continued depressed level of palladium, the primary product of the facility.

5 The U.S. Economic Development Administration announced that **Montana's Headwaters Tech Hub would receive a $41 million grant** from the Regional Technology and Innovation Hub Program. The Hub will pursue opportunities and investments in smart photonic sensing systems and their deployment into industry sectors critical to U.S. national and economic security.

6 **NorthWestern Energy announced** that effective January 1, 2026, it would acquire, at no cost, two shares of the generating capacity of the Colstrip coal-fired electric generating plant in Rosebud County from Puget Sound Energy (370 megawats) and Avista (222 megawatts). This will bring the company's total share of the facility to 55%.

7 **The failure of the St. Mary siphon** over the St. Mary River near Babb, Montana, in the summer of 2024 presented significant challenges to Hi-Line irrigators and recreators, affecting ground water levels and Milk River flows.

8 **Intermountain Health St. Vincent Regional Hospital in Billings unveiled its plans to build** a new, 14-story, 737,000 square-foot facility located adjacent to its current hospital facility. This would be one of the largest construction projects in health care the state has ever seen. It is anticipated to be completed in 2029.

9 **The North Plains Connector project**, slated to build a 420-mile, high-voltage DC electric transmission line linking Colstrip to North Dakota got a boost from the announcement from the U.S. Department of Energy that it would grant $47.5 million to Rosebud, Custer, and Fallon counties, in addition to the Northern Cheyenne Tribe, to fund infrastructure projects associated with the build-out.

10 **The final rules for the Advanced Manufacturing Production Credit**, part of the Inflation Reduction Act, gave access to a 10% tax credit for Sibanye-Stillwater's mining of platinum and palladium in south central Montana. The original rule only included refiners, not miners, of critical minerals to qualify for the credit. The decision is expected to help support production at their facilities, currently struggling with profitability in the depressed palladium marketplace. ■

Photos courtesy of Wikimedia Commons, U.S. Economic Development Administration, U.S. Department of Energy, and U.S. Bureau of Reclamation.

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

From soft landing to AI and uncertainty

By Jeffrey A. Michael

Two years ago, as we headed into 2023, many forecasters were calling for recession as steep inflation had led to a rapid rise in interest rates and an inverted yield curve, when short-term interest rates rise above long-term rates, one of the most historically reliable predictors of a recession. The economy defied those recession predictions, and has for the past two years looked to be achieving a "soft landing" where high interest rates are able to moderate inflation without triggering a recession. Throughout 2024, the economy has grown at a moderate pace, inflation has stabilized just below 3%, and jobs have continued to grow albeit at a somewhat slower pace with a very small increase in unemployment.

One of the reasons economic growth has outperformed expectations in the past two years is that technological advances, most notably in artificial intelligence (AI), are increasing productivity. Most macroeconomic analysis of AI impacts predicts that further development and adoption of these technologies will add a full percentage point to economic growth to most developed nations through the end of this decade, the most significant gain to economic productivity since widespread adoption of personal computing and internet use in the 1990s. The degree to which these new technologies boost the economy depends upon the pace of adoption by end-users, confidence and acceptance of AI-generated services by consumers, and flexibility of workers and other factors of production (capital and energy) to reallocate across economic sectors in a fast-changing environment.

However, while recent economic data mostly continues the soft-landing pattern, the election and global events have created an unusual amount of uncertainty around the economic outlook for 2025 and beyond. In general, Donald Trump's victory in November means the U.S. is heading toward a period of lower taxes and higher walls in the form of tariffs, deportations, and lower immigration. In addition, weak economic performance in Europe has led to major political changes in France and Germany in late-2024. Other developed economies in Asia and North America, such as South Korea and Canada, are also experiencing major political instability as 2024 draws to an end. The resulting leadership changes and policy uncertainty in the U.S. and its key trading partners adds to climate of global uncertainty in the face of ongoing wars in Ukraine and the Middle East.

For the U.S. economy, much of the uncertainty stems from how far and how fast President Trump goes in implementing his campaign proposals. The most important areas for the economic outlook include:

Income tax policy: The 2017 Tax Cut and Jobs Act (TCJA) was the most significant economic policy achievement of Trump's first term, and its individual tax cuts that were scheduled to expire in 2025 are certain to be extended. There is much more uncertainty about campaign proposals to eliminate taxes on tips, overtime, and Social Security, as well as additional targeted reductions to corporate taxes. The 2017 TCJA was revised substantially by Congress from its original proposal, and

TABLE 1 **Key economic indicators for the United States, actual and forecasted (*) annual rates**

	2024 Q2	2024 Q3	2024 Q4*	2025 Q1*	2025 Q2*	2023	2024*	2025*	2026*	2027*
Real GDP (% annual change)	3.0	2.8	1.7	1.7	1.6	2.9	2.7	1.9	1.8	1.7
Real consumer spending (% annual change)	2.8	3.5	2.7	2.5	1.8	2.5	2.7	2.4	1.7	2.2
Federal funds rate (%)	5.33	5.26	4.66	4.31	4.07	5.02	5.15	4.02	3.72	3.14
10-yr. T-note yield (%)	4.44	3.95	4.21	4.26	4.16	3.96	4.19	4.18	4.00	3.87
Brent crude price ($/barrel)	84.65	79.86	74.63	73.5	73.00	82.5	80.52	71.87	69.02	70.05
CPI (% change from previous quarter)	2.8	1.2	2.9	2.0	4.4	4.1	2.9	2.9	3.4	2.2
Housing starts (millions)	1.340	1.331	1.327	1.325	1.313	1.421	1.351	1.307	1.281	1.273
Unemployment rate (%)	4.0	4.2	4.2	4.3	4.4	3.6	4.0	4.4	4.7	4.8

Source: S&P Global

concerns about increasing the debt are likely to lead to fewer new tax cuts than President Trump proposed as a candidate. These tax proposals would boost demand and bolster growth, but higher deficits could translate into higher interest rates.

Tariffs: Taxes on imported goods may be the biggest wildcard. The president is less constrained by Congress to enact tariffs than other taxes, and the Trump administration is proposing much larger tariffs on key trading partners than during the first term. New tariffs will increase consumer prices for imported goods and disrupt some manufacturing supply chains while partially offsetting the budgetary impact of domestic tax cuts. If other countries retaliate with tariffs of their own, the resulting trade war will slow the global economy.

Deportations and reduced immigration: There is considerable uncertainty about the extent and speed of mass deportations. The resulting reduction in labor force will impact industries like hospitality, agriculture, and construction with large numbers of undocumented immigrant workers. Lower immigration in general is a near-certainty, which will reduce labor supply growth and aggregate demand due to a lower population while wages increase and production could be disrupted in industries impacted by labor shortages, contributing to higher inflation.

Government spending and regulation: Reduced federal regulations will have less immediate impact on the economic forecast but have the potential to increase growth in the long-run if implemented effectively. Reducing federal government spending will be challenging and carries great political risk. Federal spending is likely to flatten out by 2026, creating a mild drag on growth, but large cuts to spending are unlikely despite a high-profile government efficiency effort.

Taken together, President Trump's policies are likely to result in higher inflation and interest rates in 2025 with mixed effects on growth. The S&P Global forecast summarized in the table predicts interest rates will be one-half to three-quarters of a percentage point higher than in the absence of Trump policies, and inflation will remain around 3% in 2025 and 2026, about a percentage point higher than the pre-election forecast. There is little predicted impact on growth, with real GDP growth forecast to continue at a moderate pace of just under 2% annually.

In a time of dramatic change in political leadership, both in the U.S. and around the globe, uncertainty about the economic outlook is high. Financial markets reacted in late-2024 with an increase in long-term interest rates and a stronger dollar, which could reduce growth over the coming year. While risk and uncertainty are elevated, a number of positive drivers should keep the economy growing, including continued improvement in productivity, new technological advances, and generally solid household finances that should maintain consumer confidence and spending. ■

Jeffrey A. Michael is director of the Bureau of Business and Economic Research at the University of Montana.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The future of everything

How generative AI and technology will change work and the economy

By Patrick M. Barkey

THE ONE THING THAT stands out about predicting the future is how often we are totally wrong. And that's especially true when we try to predict the big changes in everything from religion to climate. Despite the predictions of 19th century economist Thomas Malthus that exponential growth in population would cause future generations to starve, nothing of the kind happened. More recent fears that genetically modified foods would lead to catastrophe, or that oil production could only go down, have thus far proven wrong as well.

So why does anyone really think that the future of the economy and society in a new AI world where computers can be taught to think, converse, and even create can be predicted with any more success?

In truth — and humility — it must be said that knowing how it will all play out is truly impossible. Especially for this simple economic forecaster. Despite this, the time to be thinking about the implications of the continued rapid development of artificial intelligence for labor markets, businesses, and the entire economy has clearly arrived.

This image was created from an Adobe Stock reference photo of a cowboy riding in a western landscape and a text prompt using the company's generative AI tools. Imperfections were not changed, such as the woman's garbled face, her oddly shaped boot and foot, and the single rein seeming to hang from the robot dog's mouth. These were less obvious than flaws in other versions offered by the AI tool.

Why all the attention to AI

IBM famously spent 11 years and billions of dollars to create and refine a computer to defeat a chess master in 1996. In 2017, AI-powered computers were beating the best humans at every game imaginable, and doing it by training themselves. And the breakneck speed of improvement has continued to this day.

At its heart, the essence of AI is the building, refining, and then using predictive models of staggering size. At least they seem to be staggeringly large to this economist. Our old-fashioned sense of what is a large model might be one where we use, say, 30 different factors to predict something. AI models use hundreds of billions of parameters that are estimated with similarly huge amounts of data, searching for patterns to be used in making predictions. Such models employ machine learning, where tentative predictions are compared to actual outcomes, and adapt and improve on their own without receiving explicit programming instructions.

It has been the ability of these models to generate content — known as generative AI — that has captured attention in recent years. That content could be text, analysis, spoken words, graphic output, or machine instructions. The tasks that these models can take on is truly remarkable, and they are already reshaping how knowledge work is performed in a broad swath of industries and activities.

Using this jargon, modern, industrialized economies like the United States are "frontier" economies.

Early adopters have included:

Customer relations: responding to complex inquiries from customers, providing real-time assistance to sales agents during telephone calls, using data on customer history to refine interactions and conduct post-conversation evaluations.

Research and development: exploratory research, idea generation, virtual design and simulation, physical test planning.

Software engineering: inception and planning, system design, coding, testing.

The breadth of industries where these innovations are already taking hold is wide. Banking, real estate, and education are immediate examples. These and other industries aren't in Silicon Valley or on the east coast. They are everywhere — including cities and towns in Montana.

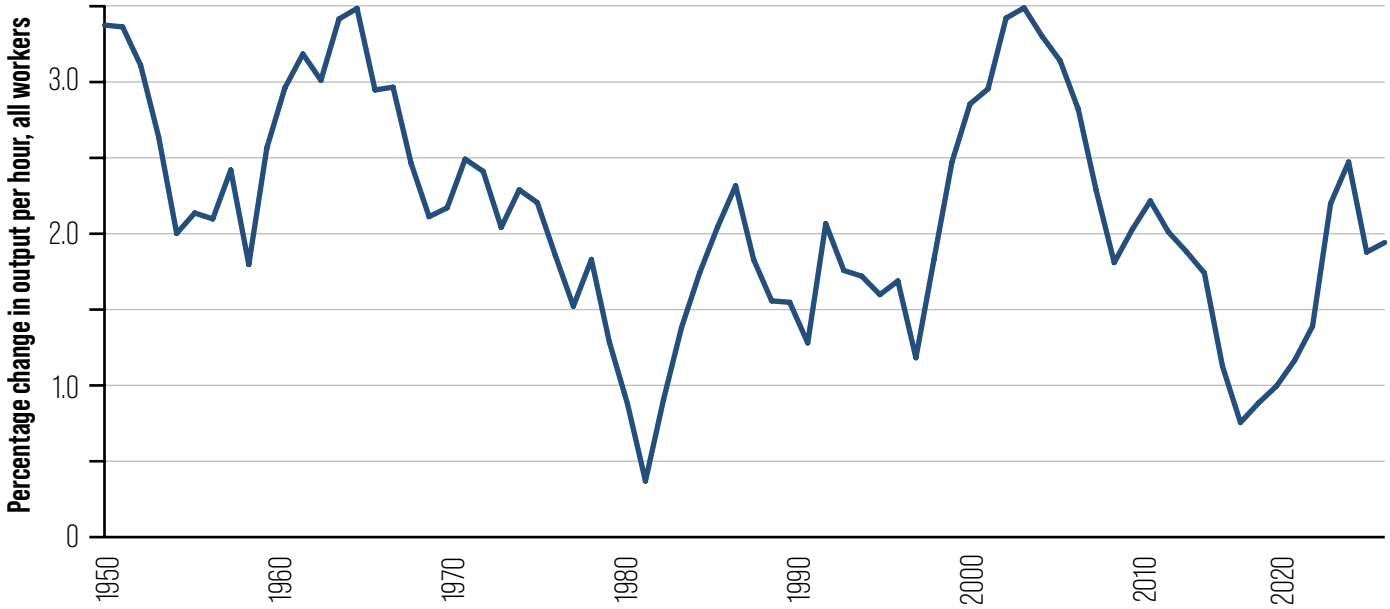
AI and economic growth

This has captured the attention of economists. A very old concept in economics is what is known as the production possibilities frontier. It captures the notion of how resources are used to produce things, and that when resources are used efficiently — we are on the frontier — that the only way to produce more of one thing necessarily involves producing less of something else.

Using this jargon, modern, industrialized economies like the United States are "frontier" economies. We cannot raise standards of living for everyone unless we can figure out how to produce more of everything. Economists measure this ability, known as productivity, and have tracked it over the years. As shown in Figure 1, its growth has varied considerably since the end of World War II for the national economy.

Taking averages over each of the seven and a half decades since the 1940s, productivity growth has roughly varied between 1.5% and 3%. Growth was strongest immediately after the war, as production innovations used to prevail in that conflict flowed back into the peacetime economy. There was also a notable boost in the 2000s, which some have attributed to the growth of globalization and the digital economy.

FIGURE 1 **Annual U.S. productivity growth since World War II**



Source: Federal Reserve Bank of St. Louis (FRED)

These are much lower growth rates than countries like China, Korea, or Singapore have experienced. But the so-called "Asian tiger" economies are not frontier economies, and they have achieved these faster "make up" growth rates by eliminating waste and bottlenecks that held back production.

What are the implications of the widespread adoption of AI for these trends? Many see AI as something that could boost productivity growth for decades to come. And since the gains compound over time, an increase in productivity growth by, say, 2 percentage points could make our economy 50% wealthier in just over 20 years.

These kinds of projections underscore why some have referred to AI as the next industrial revolution.

Short- and Longer-Term Challenges

Optimistic predictions could flounder, however, unless bottlenecks to producing what is needed to enable growth in AI capacity are effectively addressed. Two significant constraints are computer-chip capacity and electric power generation and delivery.

We got a painful lesson in computer chip-making constraints in the aftermath of the pandemic, which the quick snap-back in motor vehicle demand produced a surge in demand for chips that the global industry could not immediately satisfy. The images of acres of land covered with row after row of newly assembled vehicles awaiting chips to become operational are hard to forget.

That story involved much less sophisticated chips than are involved with those needed for AI-powered data processing. Data center growth to support AI will involve heavy demand for Graphics Processing Unit (GPU) and high-capacity memory chips that are already in short supply. New demand for AI-type capabilities in traditional devices like laptops, tablets, and phones are another source of new demand.

Courtesy of the U.S. Department of Energy.

An increase in productivity growth by, say, 2 percentage points could make our economy 50% wealthier in just over 20 years.

Bain & Company, a global consulting company, notes that the supply chains for semi-conductor production are fragile and have difficulty responding to fluctuations in demand of the magnitude being projected. At some stages of production, capacity increases of 200% or more may be necessary.

A second immediate challenge comes from the power needs of an AI-fueled data processing expansion. Data centers already figure prominently in end uses of electricity, serving everything from crytocurrency to e-commerce activities. Power demand for AI-computing tasks will be especially significant, given the size of the datasets involved and the complexity of the calculations. A power grid that already struggles with adequacy given the pressures to reduce carbon emissions from its generating resource fleet faces a new challenge with the rollout of AI.

McKinsey & Company, a global management consulting firm, predicts that the power needs of data centers will account for more than 11% of all electricity consumed by the year 2030, compared to a 3% to 4% share today. Not all of this new demand is AI related, but the rapid scaling of AI to serve wider applications is the primary driver of the change. Given the long lead time needed to build up supply capacity, not to mention the political pressures that can force delays and cancellations of power projects in recent history, this is a daunting challenge.

Opportunities for Montana?

It is hard to know what this "next industrial revolution" powered by AI means for Montana's economy. But we can at least start to think about its impacts unfolding in two broad ways.

First, we can consider the implications of AI for the existing industries that comprise our economic drivers today. In a competitive environment, adoption of AI is not a choice for most businesses. And it could be a boon, especially if the technology brings specialized knowledge within the reach of businesses here that currently unable to access them. You might need to be in San Francisco, for example, to get access to a patent attorney who speaks Mandarin today. But will that be true in the future?

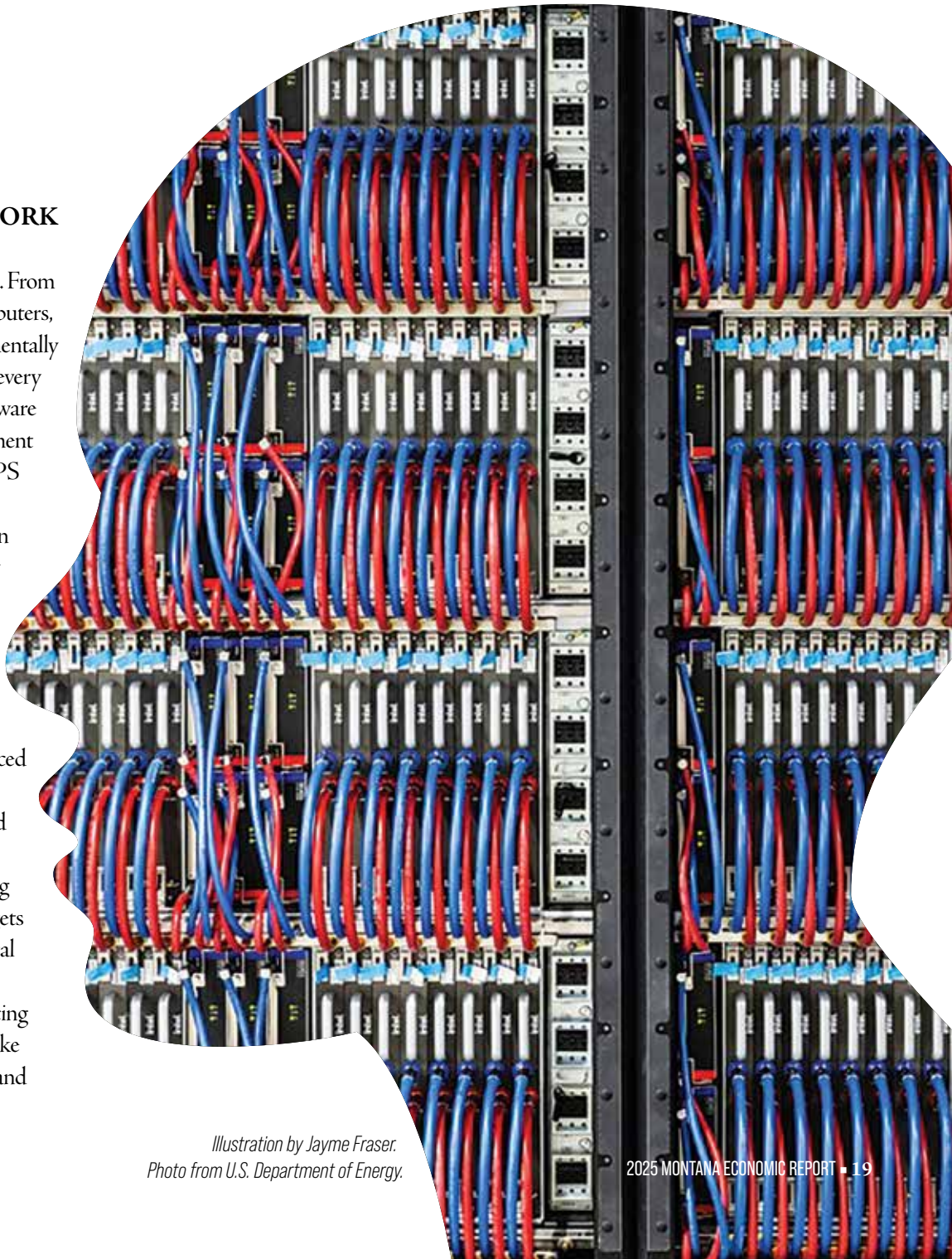
A second dimension of change for Montana would be to consider what entirely new business activities could take root here that were not feasible or economic before. Recent migration changes have made it clear that mountain west states like Montana have powerful appeal as places to live. It is unknowable, but a technological change that is fundamentally aimed at the production of knowledge could potentially change the equation for business location decisions that would diversify our economic base. ■

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

AI is reshaping work

What Montana businesses need to know

By Paul Gladen



THE NATURE OF WORK has always evolved with technological advancement. From the steam engine to electricity to computers, each industrial revolution has fundamentally changed how we work. Today, nearly every job involves using computers and software — from ranchers using herd management applications to foresters leveraging GPS systems for timber harvesting.

The digital revolution that began in the 1970s transformed virtually every workplace. Workers who once kept paper records now manage databases. Mechanics who relied purely on experience now use diagnostic software. Even traditional industries like agriculture have embraced technology, with tractors guided by GPS and irrigation systems controlled by smartphones.

Now artificial intelligence is driving another profound shift in how work gets done. But unlike previous technological revolutions that primarily automated physical tasks, AI is capable of enhancing cognitive work — helping workers make better decisions, be more productive, and focus on higher-value activities.

Illustration by Jayme Fraser.
Photo from U.S. Department of Energy.

A farmer in the Netherlands monitors GPS while planting potatoes. *Photo from Adobe Stock*

Artificial intelligence supports some high-throughput lab testing. *Courtesy of the U.S. Department of Energy.*

Early adoption across industries

The impact of AI is already visible across industries relevant to Montana's economy. In forestry, companies are using AI-powered systems to analyze massive amounts of environmental data to optimize resource management and improve sustainability. In agriculture, autonomous tractors equipped with AI can now handle precise planting and harvesting while collecting data to improve future yields.

The construction industry, which plays a vital role in Montana's economy, is experiencing significant changes through AI adoption. Construction companies are using AI to improve everything from project planning to safety monitoring. For example, AI-powered cameras and sensors can monitor construction sites, tracking vehicles and personnel onsite to automatically detect potential hazards and verify the use of personal protective equipment, helping safety managers enforce compliance with safety protocols.

Even traditional office work is being transformed. At 7-Eleven, AI has helped reduce hiring time from 10 days to just three days by automating candidate communications and interview scheduling. The company reports this has prevented them from losing qualified candidates who might otherwise take jobs with competitors — a crucial advantage in today's tight labor market.

Small businesses are finding creative ways to leverage AI as well. A recent U.S. Chamber of Commerce survey found that 65% of small business owners expect AI to change future job roles, while 64% expect AI proficiency to be required in future job listings. Many are already using AI to handle time-consuming administrative tasks like scheduling, document processing, and customer service, allowing employees to focus on more valuable work.

Transforming rural tourism

Rural tourism represents a significant economic opportunity for Montana communities, and AI is creating new ways to enhance visitor experiences while improving operational efficiency (for more on this topic, see pages 24-29). According to research from IEEE, an organization dedicated to advancing technology, AI is helping rural tourism operators optimize resource management, personalize visitor experiences, and improve sustainability.

"AI can help analyze visitor data to determine tourism trends, predict peak seasons, and optimize pricing," says Dr. Mohamed Saeed Darweesh, senior IEEE member. "For example, AI-powered sensors can monitor environmental conditions and visitor flows, helping tourism operators better manage their resources while protecting natural attractions."

Small lodges and tourism businesses are using AI to enhance customer service through 24/7 chatbots that can answer common questions about accommodations, activities, and local attractions. This allows staff to focus on providing personal attention where it matters most — during face-to-face interactions with guests.

AI is also helping rural tourism operators better market their destinations. By analyzing social media data and online reviews, AI can help identify what attracts visitors to an area and what experiences they value most. This information can be used to create more targeted marketing campaigns and develop new offerings that appeal to specific visitor segments.

Vermont's electric utilities are even using AI to manage the growing demand from electric vehicle-driving tourists. Vermont Electric Co-op has implemented AI systems to track and manage EV charging patterns, ensuring their grid can handle increased demand while keeping costs reasonable for both residents and visitors.

Skills in the AI era

One of the most significant impacts of AI is how it's changing the skills workers need. According to Indeed's comprehensive analysis of over 2,800 work skills, AI is creating new requirements across virtually every occupation. While AI won't fully replace human workers, those who know how to effectively use AI tools will have significant advantages over those who don't.

This shift is evident in how companies evaluate candidates. Loreal Lynch, chief marketing officer at Jasper AI, a leading AI marketing platform, notes that while traditional skills like writing mechanics were once crucial hiring criteria, they're now looking more for critical thinking and the ability to effectively direct AI tools. "It's more about the critical thinking and the context that a human can bring in than it is about the writing," Lynch explains.

For Montana employers, particularly small businesses, this presents both opportunities and challenges. The good news is that AI can help identify and develop needed skills within existing workforces. Johnson & Johnson, for example, used AI to analyze employee data and identify skills gaps, leading to a 20% increase in professional development participation. While smaller organizations may not have J&J's resources, similar principles can be applied at any scale.

Better skills management through AI

One promising development is how AI can help employers better understand and manage their workforce's skills. AI-powered systems can:

- Create detailed skills inventories by analyzing job descriptions, resumes, and work products
- Identify gaps between current capabilities and future needs
- Suggest personalized learning paths for employees
- Match employees with internal opportunities based on their skills
- Track skills development over time

This capability is particularly valuable for small businesses, where every hire and role transition is crucial. By better understanding their workforce's capabilities, employers can make more informed decisions about hiring, training, and development.

Risks and challenges

While AI offers significant benefits, there are important risks to consider. The Society for Human Resource Management found that 19% of

COMMON AI STRATEGIES FOR BUSINESS

Businesses across industries are finding practical ways to incorporate AI into their daily operations. Here are some of the most common and effective applications:

Marketing and customer engagement: Marketing teams are using AI to analyze customer data and predict trends, helping create more targeted campaigns. For example, some businesses report up to 21.5% higher conversion rates on their websites using AI-powered tools. AI can also help create personalized content for different customer segments and optimize social media strategies. Small businesses are particularly benefiting from AI's ability to suggest optimal posting times and content types for social media engagement.

Customer service: AI-powered chatbots and virtual assistants are helping businesses provide 24/7 customer support without the need for round-the-clock staffing. These systems can handle routine inquiries, freeing up human staff to deal with more complex issues. Some companies report up to 11.5% faster case resolution times when using AI to assist their customer service representatives.

Financial management and operations: Business owners are using AI to streamline financial operations. For example, AI can help with invoice processing, expense tracking, and cash flow forecasting. Some companies report reducing the time spent on cash collections by 60% using AI tools. AI can also analyze procurement data to identify cost-saving opportunities and optimize supply chain management.

organizations using AI in HR activities discovered instances where AI tools inadvertently excluded qualified candidates. This highlights the importance of maintaining human oversight of AI systems.

Data privacy is another crucial concern. AI systems often require access to substantial amounts of employee and business data, raising questions about security and compliance with privacy regulations. Small businesses need to be particularly careful about how they handle sensitive information when implementing AI tools.

There's also the challenge of employee acceptance. Workers may feel uncomfortable with AI monitoring their work or worry about job security. Research shows that employees are more accepting of AI tools when organizations are transparent about their purpose and implementation.

Preparing for the future

For Montana businesses looking to navigate this transition, several key principles emerge:

Start small: Focus on specific processes where AI can add immediate value rather than attempting wholesale transformation.

Invest in training: Ensure employees understand both how to use AI tools and why they're being implemented.

Maintain human oversight: While AI can enhance decision-making, crucial choices should still involve human judgment.

Be transparent: Clear communication about how and why AI is being used helps build employee trust and acceptance.

Focus on augmentation, not replacement: Frame AI as a tool to help employees work better rather than a replacement for human workers.

The impact of AI on work will likely be as significant as the introduction of computers. But as with previous technological revolutions, success will depend not just on the technology itself, but on how effectively organizations and workers adapt to use it. For Montana businesses, the key is to approach AI adoption thoughtfully and strategically, focusing on how it can enhance rather than replace human capabilities. ■

Paul Gladen is associate vice president for Research and Economic Development and director of Accelerate Montana at the University of Montana.

AI assisted with the development of this article.

Administrative tasks and documentation: AI is proving particularly valuable for handling routine administrative tasks. CEOs report using AI to help draft investor updates, prepare performance reviews, and analyze contracts. One company reported that AI could help reduce legal review costs by up to 90% by doing initial contract analysis.

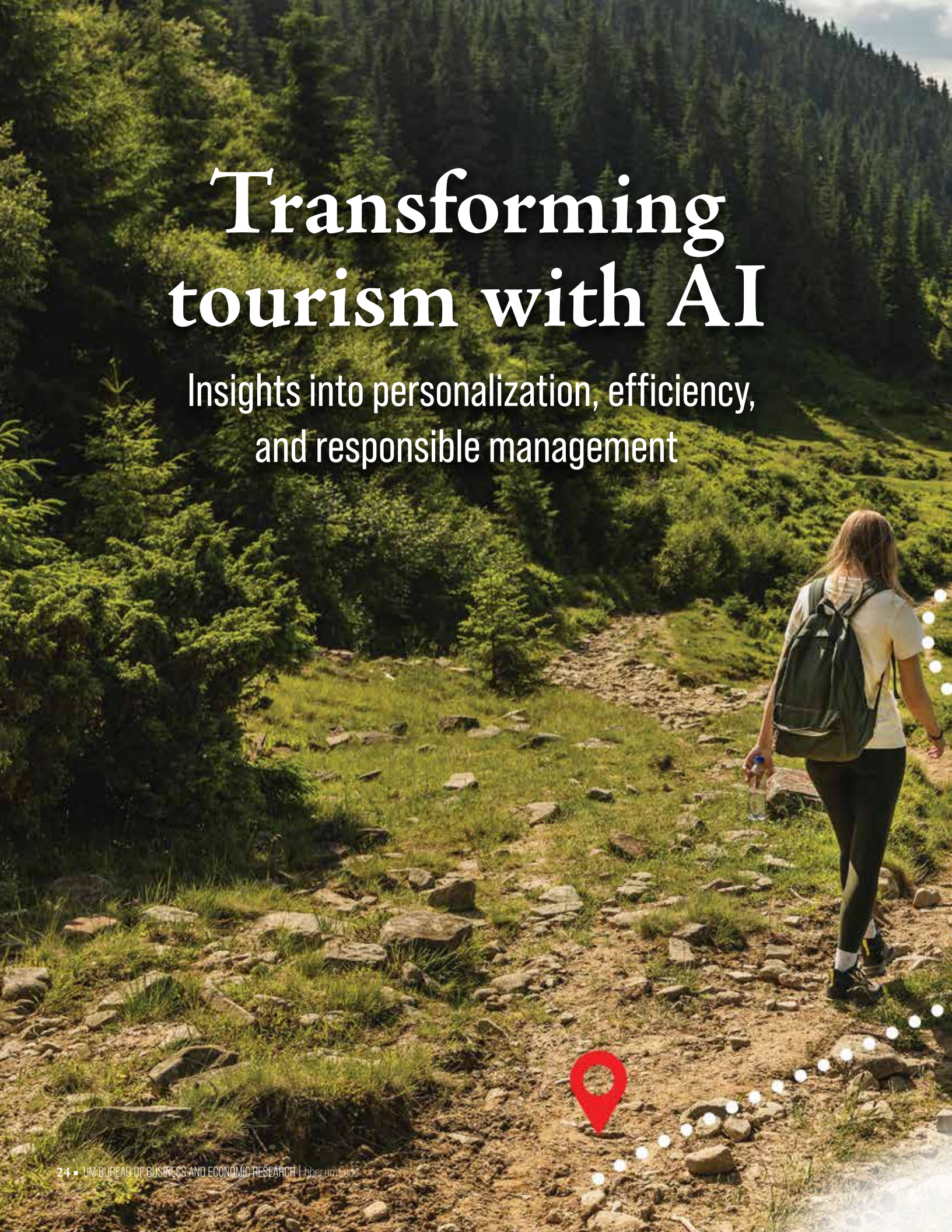
Project management: AI tools are helping businesses better manage projects and resources. These systems can help predict project timelines, identify potential bottlenecks, and suggest optimal resource allocation. Some organizations report reducing project planning time by 30-40% using AI-assisted tools.

Recruitment and hiring: Beyond just screening resumes, AI is helping businesses write more effective job descriptions, conduct initial candidate assessments, and even help with interview scheduling.

Training and skills development: Companies are using AI to create personalized learning paths for employees and track skills development. AI can analyze an employee's current skills and role requirements to suggest relevant training opportunities. Some organizations report up to 42% greater accuracy in addressing employee learning needs through AI-powered systems.

Data analysis and decision support: AI is helping businesses make sense of their data and make better decisions. From analyzing market trends to predicting customer behavior, AI tools can process vast amounts of information and provide actionable insights. This is particularly valuable for small businesses that may not have dedicated data analysis teams.

Document management and analysis: AI tools are helping businesses manage and analyze documents more efficiently. From summarizing long reports to extracting key information from contracts, AI can save significant time in document processing. Some businesses report reducing document review time by up to 40% using AI tools.



Transforming tourism with AI

Insights into personalization, efficiency, and responsible management

Many travelers and experienced adventurers now use AI-powered mapping tools on their excursions. *Photo from Adobe Stock*

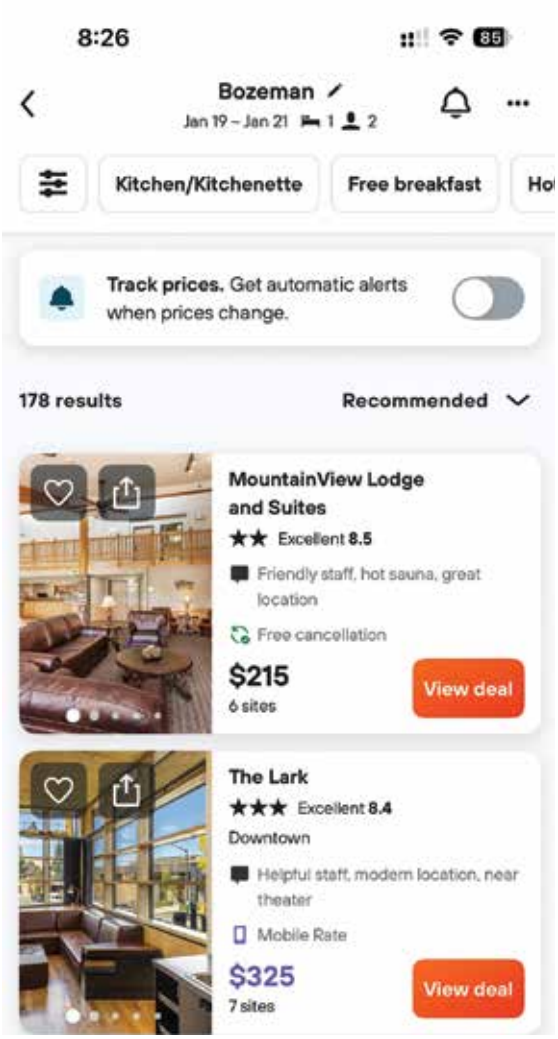
By Melissa Weddell and Kika Bradford

CHANCES ARE IF YOU travel, you are using artificial intelligence (AI).

Navigation apps like Google Maps use AI for real-time directions, route planning, weather updates, and targeted ads on social media, such as dinner-time suggestions for nearby restaurants. AI is rapidly emerging as a tool that is transforming how businesses operate and consumers engage. In tourism, AI encompasses technologies like virtual assistants, smart travel agents, and data analytics, which together create personalized experiences for travelers. Community-based platforms like Airbnb and Uber exemplify the shift toward new economic models such as the sharing economy, where user preference drives innovation and the adoption of AI-driven solutions. However, these benefits come with challenges, such as concerns over job displacement, inaccurate information, and privacy risks. In Montana, a state that relies on tourism, AI integration offers opportunities and challenges, particularly in achieving a balanced approach to supporting industry growth while respecting data privacy and ethical concerns.

AI applications in tourism and recreation industries

For business, AI can personalize visitor experiences using systems to analyze visitor profiles that tailor recommendations and itinerary planning for a customized experience. This level of personalization enriches the visitor experience and supports customer



Photos courtesy of the National Park Service and Jayme Fraser.

Illustration by Jayme Fraser. Photo from Adobe Stock.

loyalty, helping businesses build a strong base of returning clients. AI can automate routine tasks such as check-in and check-out and optimize staffing levels using forecasting tools to predict visitor trends and manage demands effectively.

For example, Disney uses AI tools like the Disney Genie app to provide personalized itineraries and manage virtual queues to reduce wait times. AI monitors crowd density for dynamic crowd control, optimizes staffing, and powers interactive attractions.

It also supports dynamic ticket pricing and real-time security monitoring, creating a seamless park experience. National parks like Yellowstone and Glacier use AI by analyzing data from sensors, cameras, and mobile apps to monitor visitor numbers, predict peak times, and manage crowd flow, reducing congestion in popular areas.

National parks like Yellowstone and Glacier use AI by analyzing data from sensors, cameras, and mobile apps to monitor visitor numbers, predict peak times, and manage crowd flow, reducing congestion in popular areas.

AI also supports wildlife monitoring and habitat protection by detecting human-wildlife interactions. In Glacier National Park, AI tools assist in forecasting trail conditions and planning shuttle schedules, ensuring a better balance between accessibility and preservation.

This optimized management enables businesses to reduce labor costs and increase productivity, especially during peak seasons when demand surges. As a result, a business can maintain high service levels while controlling operational expenses and reducing cost savings.

AI applications for visitors

For the traveler, AI technology is becoming essential for planning, helping make informed choices and enhancing their overall experience. When choosing destinations, virtual travel assistants and AI-driven apps like chatbots can provide personalized recommendations based on individual interests, budgets, and travel history. Tools like Google Travel and Hopper, for instance, use AI to forecast prices, suggest optimal travel times, and offer insights into popular activities.

As AI technology continues to evolve, it holds great potential to further personalize, enhance, and safeguard the travel and recreation experience.

AI also aids in planning trips by curating custom itineraries tailored to each traveler's preferences, goals, and schedules. Many travel apps generate suggested schedules that highlight attractions, dining options, and activities like places the user has enjoyed in the past. By leveraging AI's ability to learn from user preferences and reviews, these tools offer a more seamless and tailored planning experience that aligns with each traveler's interests.

While in a destination, AI-based navigation tools provide enhanced navigation and real-time information. These tools offer guidance on traffic conditions, weather, trails, and even crowd levels. For outdoor recreationists, some apps provide real-time trail updates, weather alerts, and alternative route suggestions, helping users navigate both urban and remote areas safely and efficiently.

AI is also enhancing perceived safety and risk management for outdoor enthusiasts. AI tools can assess environmental risks like weather changes or wildlife presence, issuing real-time alerts to help travelers make safer choices.

As AI technology continues to evolve, it holds great potential to further personalize, enhance, and safeguard the travel and recreation experience.

Challenges in AI adoption

While there are many opportunities, adopting AI presents several challenges, especially for small and rural businesses. The financial investment needed to implement some AI solutions can be significant, often creating barriers for businesses with limited budgets or

APPLICATIONS IN OUTDOOR RECREATION AND TOURISM

Target Audience	Category	AI Apps	What They Are Used For
Businesses and data analysts	Location analytics	Rove Marketing*	Provides tourism data and analytics solutions to help manage tourism organizations and destinations
	Location analytics	Zartigo, Placer.ai*	Provides insights into foot traffic patterns and consumer behavior for strategic decision-making.
	Predictive analytics	Microsoft Power BI	Integrates with Azure Machine Learning for advanced predictive analytics.
Designers and marketers	Design and marketing	Canva*	Offers AI-powered tools for creating graphics, presentations, videos, and more
Fitness and outdoor enthusiasts	Maps and trails	Caltopo*, Gaia GPS*, AllTrails*	Offers maps, trails, and tools for planning outdoor adventures.
	Fitness tracking	Strava*, Garmin*	Tracks running and cycling, providing performance analytics and social features.
General users	Mobile data	Google Maps*	Provides real-time navigation, traffic updates, and local information.
	Conversational AI	ChatGPT*, Copilot*, Claude*	Provides conversational assistance, answering questions, helping productivity, generating content, and more.
Operations managers	Efficiency	IBM Watson	Enhances decision-making and efficiency through AI-powered analytics.
	Efficiency	McKinsey Gen AI	Uses generative AI to optimize operations and improve efficiency.

resources. Data privacy and ethical concerns are also challenges. AI systems use visitor data to personalize experiences, making responsible data handling and compliance with privacy regulations vital for ethical use and building trust.

Staff training and integration pose another hurdle. Effective use of AI tools requires a workforce familiar with these technologies, but training can be costly and time-consuming. Finally, resistance to change can limit AI adoption. Employees and stakeholders may resist new technologies due to concerns about job displacement, lack of familiarity, or satisfaction with current practices.

Overcoming these challenges requires clear communication about AI's benefits, investment in training, and addressing privacy concerns to foster acceptance and successful integration.

Future directions

AI offers promise for enhancing Montana's tourism and recreation industries, particularly in visitor management, cost savings, and safety. Additionally, AI has the potential to promote lesser-known destinations across Montana, encouraging tourism beyond popular hotspots. This expansion helps distribute economic benefits more evenly across the state, providing growth opportunities for rural communities and reducing pressure on heavily visited areas. AI can also improve safety and risk management for visitors. By providing real-time alerts, tracking weather or hazard conditions, and managing crowds, AI enhances the safety of the front and backcountry experiences. For example, AI systems could notify visitors of sudden weather changes or trail closures, empowering them to make informed decisions. With these applications, AI can play a vital role in creating a safer, more sustainable, and economically inclusive tourism landscape in Montana, driving positive impacts across the state's communities and ecosystems. ■

Melissa Weddell is director and research faculty at the Institute for Tourism and Recreation Research at the University of Montana.

Kika Bradford is a social scientist and research associate at Institute for Tourism and Recreation Research at the University of Montana.

This table was created through an interaction with Microsoft's AI Copilot (version 1.0) and edited by the authors from the Institute for Tourism and Recreation Research. An asterix represents apps they have used before.

Target Audience	Category	AI Apps	What They Are Used For
Parking managers	Parking management	SKIDATA	Utilizes AI for video car tracking, license plate recognition, and real-time parking space availability
Tour operators	Marketing content	Magpie AI	Generates professional marketing texts for tour operators.
Traffic analysts	Traffic monitoring	Trafx*	Provides traffic counts, speeds, and road user classifications using AI and computer vision technology.
Travelers	Price comparison	Kayak Price Check*	Compares travel offers by analyzing screenshots of flight itineraries.
	Trip planning	Hopper*	Provides price predictions and personalized travel recommendations.
	Trip planning	Booking.com AI Trip Planner	Personalized accommodation recommendations and travel itineraries based on user preferences.
	Trip planning	Tripadvisor AI Planner	Analyzes user reviews to create detailed, day-by-day travel plans.
	Voice assistant	MakeMyTrip	Facilitates bookings using voice commands in native languages.
	Trip planning	Google Travel	Forecasts prices, suggests travel times, and offers insights on popular activities.
Wildlife researchers	Wildlife monitoring	Wildlife Insights	Uses AI to analyze camera trap data, identify species and filter out blank images.
	Wildlife monitoring	Moultrie Mobile	Cellular trail cameras with AI for real-time wildlife monitoring and image recognition.

Problems down the line

Connecting a recent mill closure to the rest of the supply chain

By Samuel Scott

OVER THE PAST FEW months, my daily commute across Missoula's Northside has become noticeably less congested as the steady stream of chip vans and flatbeds moving in and out of Roseburg Forest Products' (RFP) particleboard facility has stopped. According to Oregon-based RFP, the closure in May is part of a company-wide strategy to move away from particleboard production in favor of other composite board products. The shift has affected not only the local workforce but also the broader regional forest products supply chain. Nearly 150 workers at the plant itself have lost their jobs, and the producers of wood residuals that once fueled the facility are now searching for alternative processing destinations.

Looking south from I-90 near Reserve Street toward the RFP facility is a large, horseshoe-shaped hill surrounding the mill. Behind that hill the plant kept its raw materials: nearly 200,000 tons of sawdust, wood shavings, and wood chips trucked in annually from sawmills throughout the region. To put that into perspective, all of Montana's sawmills combined produced 380,000 tons of such material in 2022.

Why does this matter? First, processing logs into finished wood products like lumber and plywood generates a significant volume of residual material. A midsized sawmill in Montana can produce upward of 9,600 tons of sawdust, 5,300 tons of planer shavings, 19,000 tons of wood chips, and 3,400 tons of bark annually. This amount would fill eight rail cars or 16 semi-trucks every week. Without processing facilities like the one in Missoula, sawmills face a significant challenge in finding efficient ways to use or dispose of this material.

In 2022, the wood products industry processed 83 million cubic feet of Montana timber, converting 34 million cubic feet into solid wood products like lumber and plywood. Of the remaining 49 million cubic feet, 44 million cubic feet was turned into composite board products like particleboard, pulp for paper products, fuel pellets, animal bedding, and other residual products. Put another way: over half of all timber that is loaded onto log trucks in Montana ends up in some sort of residual or composite wood product.

Second, residuals are valuable. In Montana, sales of wood residuals account for up to 20% of a sawmill's total revenue, making them a vital component of a mill's financial health. However, the value of mill residuals is largely dependent on keeping the cost of shipping them to a minimum. The loss of local processing options drives up costs and reduces profitability for mills, as they must ship these residuals to more distant processing facilities, leading to higher transportation costs.

In Deer Lodge, the state's largest sawmill is already feeling the heat from the RFP closure. The 85 miles between Sun

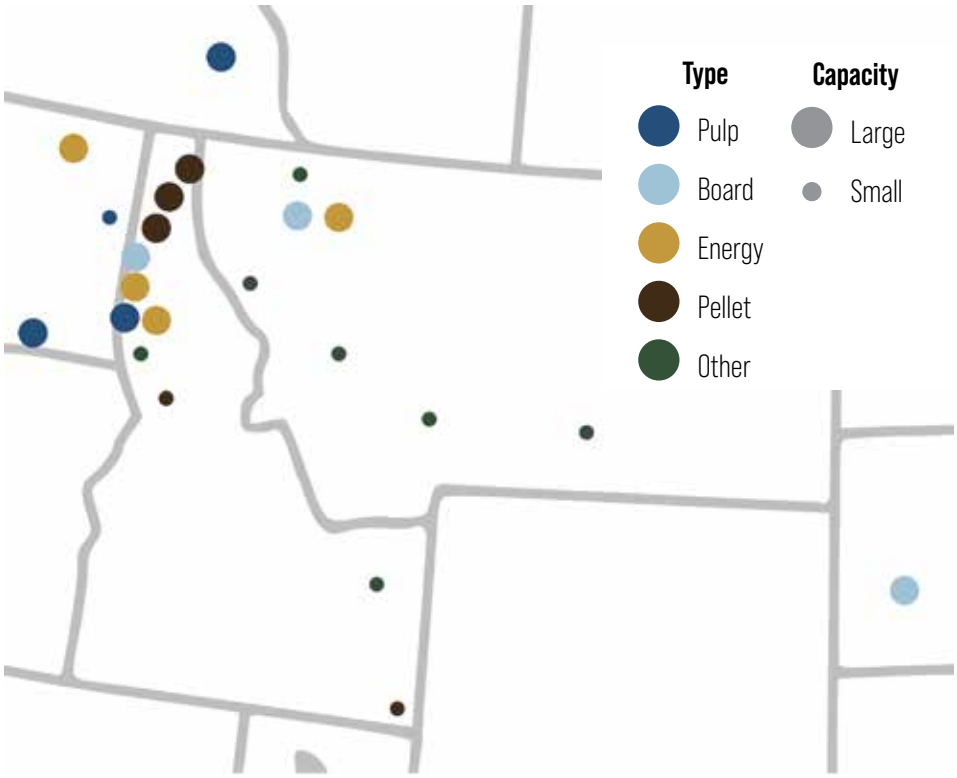
Mountain Lumber and the former Missoula particleboard facility were well-traveled by chip vans full of sawdust. Without RFP, residuals must travel much further; Montana mills have reported sending residuals anywhere from the fiberboard plant in Columbia Falls — a 200-mile trip — to a board mill nearly 600 miles away in Rapid City, South Dakota (Figure 1). Even before the closure of RFP, it was common for mills to be trucking residuals to Lewiston, Idaho (300 miles), Skookumchuck, British Columbia (340 miles), and Wallula, Washington (430 miles).

There are alternatives to shipping residuals hundreds of miles to neighboring states or Canada. Generally, the options that are being explored can be split into two categories: onsite utilization facilities and products and offsite facilities that serve several mills in a region.

Onsite biomass energy generation is a common use of mill residuals across the West. While most mills in Montana will put some material — especially bark — into boilers to heat the kilns that dry lumber, only F.H. Stoltze Land & Lumber in Columbia Falls has installed an energy-generation facility that can sell electricity back to the grid. In the past, interest in sawmill energy plants has met some regulatory hurdles and it also requires cooperation and negotiation with local and regional power utilities.

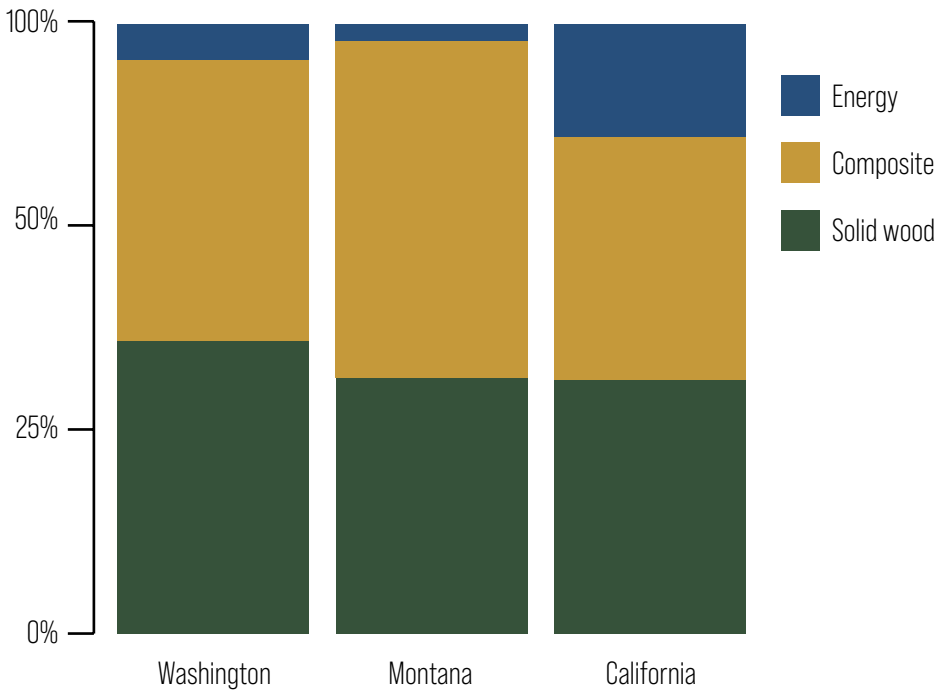
Other wood products can also be produced at sawmills. Some options, such as wood pellets, animal bedding, garden mulch, and landscaping bark, have already been adopted by mills throughout the state and the region. Other small-scale operations are less common, but also being evaluated by mills. Two notable examples are residential insulation made from wood fiber and biochar (partially combusted wood that can be a beneficial addition to agricultural soil).

FIGURE 1 Regional residual mill locations and types



Source: University of Montana Bureau of Business and Economic Research

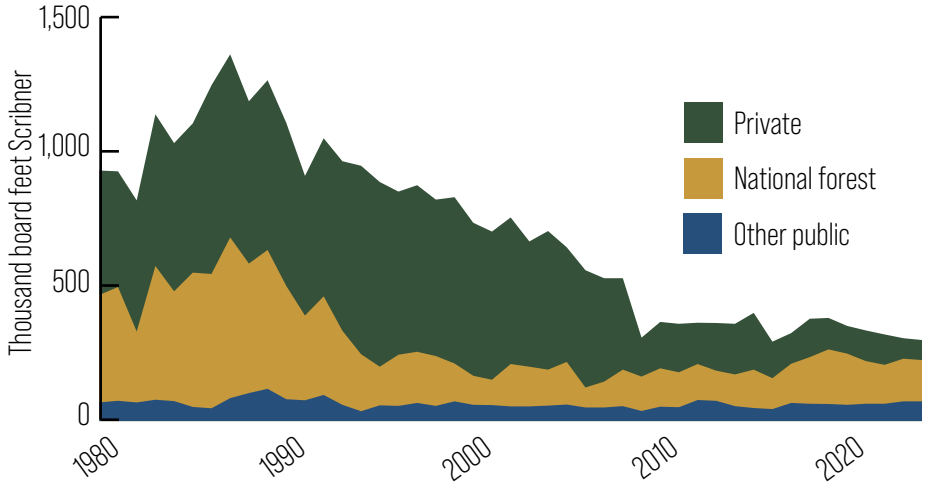
FIGURE 2 Fates of harvested timber as a proportion of state total



Source: University of Montana Bureau of Business and Economic Research

All of these options — novel or known — will require both significant investment from the private sector and a steadfast commitment from the public sector either in the form of financial assistance or regulatory guidance.

FIGURE 3 Montana timber harvest by ownership



Source: University of Montana Bureau of Business and Economic Research

Larger processing facilities that receive residuals from several primary processors benefit from economies of scale, including biomass energy generation. California provides a good comparison for this activity. While California harvests and processes over 1.6 billion board feet Scribner of timber annually — compared to Montana's 330 million board feet Scribner — the state's last pulp mill closed in 2008 and its last composite board facility burned down in 2021. Environmental regulation has made it difficult to maintain such facilities in the state, so they now rely on biomass energy as the primary use of mill residuals. Washington, a state that harvests nearly 3 billion board feet Scribner of timber each year, has about a dozen active pulp mills that receive virgin wood fiber. Figure 2 shows the differences in fates of wood fiber between Montana, California, and Washington.

There are also some emerging technologies, such as wood-based biofuels and carbon nanotubes, that are being discussed within the industry but have not been tested at scale in the West. However, all of these options — novel or known — will require both significant investment from the private sector and a steadfast commitment from the public sector either in the form of financial assistance or regulatory guidance.

Since 1990, Montana has lost nearly 30 large wood products facilities, largely due to reduced timber availability. National forest harvests declined in the late-80s and early-90s due to shifting federal policies prioritizing environmental conservation over timber production. Factors included legal challenges, increased protections for endangered species, and new management practices emphasizing ecosystem preservation, leading to reduced logging on public lands across the state. Once federal timber harvest levels stabilized in the mid-90s, private timber harvests started to plummet as industrial timber companies began to divest land to developers and conservation organizations. The pace of decline accelerated through the housing crash of the Great Recession (Figure 3).

It is important to understand those long-term pressures faced by wood products manufacturers in Montana to help tell the story: Wood products facilities across the state currently have an adequate wood supply primarily because competition has been reduced by other mill closures, not because timber has become more available.

But today the forest products industry is facing new problems that compound the ongoing timber supply issue. In addition to RFP's company decision to shutter the Missoula plant, Pyramid Mountain Lumber in Seeley Lake also shut down this year. This closure stemmed from challenges like limited labor availability and rising housing costs in the area. While the announcements for these closures came just weeks apart, their causes were largely unrelated.

The closure of the Roseburg Forest Products mill in Missoula has sent a ripple through the regional forest products supply chain. Every wood products manufacturer in the state has been feeling — and will continue to feel — the impact of the closure. It is now more difficult and more expensive to get residual materials to processors. As Montana's mills adjust to the loss of a key processing facility, the importance of having local options for residuals becomes even clearer. Whether through energy production, new product development, or revisiting tested technologies, Montana's forest products industry must adapt to ensure that the valuable residuals generated by the state's mills continue to be put to good use. ■

Samuel Scott is a forest economist at the Forest Industry Research Program in the Bureau of Business and Economic Research at The University of Montana.

Farming and ranching

Strength in the cattle market, lower prices in grain markets, and farm policy uncertainty

By Joel Schumacher and Eric Belasco

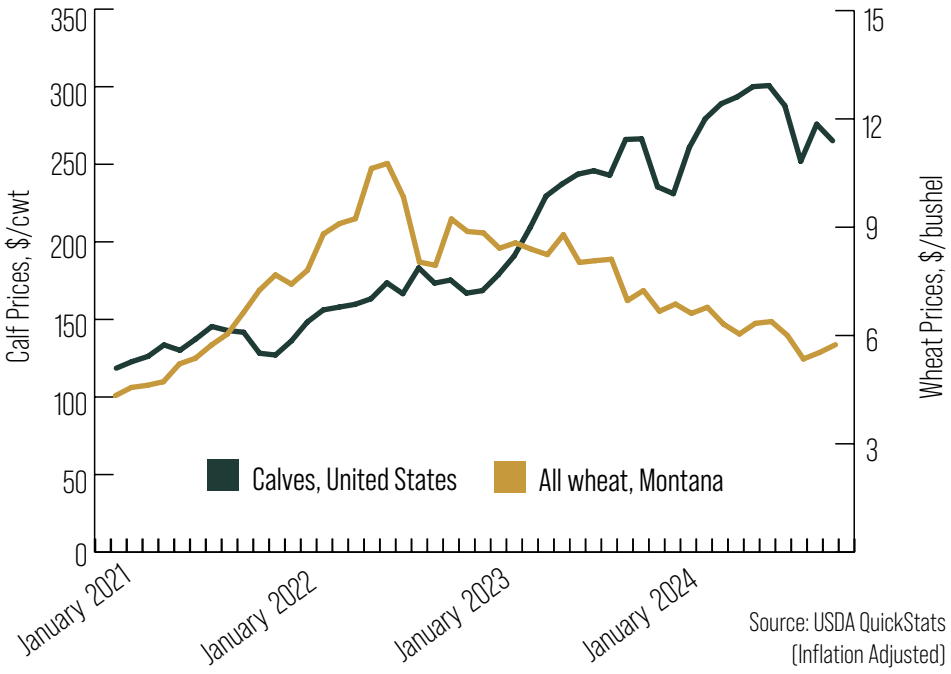
Montana ranchers enjoyed strong cattle prices in 2024, while wheat and barley producers faced weaker markets throughout the year (Figure 1). Montana experienced a slightly drier year than average, which contributed to average to below-average production across the state for most crops.

High livestock prices

Montana ranchers were able to sell their calves for record or near-record high prices. This marks the second year of very strong prices. The biggest headwind for cattle producers is low inventory numbers. Since 2000, the Montana cattle herd has declined nearly 20%, from 2.6 to 2.1 million head (Figure 2). The drought of 2021 and 2022 forced livestock producers to sell cattle based on limited forage availability.

Nationally, cattle inventory numbers are also at low levels and trending downward over the long run. U.S. ranchers will need to sell fewer heifer (female) calves to feedlots to utilize these animals to increase breeding herds. There is no indication that ranchers have started doing this yet. Strong demand and low herd sizes have industry analysts forecasting strong cattle producer profitability over the next few years.

FIGURE 1 Indexed Commodity Prices, January 2021 through October 2024

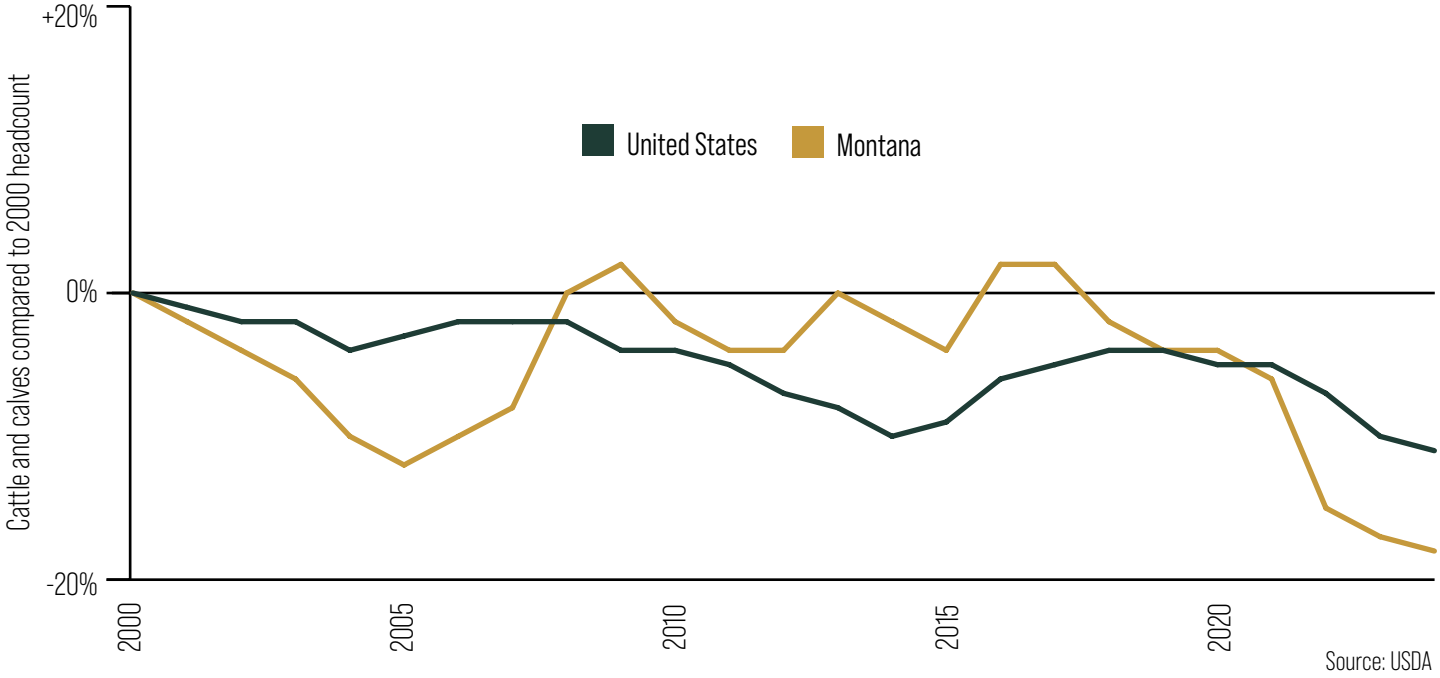


Source: USDA QuickStats
(Inflation Adjusted)

Grain production average

Production of wheat, barley and other small grains was near average in 2024. Near average production is considerably better than the drought-limited production in 2021 and 2022. Although production volumes were average in 2024, prices were lower than in 2023 for both wheat and barley. The industry also faced rising input costs. Profitability for small grain producers in 2024 is expected to be lower than in 2023.

FIGURE 2 Cattle inventory declined more in Montana since 2000



Source: USDA

Farm policy uncertainty

Agriculture is impacted by a range of government policies and programs. The most relevant legislation is often referred to as the Farm Bill. The Farm Bill outlines key programs such as Crop Insurance, Risk Management, and Conservation Programs typically for the next five years. The Farm Bill also contains provisions for nutrition programs (Supplemental Nutrition Assistance Program-SNAP, Women Infants and Children-WIC, and others) targeted at helping lower-income Americans. The nutrition programs account for about 75% of total spending authorized by the Farm Bill.

The politics of the Farm Bill are complex, which results in Congress not always passing a new Farm Bill before the previous bill expires. The most recent Farm Bill expired in the fall of 2023. Congress passed an extension for 2024. It isn't clear when the next five-year Farm Bill will be passed, and an extension for 2025 is likely. Extensions usually contain few major changes from the most recent bill. What changes a new bill will bring to Montana agricultural producers and lower income Montanans participating in the nutrition programs is still to be determined.

It isn't clear when the next five-year Farm Bill will be passed, and an extension for 2025 is likely.

Another policy concern for agricultural producers is access to export markets. For decades, many agricultural commodity associations, politicians, and government agencies have worked to reduce barriers to trade and create a freer trade environment. Growth in Montana agriculture has relied on access to foreign markets, particularly with respect to wheat, peas, lentils, and chickpeas. The incoming administration has proposed imposing tariffs on products coming into the country to achieve non-trade related policy goals. Countries that have new tariffs imposed on them are likely to impose retaliatory tariffs on U.S. products. These retaliatory tariffs may create challenges for agricultural producers selling products outside the United States. Future U.S. trade policy will be an area for the agricultural sector to watch closely in 2025. ■

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Forest products

Mill closures have significant impacts on industry

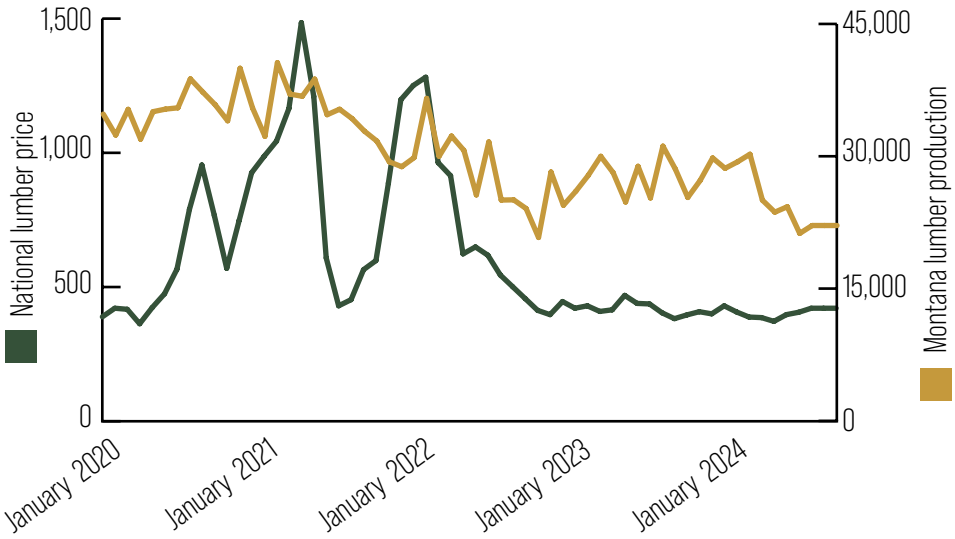
By Samuel Scott

Montana's forest products industry has been significantly impacted by recent mill closures, including Pyramid Mountain Lumber in Seeley Lake and Roseburg Forest Products in Missoula. Pyramid Mountain Lumber faced rising production costs and a limited labor pool, challenges further exacerbated by housing shortages in the area. During the pandemic, record-high lumber prices temporarily offset these challenges, but as prices came back down, the mill struggled with reduced revenue (Figure 1). In addition to the economic impacts felt in the community and throughout Montana, Pyramid processed a significant portion of the state's ponderosa pine harvest. Ponderosa pine is abundant in Montana, particularly in the forested areas near communities that are a focus of forest management for wildland fire risk mitigation.

Roseburg Forest Products shut down its Missoula particleboard facility as part of a company-wide strategy to move away from particleboard production, further disrupting the region's forest products supply chain. See pages 30-32 for a more in-depth discussion of the impacts of the particleboard mill closure.

Industry employment declined this year due to the mill closures. About 250 direct jobs were lost between the two facilities. Beyond direct employment, there are significant indirect impacts, including an estimated 450 additional jobs in fields like logging, hauling, and mill maintenance. Indirect jobs are those tied to industries supporting the mills. Additionally, induced impacts have affected 225 jobs, including positions in sectors supported by mill employees' wages such as grocery store clerks and health care workers. Altogether, these losses represent about $43 million in

FIGURE 1 Lumber prices and production, January 2020 through November 2024



Sources: Random Lengths Publications, Inc. and University of Montana Bureau of Business and Economic Research

While we did see a decline, housing starts did not decrease as dramatically as expected, likely due to a national housing shortage creating persistent demand.

annual wages across the state, according to a U.S. Bureau of Economic Analysis model.

Statewide lumber production fell from 329 million board feet to 307 million board feet — a 7% decline — between 2023 and 2024 (Figure 1). Production levels at sawmills (other than Pyramid) remained relatively constant throughout the year, and the reopening of the former R-Y Timber sawmill in Livingston helped offset some of the impact of the Pyramid closure.

Prices for wood products are closely tied to the U.S. housing market, particularly housing starts. Over the past two years, housing starts have been influenced by rising mortgage rates, which would typically slow construction activity. While we did see a decline, housing starts did not decrease as dramatically as expected, likely due to a national housing shortage. Looking ahead to 2025, demand for wood products is expected to remain strong.

An August increase to U.S. tariffs placed on Canadian lumber — nearly doubling the effective aggregated rate — will likely have a minimal impact on Montana's forest products industry. While the actions are targeted at increasing demand for domestic lumber by making Canadian lumber more expensive, Montana's lumber industry is constrained by labor shortages and timber availability, meaning the increase in demand has little effect on local production levels. Illustrating this effect, Figure 1 shows the minimal lumber production response to rising lumber prices throughout the pandemic. ■

Samuel Scott is a forest economist at the Forest Industry Research Program in the Bureau of Business and Economic Research at The University of Montana.

Energy

The end of sluggish electricity demand?

By Patrick M. Barkey

The adequacy of Montana's electric power grid, already under pressure from retirements of carbon- emitting generation resources, might be facing a fresh challenge in the near future from the other side of the meter. Demand for electricity, which has seen only moderate growth for several decades, faces the prospect of significant new growth in the coming years from the construction of power-hungry data centers serving the rollout of AI.

This puts a new spin on green energy transition conversations. Other forces thought to push electricity use upward from the regulatory side — most notably the adoption of electric vehicles and the push to electrify homes — have yet to move the needle on demand. But data centers are already rolling out across the country as part of the billions being spent to embrace the promise of AI to transform business operations.

The Pacific Northwest Utilities Conference Committee's most recent forecast call for power demand 30% higher in 2034 in a five-state region that includes western Montana. That amounts to 7,400 average megawatts, or more than five times as much as Colstrip could produce. The region is already home to the 5th-largest data center market in the country in Oregon, measured in terms of power use. A regionwide deficit will affect Montana even if data center growth does not happen here.

Data centers are already rolling out across the country as part of **the billions being spent** to embrace the promise of AI to transform business operations.

There were plenty of other developments, with important implications for Montana's electric power markets, including:

- An innovative project moving ahead linking eastern Montana to western North Dakota could build power transmission capacity and provide an economic boost during its construction. The North Plains Connector is a 540-mile, 500-volt DC transmission line bridging the western and midwestern transmission grids that could be operational by 2039.
- NorthWestern Energy announced its no-cost acquisition of Puget Sound Energy's share of the Colstrip generation plant, bringing its total ownership share of the facility to 55%.
- The outcome of the national elections may affect the EPA's proposed rules on carbon emissions and mercury standards for the Colstrip plan. Negotiations to breach dams on the Snake River, which would affect hydropower generation that serves some Montana regions, are also likely to be affected.

It was a sideways year for Montana's oil and gas producers, with the lower prices that prevailed over much of the year helping to keep already subdued production levels in check. ■

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

Manufacturing

Workforce challenges and technological transformation

By Derek Sheehan

The manufacturing industry has long driven societal and economic changes through technological innovation and evolving workforce dynamics. These forces continue to reshape the sector, redefining the skills and education required of its workers. As Montana and the broader U.S. adapt to these transformations, manufacturers face challenges in maintaining competitive wages while leveraging data-driven production, automation, and artificial intelligence.

The intersection of technological change and workforce evolution is not a new phenomenon. Over 200 years ago, the Luddites of Nottingham exemplified how technological disruptions could ignite societal tensions. The term "Luddite," originating from Ned Ludd — a possibly mythical figure who reportedly destroyed stocking frames in protest — has come to symbolize resistance to technology. During the early 19th century, these workers feared that mechanized looms threatened their livelihoods, sparking a series of protests across England.

Despite these early concerns, manufacturing has continued to grow and evolve. In the early 1800s, manufacturing employment accounted for about 2.8% of the labor force in the U.S. and UK. By 2023, despite technological revolutions, globalization, and domestic declines, manufacturing still comprised approximately 7.7% of the U.S. labor force in 2024. Technological advancements have expanded the sector's products, productivity, and economic role, demanding a more skilled and adaptable workforce.

Workforce challenges in Montana's manufacturing sector

Montana's manufacturing sector faces persistent workforce challenges, despite many subsectors returning to pre-pandemic employment levels. Although the state's population has grown, the labor supply remains constrained due to an aging population, retirements, and varying skills within its workforce. Manufacturers in 2024 paid more for lower-skilled labor while managing lingering high input costs and supply chain disruptions. Survey data from BBER's most recent Montana Manufacturing Survey highlights some of the key challenges facing the sector.

The most reported issue facing Montana's manufacturers is their inability to compete with higher wages offered in other industries, according to 27% of the manufacturing survey respondents. Because manufacturing depends heavily on input costs and supply chain stability, high costs limit manufacturers' ability to increase wages, forcing them to produce more with fewer, often no more productive, employees. Therefore, it is unsurprising that the next two workforce challenges reflect the quality of those new hires and need to train those employees to be more productive (Figure 1).

Another rising concern is the state's escalating cost of living and housing, further shrinking the already limited labor pool as workers seek higher-paying industries better aligned with the cost of living.

Montana's manufacturing labor supply is currently constrained, but the sector also must prepare for an evolving occupational landscape. The Bureau of Labor Statistics projects that U.S. manufacturing employment will grow by more than 110,000 workers by 2033, reflecting the expansion of technologically advanced industries. Notably, this number does not account for expected retirements, especially among baby boomers.

The projections do give some indication

of the shifting occupational mix expected in 2023. Traditional production and administrative rules requiring only a high school diploma are expected to decline. In contrast, roles in engineering, installation, maintenance, and repair — currently requiring some college or a bachelor's degree — are projected to increase substantially, as shown in Figure 2. This occupational shift underscores the widening skills gap expected nationally over the next decade.

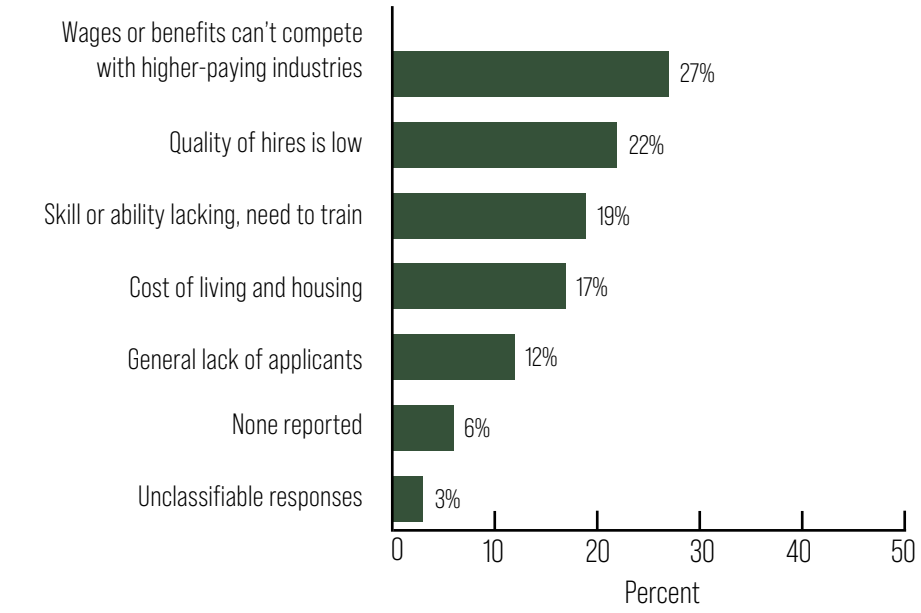
Given substantial labor shortages, Montana's manufacturers face significant pressure to boost productivity. Investing in technology alone, without corresponding workforce investments, will only widen the skills gap. Beyond higher education, manufacturers must develop training programs tailored to advanced manufacturing. These programs provide workers with essential skills to close the gap between wages and labor productivity.

The Luddites' fears of job loss due to mechanized looms were not entirely unfounded — loom operator is no longer a viable occupation, but in today's world, it also isn't highly productive. However, mechanization ultimately expanded manufacturing's complexity, creating new roles and industries.

Montana's manufacturing future hinges on how well businesses adapt to today's disruptions. Among these challenges are the expiration of tax credits for American manufacturing and the impacts of widespread tariffs on imports. However, in the longer term, automation and AI will reshape — but not replace — the state's manufacturing jobs, increasing demand for technically skilled workers. Expanding apprenticeships, strengthening industry-education partnerships, and investing in specialized training will be essential to ensure that Montana's manufacturers thrive in a rapidly evolving economy. ■

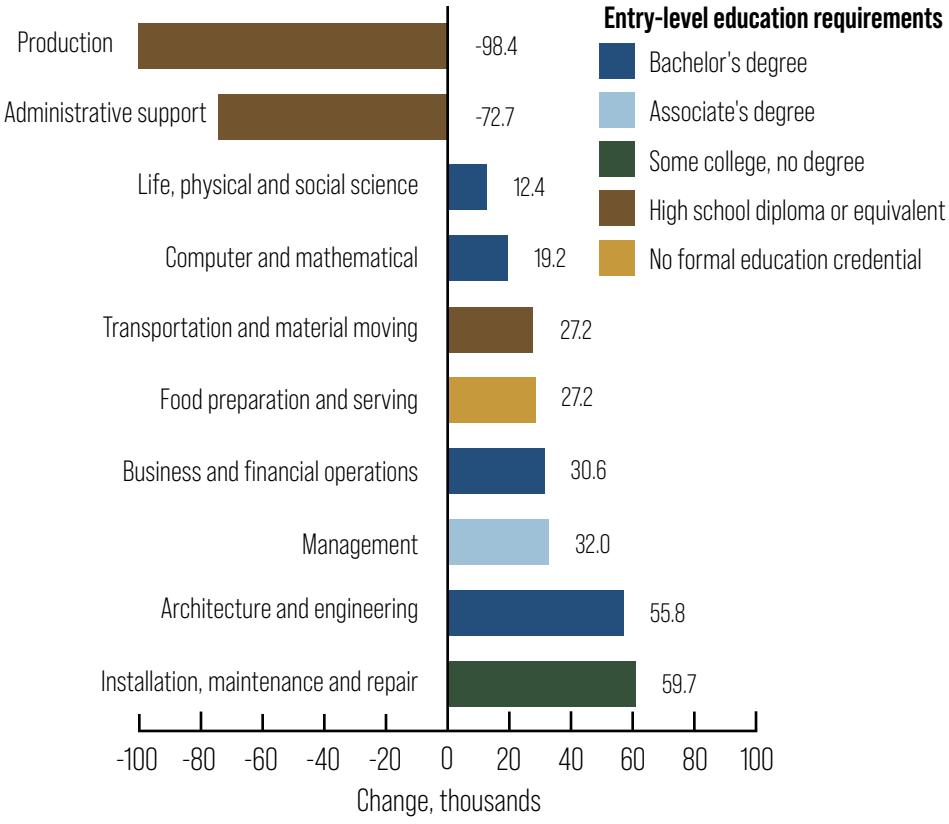
Derek Sheehan is an economist at the Bureau of Business and Economic Research at the University of Montana.

FIGURE 1 Top workforce challenges reported by Montana manufacturers



Source: Bureau of Business and Economic Research, 2024 Montana Manufacturing Report

FIGURE 2 Projected employment change by occupation and entry-level education requirements, 2023 to 2033



Source: Bureau of Business and Economic Research analysis of data from U.S. Bureau of Labor Statistics

Travel, tourism and recreation

Balancing innovation and tradition

By Melissa Weddell and Kara Grau

Key growth opportunities for Montana tourism include economic recovery, improved infrastructure, and expanding shoulder seasons.

Montana's tourism industry has steadily grown, though this growth is unevenly distributed across the state. Gateway communities near national parks report rising visitor numbers and increased airport traffic, while smaller rural towns face economic challenges. Early 2024 data show increased visitation, particularly near major attractions. Meanwhile, job growth in Montana's renewable energy and construction sectors is driving an increase in workers whose spending patterns differ from leisure tourists, potentially impacting visitation numbers.

As the tourism industry navigates 2025, it balances opportunities like AI integration with challenges such as workforce shortages, economic hardships, and environmental concerns, adapting to an ever-changing landscape.

Glacier National Park experienced a 10% increase in visitation, welcoming over 3.2 million visitors, with growth primarily during the summer months. Yellowstone National Park also saw a 5% increase compared to 2024, attracting over 4.7 million visitors. A longer fall season contributed significantly, with Glacier seeing its largest year-over-year gains in August, September, and October. This extended period of favorable fall weather and reliable winter snow at higher elevations have solidified Montana's appeal during the fall and winter seasons.

In a survey by the Institute for Tourism and Recreation Research of more than 150 tourism-related businesses, 43% of businesses anticipate an increase in visitor volume for 2025, while 44% predict stable visitation levels despite economic pressures and environmental uncertainties. AI remains a mixed bag for Montana's tourism businesses. While 64% of respondents reported not using AI, the 36% who do primarily leverage it for marketing, customer service, and data analytics. AI tools are recognized for increasing productivity, improving decision-making, and enhancing customer experiences.

For example, AI applications can streamline travel planning by providing personalized recommendations for accommodations, activities, and dining. However, businesses also cite significant challenges. Over 100 respondents expressed concern about AI's impact on human connection, a cornerstone of Montana's visitor experience — privacy issues, misinformation, and the high implementation costs further temper optimism. Only 26% of businesses feel optimistic about AI's transformative potential, while 41% remain pessimistic.

Key growth opportunities for Montana tourism include economic recovery, improved infrastructure, and

Courtesy of Glacier National Park and the University of Montana.

expanding shoulder seasons. Businesses embrace sustainable tourism through energy efficiency, waste reduction, and eco-friendly practices. However, challenges persist, including weather risks like wildfire smoke and low snowpack, economic pressures from inflation and rising costs, and ongoing workforce shortages. Affordable housing and competitive wages remain essential to address staffing challenges reported by nearly half of businesses in 2024.

Montana's tourism industry must balance innovation with tradition. AI holds the potential to streamline operations and improve visitor experiences, yet businesses must ensure its implementation complements rather than replaces the personal touch that defines Montana's charm. Addressing labor and housing challenges, promoting sustainable practices, and adapting to economic shifts will be essential for long-term success.

As 2025 begins, Montana is poised to sustain its strong tourism industry, one of its key economic drivers. Fostering destination stewardship and promoting responsible travel will be essential to maintain visitation and support smart growth. The industry faces growing pressure to prioritize climate action and ensure tourism benefits are equitably shared across communities. Adapting to evolving demands and traveler expectations will be crucial for long-term success. ■

Melissa Weddell is director and research faculty at the Institute for Tourism and Recreation Research at the University of Montana.

Kara Grau also works at the institute as assistant director of economic analysis.

Health care

Old problems resurface after pandemic recovery

By Patrick M. Barkey

Courtesy of the National Institutes of Health

It has been a remarkable ride for the health care industry since 2019, in Montana as well as everywhere else. The explosion of the worst global public health crisis in a century was not kind to the industry charged with caring for it, and health outcomes suffered as well. Covid-related care spiked, of course, but demand for discretionary care fell — especially screenings and preventative care — causing the price index for medical care to actually fall for the first time in living memory. There was a wave of retirements among health care practitioners that caused acute staffing pressures and rising costs. And news stories appeared about Montana hospitals facing financial losses and imposing salary cuts and trimming staff.

Those issues didn't disappear in 2024. But as we move past the five-year anniversary of the outbreak of the coronavirus, the pre-Covid trends and issues have begun to re-emerge. Health care is once again growing faster than the rest of the economy. Medicaid expansion is again front and center in the Montana political debates. And everyone has agreed, apparently, to ignore the financial unsustainability of Medicare.

Health care cost growth. The last time that health care spending came up in policy debates was the promises made to "bend the spending curve" during the Affordable Care Act (ACA) debates of 2013. That law was heavy on extending insurance coverage and light on controlling costs. In 2023, total health spending in the U.S. was $4.9 trillion, up 7.5% from the previous year, which was also up from a 4.6% increase in 2022. Adjusted for inflation, health care spending is growing faster than the overall economy, with Medicare spending in particular growing at an even faster rate.

Medicaid expansion renewal in Montana. Montana's participation in the ACA's federally funded expansion of Medicaid to cover adults earning up to 138% of the poverty threshold expires in 2025, requiring legislative

Everyone has agreed, apparently, to ignore the financial unsustainability of Medicare.

action to continue. Two factors add more complexity to this already difficult decision. The so-called "unwinding" of Medicaid occurring in most states as the enforcement of income eligibility criteria suspended during Covid are resumed has produced bigger declines in program enrollment here than in any other state (Figure 1). The second is the cost pressure on rural hospitals – the consulting firm Chartis estimates that half of the nation's rural hospitals lost money in 2023.

Medicare's looming insolvency. The Hospital Insurance trust fund that covers Medicare Part A is projected to be depleted in 11 years. Overall spending, which taxes and premiums currently cover just over half (with the remainder coming from general revenues), is projected to grow from 3.8% of GDP today to 5.3% in 2035. The growth is mostly driven by Part B spending on physician and clinical services, which will put intense pressure on both household and government budgets.

The good news is that all of these problems are solvable, and that implementing solutions will free up resources to deal with other problems. The bad news? Too few people are honestly debating and addressing them in a constructive way. ■

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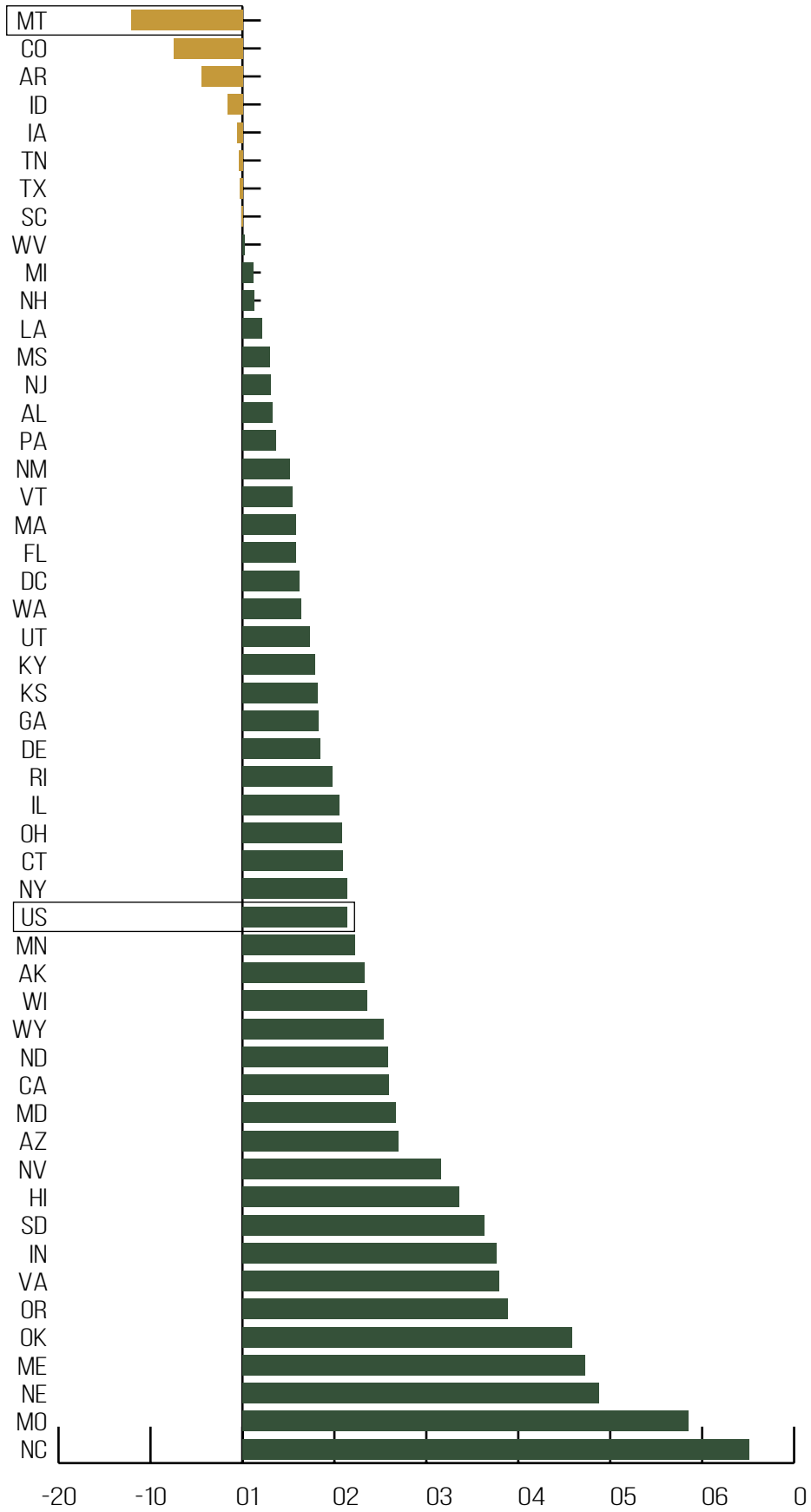
FIGURE 1 Cumulative percent change in Medicaid/CHIP enrollment since February 2020 by state



Source: U.S.Centers For Medicare and Medicaid Services

Real estate and construction

Cooler weather in a hot climate

By Derek Sheehan

Courtesy of the National Institute for Occupational Safety and Health.

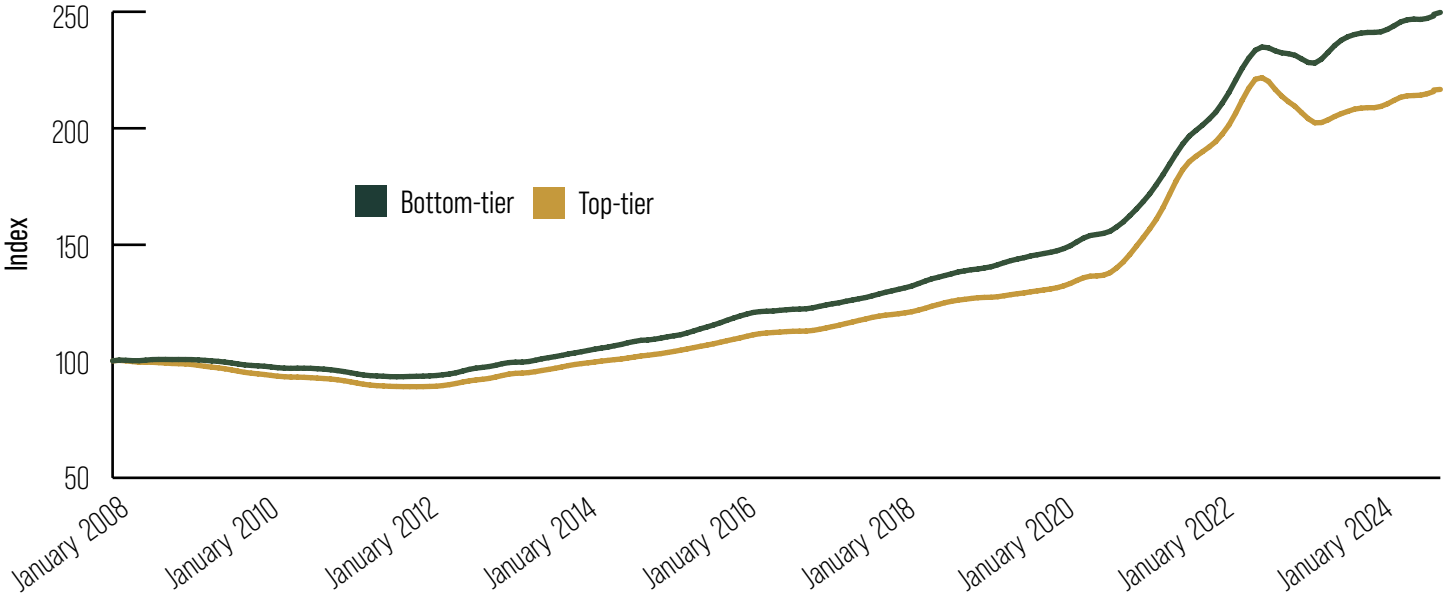
Montana's housing market in 2024 represents cooler weather in an enduring hot climate. The continuation of high interest rates chilled the pace of transactions on both sides of the market. Despite the cooling, Montana continues to be ranked at the bottom for affordability. Explaining much of the affordability issue is the fact that the state also ranks in the bottom third for median household incomes. While this would typically place downward pressure on the cost of housing, there are longer-term trends that keep the market warm.

These affordability challenges are compounded by longer-term U.S. migration trends toward lower taxes, lower population density, and high-amenity areas such as Florida, South Carolina, and Idaho. People moving to Montana also typify those preferences and bring higher incomes, often prioritizing lifestyle over affordability constraints. With two-thirds of states having higher median incomes, it's expected that many of these out-of-state households have greater financial means than local wage earners. If the recent migration patterns continue, Montana's housing market will remain at least warm, driven by the steady domestic demand.

Interest rates, continuing to be higher than in recent memory, have dominated this year, effectively freezing activity for many buyers and sellers. First-time buyers and local wage earners who rely on financing have left the market. Sellers, too, face difficult decisions, as moving means entering a market with higher interest rates and higher per-square-foot prices than the homes they would be leaving, often necessitating a smaller or less desirable home. When coupled with 2024's higher financing costs, the result has been a substantial decline in both home moves and ownership opportunities for low- to middle-income earners, including first-time homebuyers.

Despite this freeze in both supply and demand, home prices have continued to

FIGURE 1 **Home price growth in Montana, bottom-tier versus top-tier**



Source: BBER analysis of Zillow Home Value Index

rise overall, but not equally across price points. Figure 1 illustrates how home price appreciation in Montana has varied between the bottom and top thirds of the market since the Great Recession. While the bottom-tier homes have appreciated faster than the top-tier homes, the gap between the two widened significantly after the market peaked in September 2022. By October 2024, this difference had grown to 33 points, meaning that lower-priced homes have increased in value 33% more than higher-priced homes since January 2008. Before the pandemic, in January 2020, the difference between the indices for bottom-tier and top-tier homes was approximately 16 points. This growing gap reflects the continued pressure on the lower end of the market as household budgets push buyers toward the bottom tier while demand for higher-tier homes stabilizes.

On a broader scale, demand in Montana has begun to shift across different parts of the state. Traditionally the "hottest" markets, such as the areas surrounding Bozeman, Kalispell, Whitefish, and Missoula, are seeing a cooling in demand as buyers increasingly turn to relatively lower amenities but also lower costs, including Great Falls, Billings, and Helena. Similarly to the shift toward lower-tier properties within the market, higher relative prices in these high-amenity areas are nudging buyers to seek affordability in less competitive parts of the state.

> Despite this freeze in both supply and demand, home prices have continued to rise overall, but not equally across price points.

Figure 2 highlights this shift, showing the ratio of unique views per property on Realtor.com in various Montana communities compared to the national average. A ratio of 1 indicates that a property in the respective market receives as much attention as the typical U.S. property. While Gallatin and Flathead counties — long the hottest corners of the state — now attract attention more in line with the rest of the country, areas like Great Falls, Billings, and Helena are drawing between 0.75 and 1 additional views per property compared to the U.S. average. This trend suggests a reshuffling of desirability, as affordability constraints and the higher relative prices in high-amenity markets drive buyers toward more affordable parts of the state.

The shift in demand across different scales of Montana's real estate market — between price tiers and across geographic regions — reflects the broader adjustments buyers are making in response to affordability challenges. As these patterns unfold, they reveal not only the pressures homebuyers face but also the potential for relief in other parts of the market. One such point of optimism lies in the state's rental market, where rising vacancy rates suggest that the multi-family housing boom in Montana's cities may be providing critical relief for the working-class population.

Figure 3 highlights a recent uptick in rental vacancies across Montana following the rest of the country, offering much-needed relief from the extreme market tightness experienced just two years ago.

This easing can be attributed to a wave of multi-family construction initiated in 2021 and 2022, which added over 8,000 units statewide during that period. While the pace of new construction has since slowed, these additional units have contributed to cooling down the rental market. Vacancy rates have risen from a historically low 2.5% in late 2022 to a still tight but healthier 4.2% in 2024. These developments indicate that, while affordability challenges persist, the rental market is showing signs of rebalancing, offering critical breathing room for Montana's renters.

As 2024 ends, Montana's real estate market reflects both cooling trends and persistent pressures. The Federal Reserve's recent decision to lower interest rates to 4.5%-4.75% signals cautious economic adjustments. However, the Fed's measured approach — leaving room for pauses or further cuts — suggests affordability challenges could persist into 2025.

Meanwhile, broader market shifts, like the high-profile settlement against the National Association of Realtors (NAR) regarding real estate commisions and declining membership due to poor market conditions, reveal how external pressures reshape the real estate industry. Additionally, commercial real estate uncertainties, such as rising office vacancies and underperforming retail spaces, compound economic risks. These issues will remain a focus for the Bureau of Business and Economic Research in the coming year.

Yet, the broader climate remains warm, fueled by both in-state and out-of-state demand, along with the gradual but impactful forces of demographics. Montana has one of the oldest populations in the West, but this is slowly changing as younger households and working-age individuals are increasingly drawn to — or are returning to — the state. This demographic evolution, coupled with sustained demand, continues to drive housing pressures, particularly in the lower-tier segment. Without sufficient development to meet this growing demand, affordability challenges will persist, cascading down the price scale. While the cooler conditions of 2024 have offered some relief, they are unlikely to fundamentally reshape Montana's long-term housing dynamics. The state's market remains defined by persistent underlying warmth, even as temporary cold fronts pass through. ■

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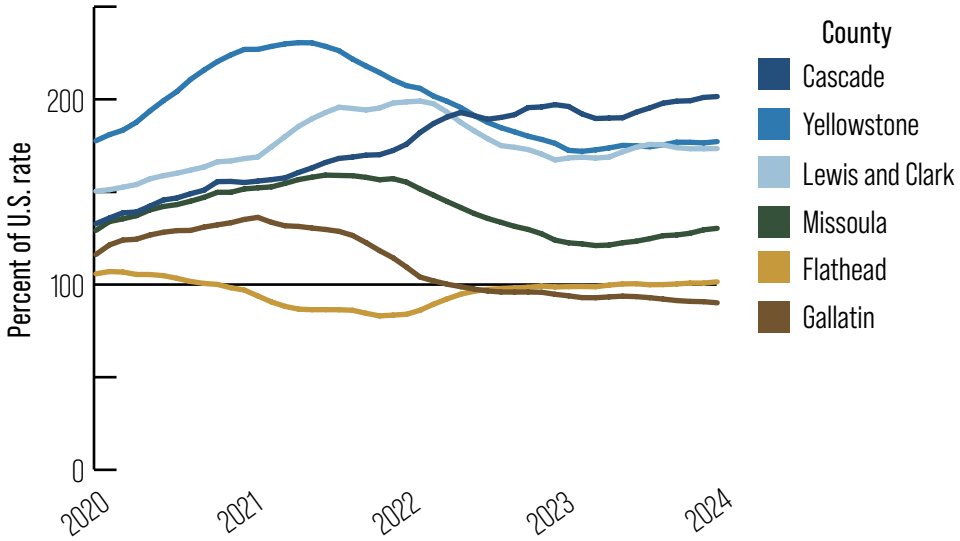
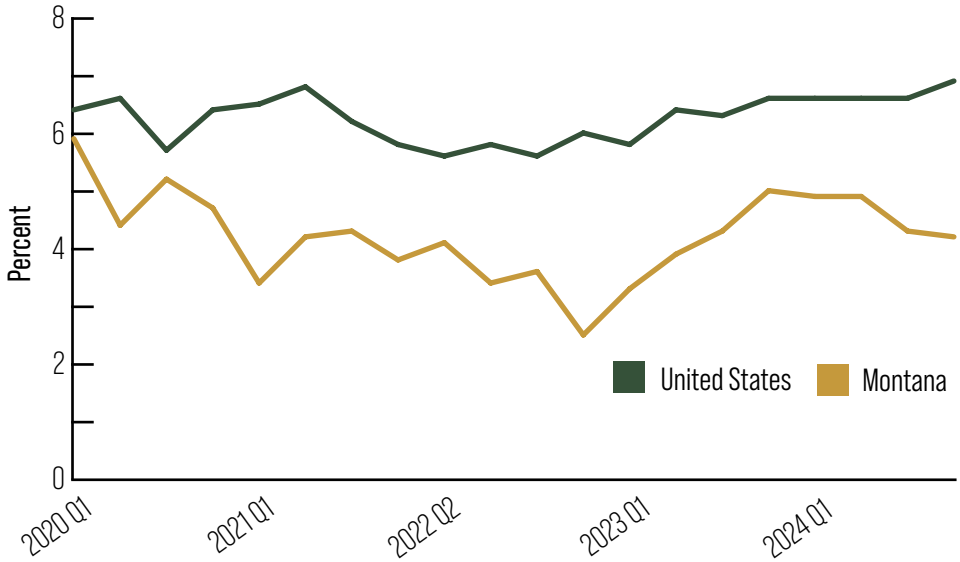
FIGURE 2 County page views per property as a percent of U.S. rate, 12-month trailing average



Source: Realtor.com, Market Hotness

FIGURE 3 Rental vacancy rates by quarter



Source: U.S. Census Bureau, Quarterly Housing Vacancies and Homeownership

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