

2021 ECONOMIC OUTLOOK SEMINAR

THE PATH FORWARD

HOW COVID-19 HAS RESHAPED THE ECONOMY



BUREAU OF BUSINESS AND
ECONOMIC RESEARCH
UNIVERSITY OF MONTANA

ABOUT THE BUREAU OF BUSINESS AND ECONOMIC RESEARCH

The Bureau of Business and Economic Research is the main research unit of the College of Business at the University of Montana. Established in 1948, its mission is to inform Montanans about the economic climate in which they live and work. In addition to conducting its economic outlook seminar across the state at the beginning of each year, BBER researchers are engaged in a wide range of applied research projects that deal with different aspects of the state economy, including survey research, economic analysis, health care research, forecasting, wood product research and energy research. Contact us at (406) 243-5113 or bbermail@business.umont.edu if we can be of any help to you or your business.

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WELCOME TO THE 2021 ECONOMIC OUTLOOK SEMINAR

MONTANA AFTER THE PANDEMIC

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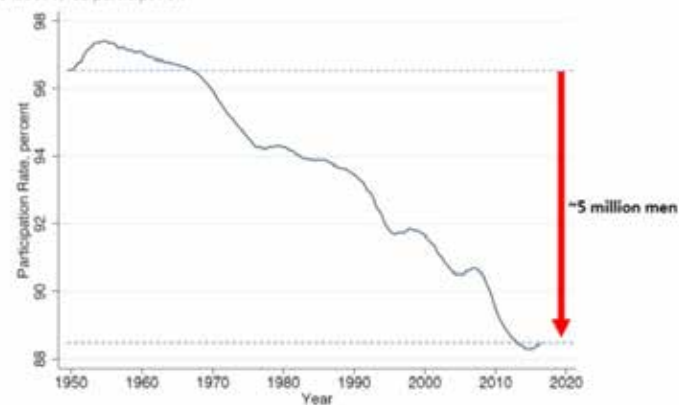
Patrick Barkey, Director
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Montana After the Pandemic

Edward Glaeser
Fred and Eleanor Glimp Professor of Economics
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Prime male labor force participation has declined over the past 40 years

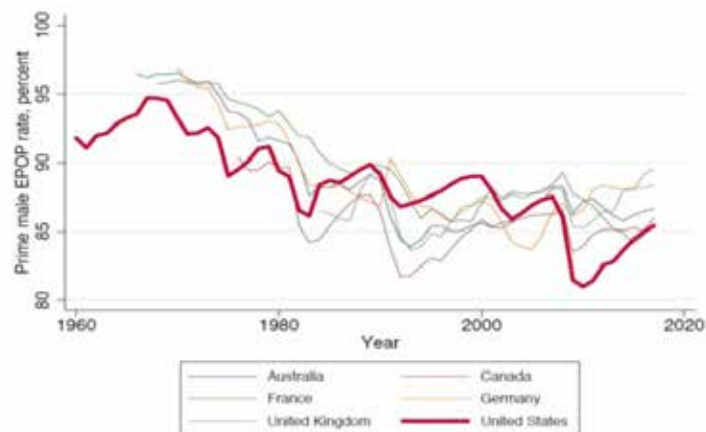
Prime age male labor force participation



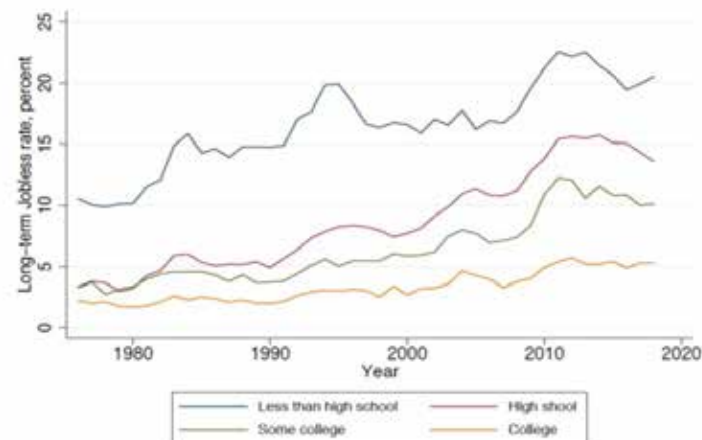
Source: Bureau of Labor Statistics

Prime male EPOP levels are slightly below comparable OECD countries

Prime age men

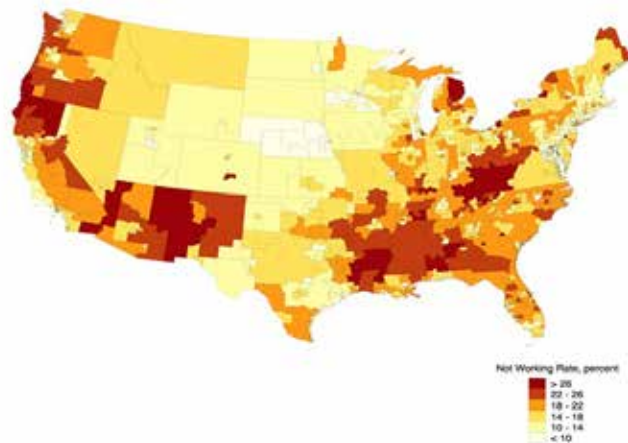


Prime age men

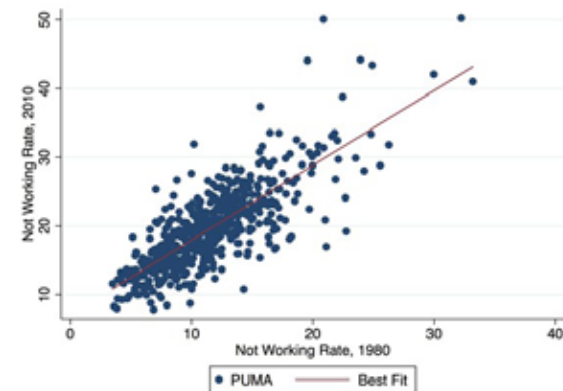


Geography of not working

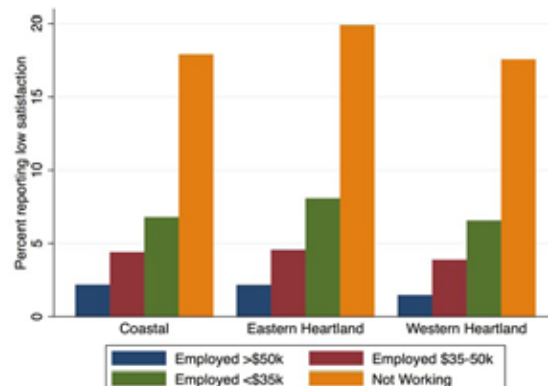
Prime age men (2015)



Persistence of not working rates



Low life satisfaction of not working men



Improvements in leisure (TV, video games) may be linked to decreasing employment

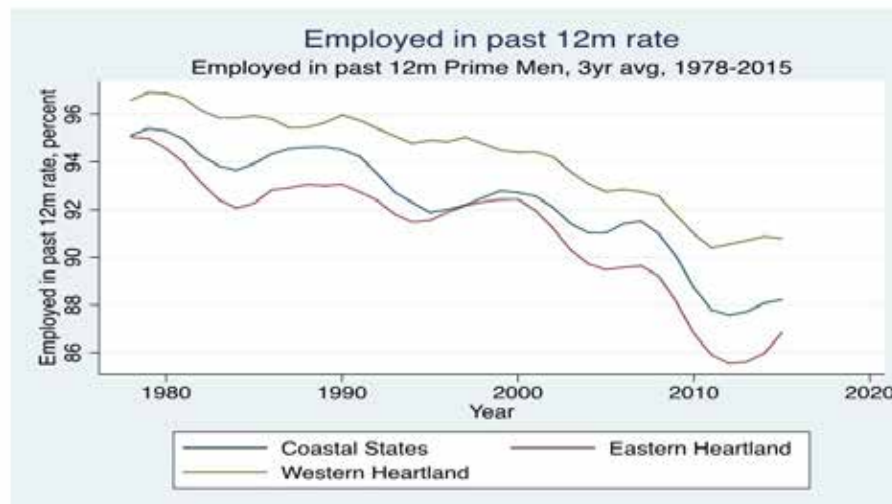
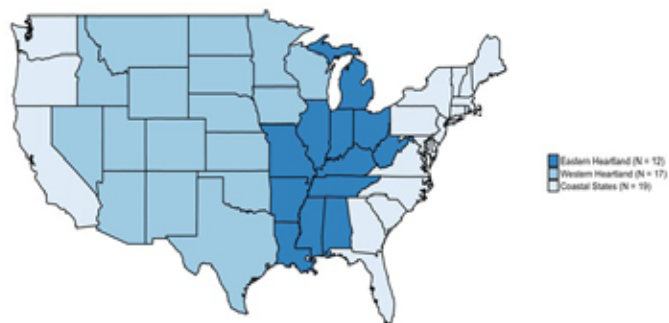
Prime age men reported disability rates, 2015

Table 9. Time Use by Prime Age Men, 2003-16*

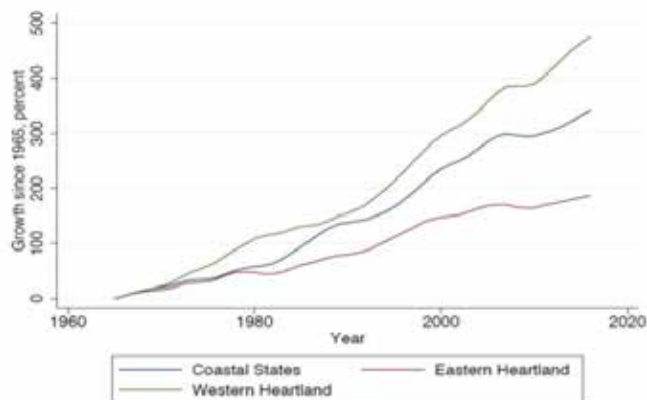
Activity	Employed			Not working		
	Coasts	Eastern heartland	Western heartland	Coasts	Eastern heartland	Western heartland
Personal care	530	529	529	598	604	587
Household activities	74	83	75	115	114	122
Food preparation	76	73	76	67	62	62
Caring for others	41	42	41	56	51	53
Working	392	382	401	33	28	32
Searching for work	1	1	1	21	16	21
Education	6	5	6	35	22	38
Leisure	257	262	248	450	481	449
Socializing	36	37	34	51	57	56
Watching TV	137	142	133	258	303	269
Computer use ^b	17	17	17	41	34	37
No. of observations	19,213	9,738	10,258	2,590	1,480	1,068

A Tale of Three Heartlands

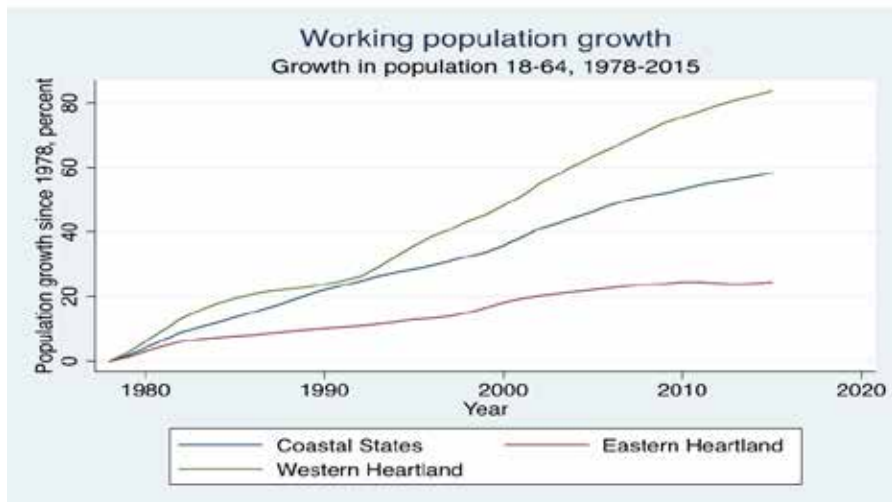
State Definitions



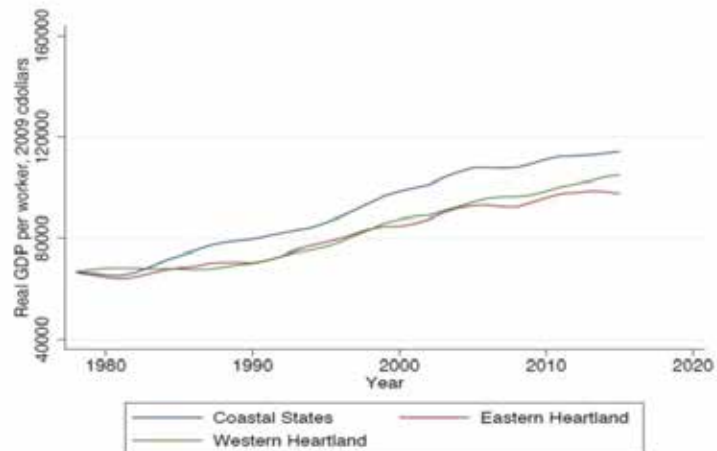
GDP Growth, 1965-2016



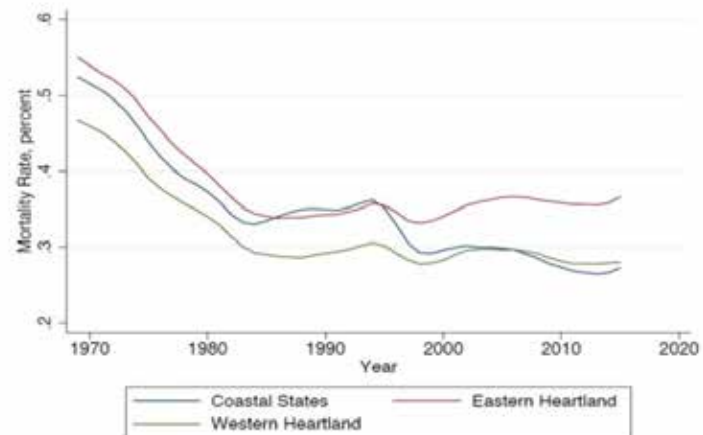
Source: U.S. Bureau of Economic Analysis; authors' calculations



GDP per worker, 1978-2016



Prime male mortality rate, 1970-2015



Prime age men

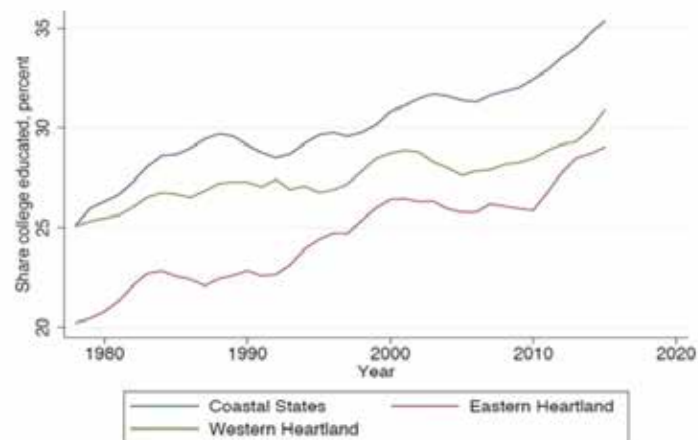
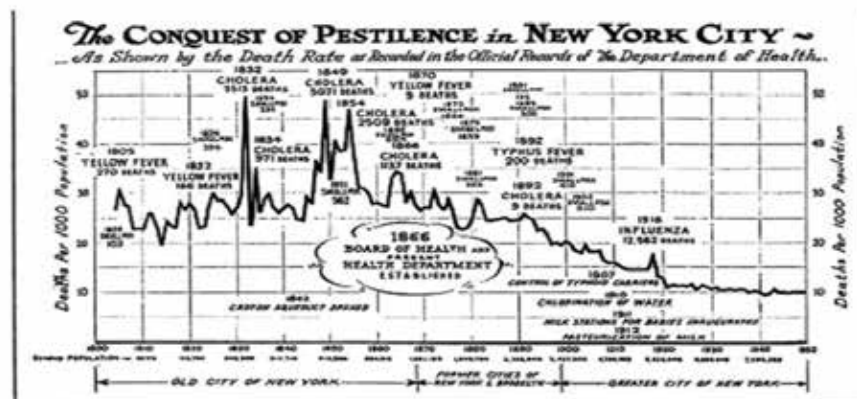
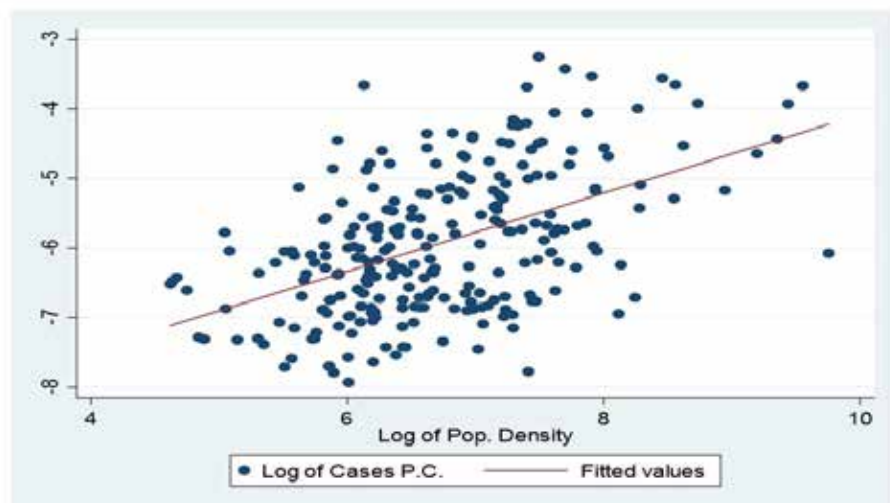


Figure is from Liu and Mikesell (2014)
Public Administration Review



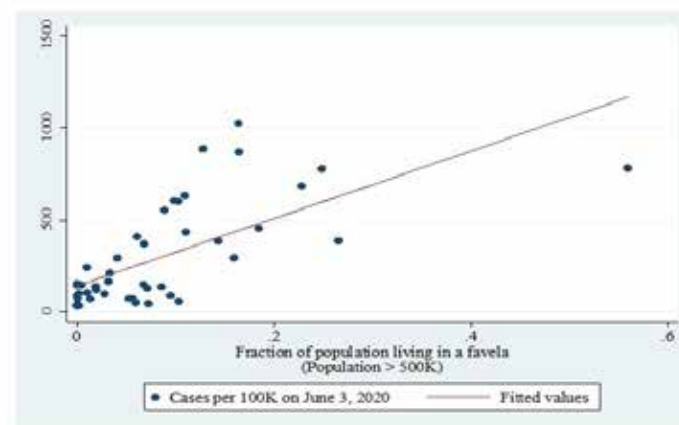
New York City's Department of Health shows the timeline of the city's mortality rate, which sharply dropped with the provision of clean water in the nineteenth century.

New York City Department of Health and Mental Hygiene



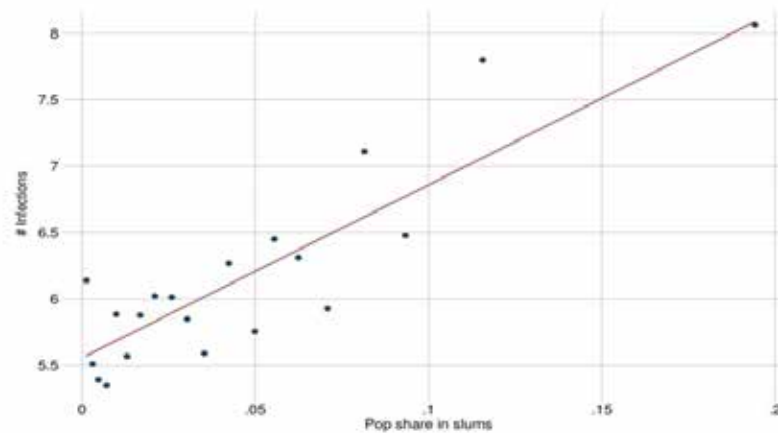
Results from Brazil

Chauvin and Kestelman



Results from India

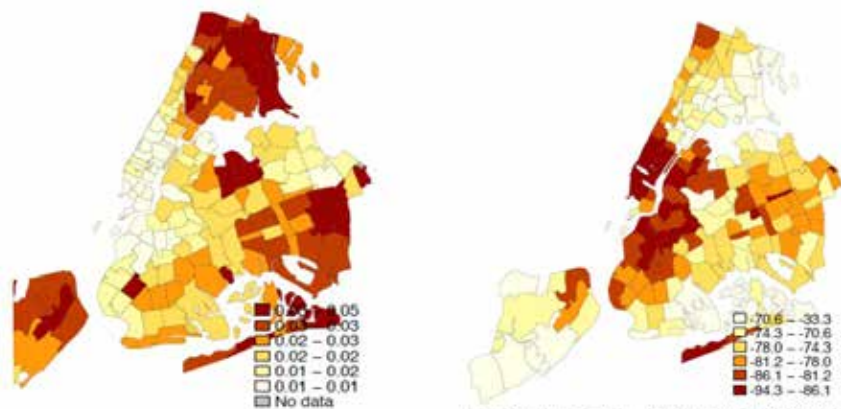
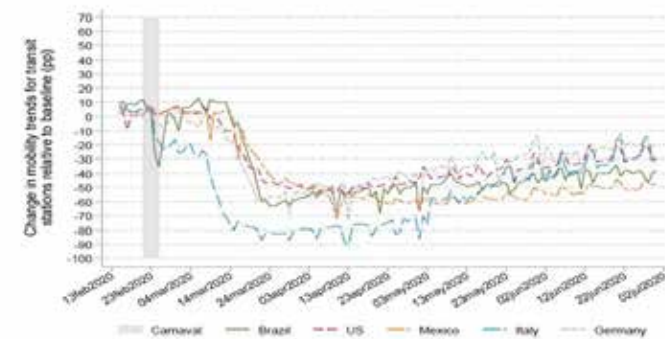
Asher and Novosad



The Deurbanizing of our World and the Particular Problem of Public Transit

MANHATTAN

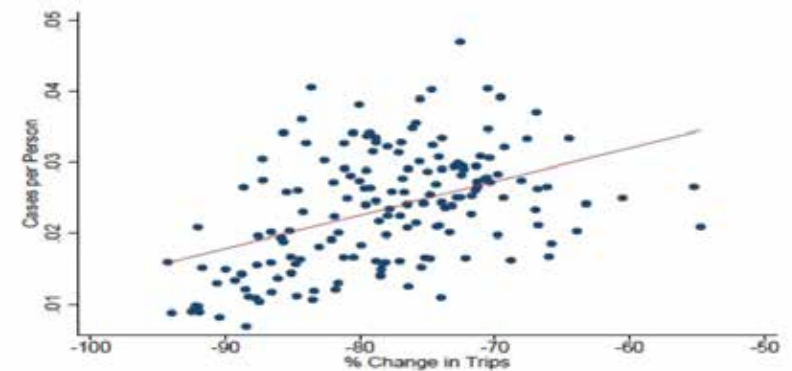
Transit stations



(b) Cases per Person

(a) Change in Trips, by Residential Zip code (SafeGraph)

Figure A1: Correlation between Travel Change and COVID-19 Cases per Person in NYC



Source: Cases per person from NYC Health Department, available at <https://www1.nyc.gov/site/doh/covid/covid-19-data.page>. % Change in trips from SafeGraph Weekly Patterns Data, using visitors traveling from home. % Change in trips calculated between May 13-19, 2019 and May 4-10, 2020.

Unemployment Rate Jumps to Highest Level Since WWII

Seasonally adjusted unemployment rate in the United States since 1948



statista

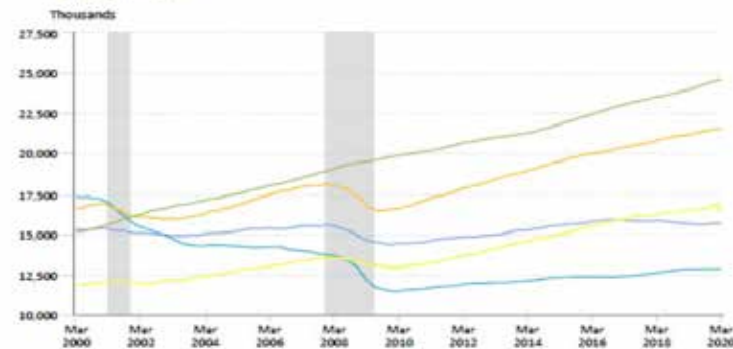
Farm to factory to urban service workers to... extreme pandemic vulnerability



Employment levels by industry, seasonally adjusted

Click and drag inside chart to change dates displayed

Total nonfarm Total private Mining and logging Construction Manufacturing
 Wholesale trade Retail trade Transportation and warehousing Utilities Information
 Financial activities Professional and business services Education and health services
 Leisure and hospitality Other services Government Federal government State government
 Local government



Hover over chart to view data.

Note: Shaded areas represent recessions, as determined by the National Bureau of Economic Research.

Source: U.S. Bureau of Labor Statistics.

Closure Rates by Industry

(circa April 1, 2020)

	Currently Closed		Exp Closed December		Weeks COVID Will Last		Current v Jan Employment	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Panel A: Raw Data								
All Retailers, except Grocery	0.53	0.50	0.45	0.50	14.1	9.5	0.49	0.42
Arts and entertainment	0.70	0.46	0.42	0.49	17.5	11.3	0.40	0.46
Banking/finance	0.19	0.39	0.25	0.43	16.1	10.9	0.81	0.33
Construction	0.32	0.47	0.38	0.49	14.3	10.3	0.66	0.40
Health care	0.45	0.50	0.29	0.45	15.1	10.4	0.69	0.37
Other	0.39	0.49	0.35	0.48	16.6	11.2	0.70	0.41
Personal Services	0.86	0.34	0.39	0.49	11.8	8.3	0.35	0.40
Professional Services	0.21	0.41	0.29	0.45	15.7	10.6	0.80	0.41
Real Estate	0.37	0.48	0.30	0.46	15.8	11.4	0.70	0.41
Restaurant/Bar/Catering	0.56	0.50	0.52	0.50	13.1	8.7	0.24	0.37
Tourism/Lodging	0.61	0.49	0.45	0.50	16.2	10.0	0.30	0.35
Total	0.45	0.50	0.37	0.48	15.5	10.6	0.58	0.44
N	4413	-	3953	-	4000	-	3935	-

Will the boost in remote working become permanent?



The Age of Centrifugal Cars (and Radios and TVs)



Killed Urban Industry, Like NYC Garments



So, why didn't these...



Image by ChtiTux



Image by Danamania

...Kill finance and urban information industries?



Image by
Runner1928

Will remote working become permanent?

May 2020	Total Civilian Population	Unable to Work Due to Pandemic (Closure or Lost Business)		Total Employed Population	Teleworking Due to Pandemic	
		Number	Percent		Number	Percent
Total, 25 years and over	222,559	41,616	18.7	123,109	45,989	37.4
Less than a high school diploma	19,607	3,941	20.1	6,887	355	5.2
High school graduates, no college ³	61,403	12,025	19.6	28,708	4,379	15.3
Some college or associate degree	57,510	12,235	21.3	31,581	7,928	25.1
Bachelor's degree and higher ⁴	84,038	13,416	16.0	55,933	33,327	59.6
Bachelor's degree only	51,890	9,011	17.4	33,778	18,069	53.5
Advanced Degree	32,148	4,405	13.7	22,155	15,258	68.9

Table 4. Share of workers who switched to remote worker during COVID-19 that will continue working remotely after COVID

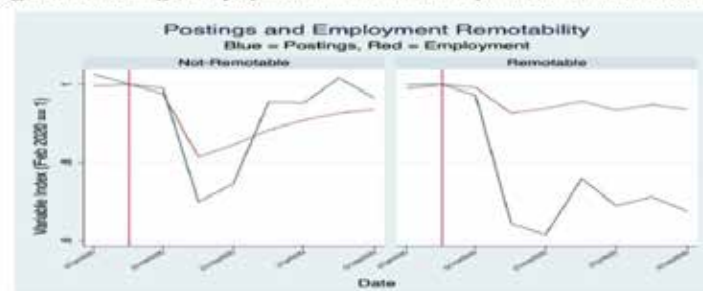
	Alignable (May) (1)	NABE (2)
0-20%	0.39	0.52
20-40%	0.20	0.11
40-60%	0.12	0.16
60-80%	0.12	0.07
80-100%	0.17	0.13
N	203	61

Note: The sample for the Alignable question was restricted to those who had more than 20% of their workforce in remote positions. The NABE sample excludes those who "do not know" the answer to the question.

Are People Looking to Hire Remote Workers?

(Work is by Morales-Arilla and Daboin)

Figure 1: Postings, Employment and "Remotability" of Work under COVID-19



Note: Figure shows the index of employment and postings (from February 2020) for "remotable" and "non-remotable" occupations. Employment is shown in blue lines, while posting is shown in red lines.

Everything Depends on the Duration of the Pandemic Risk

- # 1:: If the shock doesn't end quickly and if pandemics reappear, then quite significant changes will appear in both the urban location and the demand for transportation.
 - This will also shatter the urban service industry and create enormous economic dislocations – which at least suggests that we should be willing to spend enormous sums to make sure that this doesn't happen.
- #2: If this ends quickly, and doesn't happen again then the shock is real but doesn't change urban life massively. Still there will be short term shifts:
 - In rich cities, this means that prices drop more than vacancies rise.
 - Commercial space may be more vulnerable than residential.
 - Cities will still reallocate from old to young, and some significant work will move either to homes or lower density locales.
 - Extreme Importance of Consumer Cities
 - International travel will surely be depressed for quite some time.

The Economic Outlook for Montana

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Montana Economic Outlook

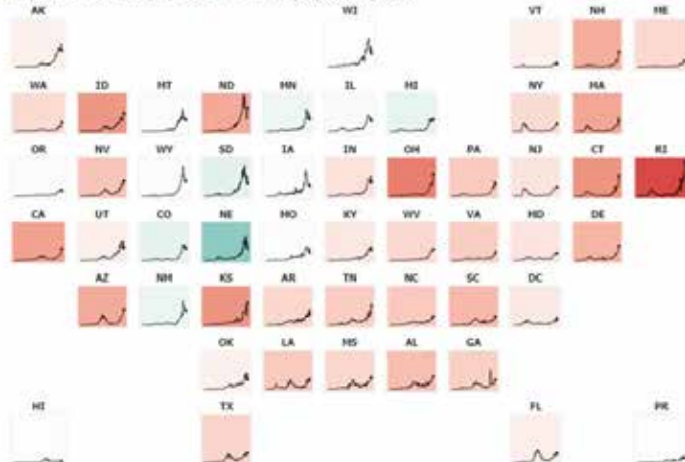
The Covid-19 Recession One Year Later

- Unprecedented downturn, followed by a unprecedented recovery
- March-April saw most economic indicators in uncharted territory
- Policy actions were swift, decisive, and effective
- Most surprises since mid-summer have been positive
- Aggregate economic measures fail to capture substantial swings in consumption, investment and trade patterns
- Parts of the economy have more than recovered, others face daunting challenges
- Montana is emerging as a state less affected than others

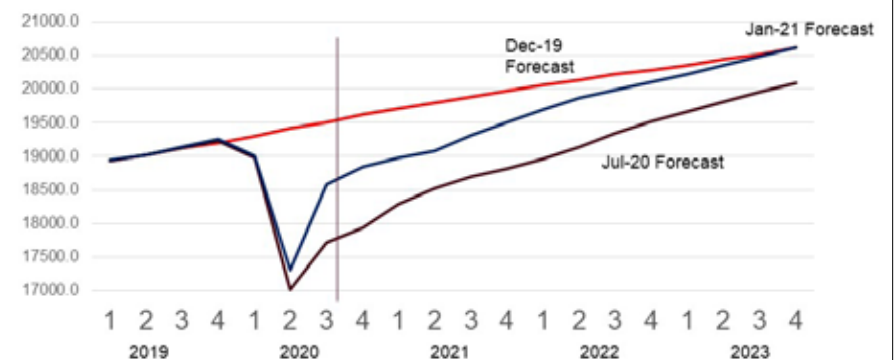


Montana Economic Outlook

Daily New Cases per 100k people. Data shown from 1/22/20 to 12/9/20.



Real GDP, U.S., Actual and Forecast Billions of Dollars

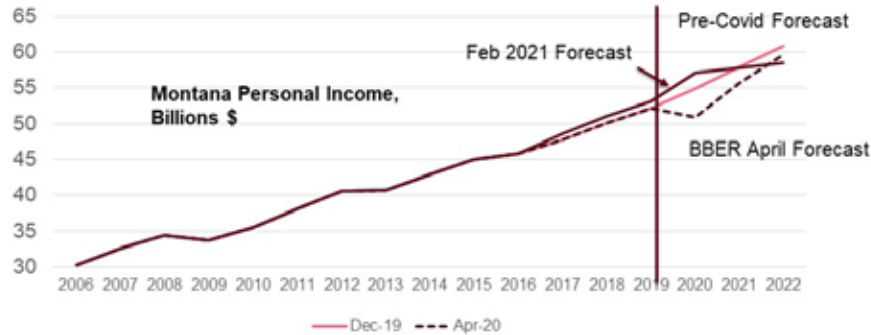


Source: IHS Markit



Montana Economic Outlook

A Tough Year for Economic Predictions: What Made This Forecast So Wrong?



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Montana Economic Outlook

Three Answers Come to Mind

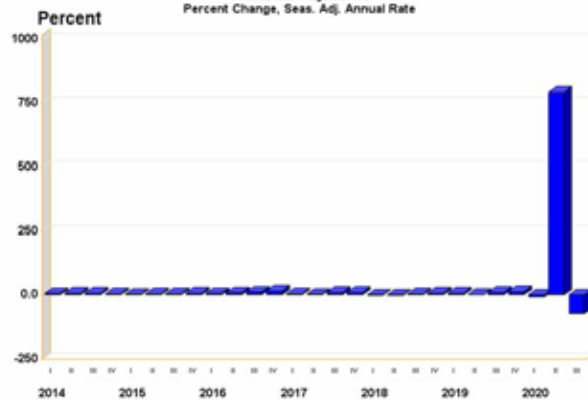
- The forecast is correct! The data are wrong!
- It was not an economic downturn – it was a public health crisis with economic consequences
- No one anticipated the speed and strength of the policy response



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Montana Economic Outlook

Montana Personal Income Transfer Payments



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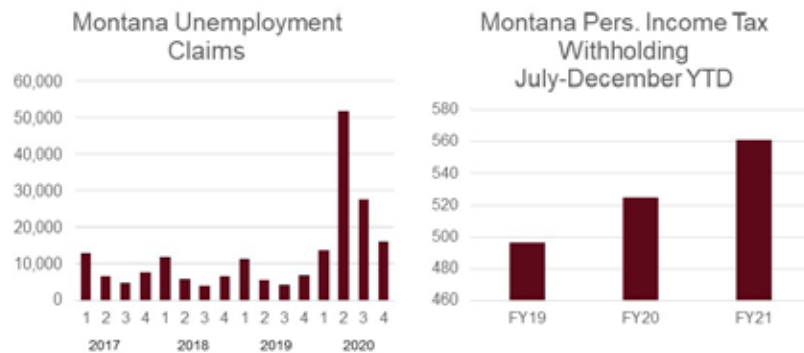
Montana's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Source: HS Markit

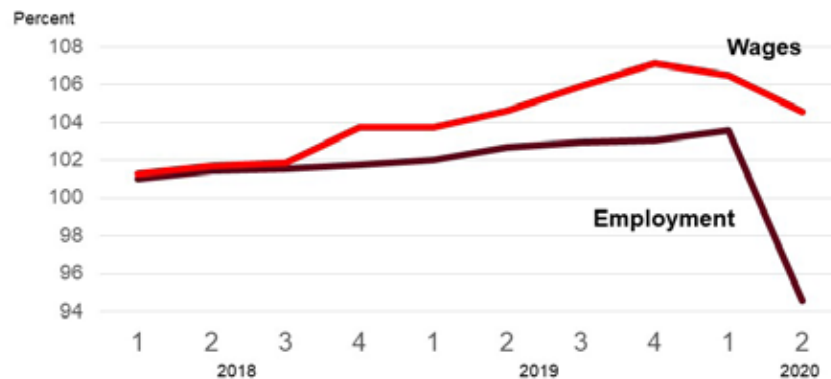
How Can We Reconcile These Two Trends?



Categories	2016	2017	2018	2019	2020	2021
Top Seven Sources	\$677,253,977	\$682,377,573	\$715,730,022	\$776,705,525	\$823,064,611	\$906,920,586
Corporation Tax	\$46,535,587	\$45,865,342	\$45,260,366	\$59,342,041	\$62,941,646	\$71,248,762
Individual Income Tax	\$553,783,368	\$563,044,770	\$590,980,067	\$630,477,738	\$676,400,337	\$747,319,070
510101 Withholding Tax	\$136,433,483	\$151,076,082	\$174,253,387	\$202,283,396	\$223,488,446	\$241,630,200
510102 Estimated Tax	\$107,626,440	\$98,686,245	\$101,647,276	\$108,281,770	\$113,868,091	\$130,410,220
510103 Current Year I/T	\$17,679,147	\$18,796,646	\$19,188,700	\$20,011,035	\$26,247,505	\$28,597,421
510104 Prior Years to Income Tax	\$1,800,809	\$1,408,901	\$1,284,479	\$2,490,520	\$1,522,060	\$1,199,116
510105 Income Tax - Audit Collections	\$10,888,227	\$7,440,287	\$8,497,522	\$8,562,722	\$9,800,001	\$12,095,035
510106 Income Tax Refunds	\$69,715,410	\$71,879,017	\$77,069,501	\$80,472,891	\$82,567,457	\$88,913,560
510109 Income Tax-Penalties & Interest	\$2,851,604	\$2,999,655	\$2,322,753	\$2,308,050	\$2,309,957	\$2,587,690
510110 Accrual Individual Inc Tax	\$0	\$0	\$0	\$0	\$0	\$0
510111 Pass Thru Entity Tax	\$0,820,492	\$3,378,919	\$4,298,026	\$3,572,901	\$6,642,356	\$9,277,787
510482 Mineral Royalty WH Tax	\$2,829,892	\$7,890,018	\$2,120,344	\$2,517,453	\$10,152,880	\$1,859,982
Insurance Tax	\$14,524,054	\$17,961,445	\$15,413,266	\$15,910,511	\$16,463,399	\$16,657,899
Oil & Natural Gas Tax	\$0	\$0	\$0	\$0	\$0	\$0
Property Tax	\$8,320,187	\$9,458,618	\$10,042,368	\$15,656,701	\$9,799,361	\$12,813,214
Vehicle Fee	\$38,838,387	\$31,146,942	\$39,086,037	\$39,528,775	\$41,212,502	\$38,767,562
Video Gaming Tax	\$15,252,193	\$14,900,257	\$14,927,917	\$15,789,759	\$16,247,365	\$18,073,689
Other Sources	\$16,795,840	\$18,219,698	\$80,134,672	\$27,997,873	\$33,768,084	\$26,268,795
Natural Resource Sources	\$14,300,379	\$12,219,923	\$16,327,738	\$9,508,061	\$12,219,076	\$6,181,749
Interest Earnings Sources	\$5,296,431	\$9,229,528	\$8,267,181	\$11,900,940	\$13,952,466	\$6,708,637
Consumption Sources	\$23,515,324	\$23,254,332	\$22,117,758	\$23,395,166	\$23,526,150	\$25,977,574
Business Sources	\$22,955,709	\$20,857,117	\$23,195,611	\$24,503,592	\$26,182,944	\$22,604,869
Total	\$760,117,660	\$767,198,171	\$859,772,981	\$874,071,177	\$932,713,331	\$992,662,209

Wages and Employment, Montana, 2018Q1 – 2020Q2

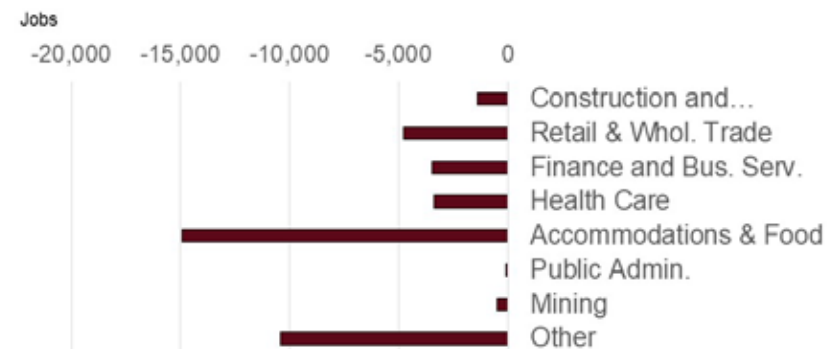
Seasonally Adjusted Index, 2017Q1 = 100



Source: Quarterly Census of Employment and Wages

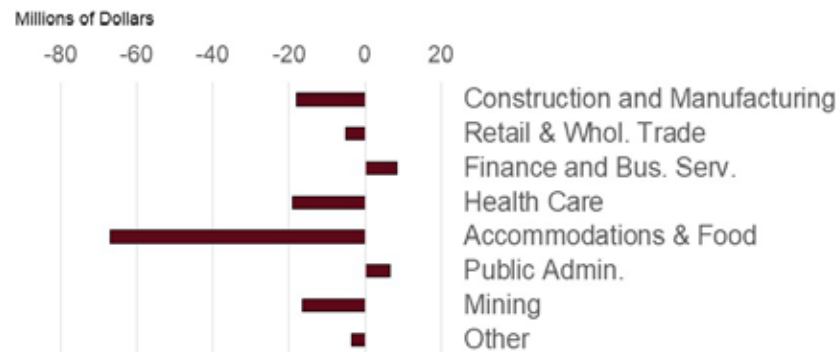
Job Losses by Sector, Montana, 2019Q4 – 2020Q2

Seasonally Adjusted



Source: Quarterly Census of Employment and Wages

Wage Loss/Growth by Sector, Montana, 2019Q4 – 2020Q2 Seasonally Adjusted

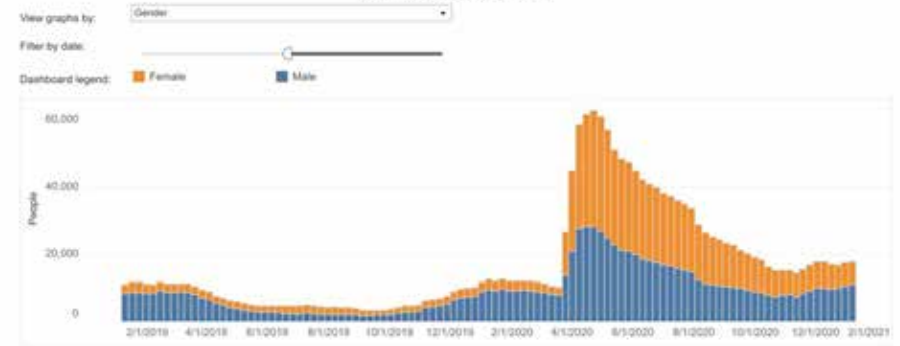


Source: Quarterly Census of Employment and Wages

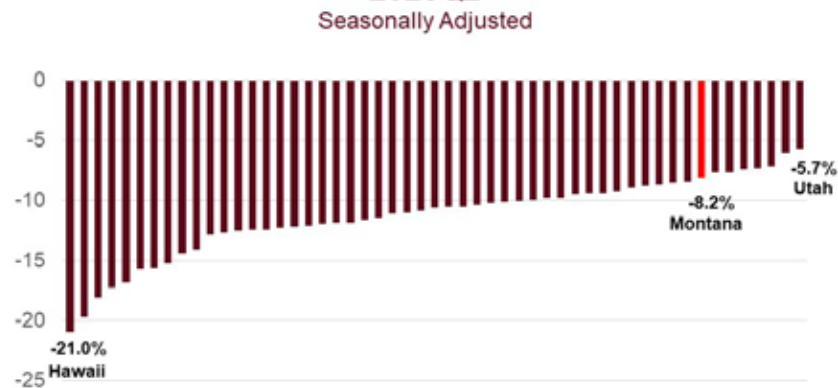


Montana Economic Outlook

UI Claimants by Gender



Employment Decline by State, Percent, 2019Q4 – 2020Q2 Seasonally Adjusted

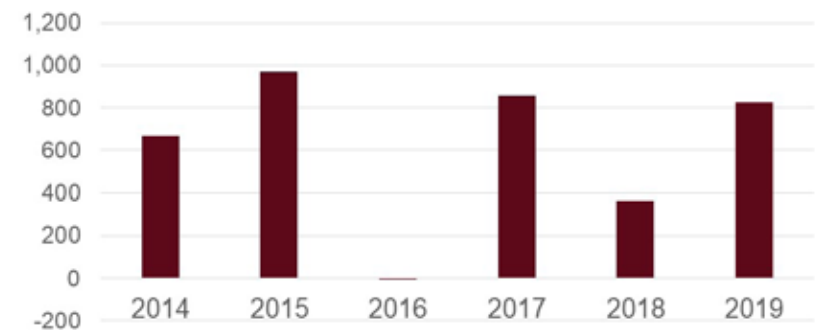


Source: Quarterly Census of Employment and Wages



Montana Economic Outlook

Growth in Inflation-Corrected Nonfarm Income, Montana Millions of Dollars

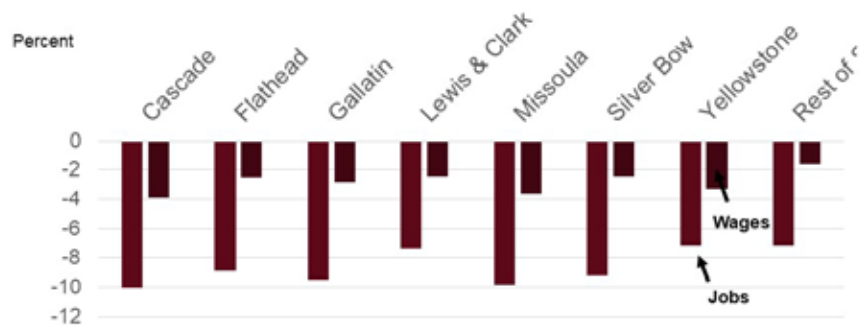


Source: U.S. Bureau of Economic Analysis



Montana Economic Outlook

Job Losses and Wage Losses Between 2019Q4 and 2020Q2, Montana Percent Change, Selected Counties

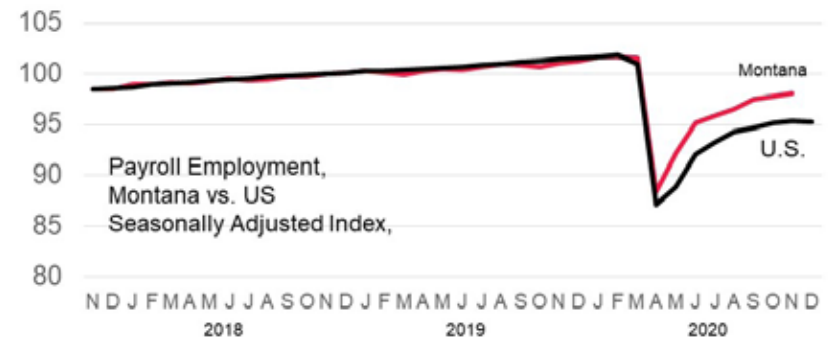


Source: Quarterly Census of Employment and Wages



Montana Economic Outlook

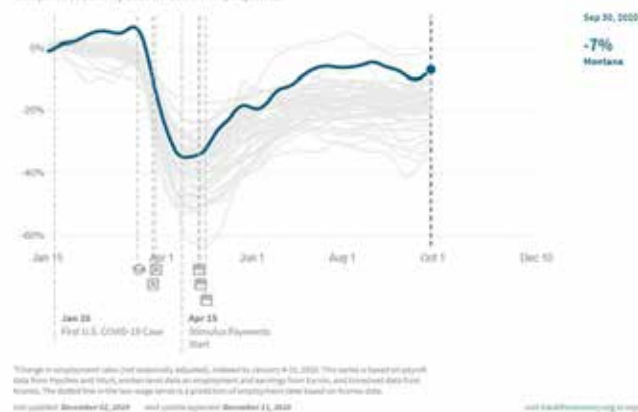
Montana's Employment Recovery Slightly Stronger



Montana Economic Outlook

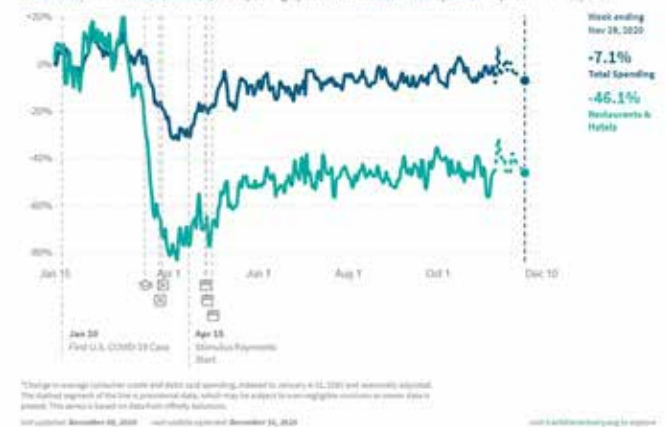
Percent Change in Employment*

In Montana, as of September 30, 2020, employment rates among workers in the bottom wage quartile decreased by 7% compared to January 2020 (not seasonally adjusted).



Percent Change in All Consumer Spending*

In Montana, as of November 29, 2020, total spending by all consumers decreased by 7.1% compared to January 2020.



Which Changes We've Experienced Will Stick?

- High savings rates
- Strong spending on durables
- Eating at home
- Re-shoring or near-shoring supply chains
- Exit from major cities
- Technology adoption
- Whither commercial real estate?
- High government debt levels
- Larger government role in the economy



Montana Economic Outlook

Montana Implications of Major Events

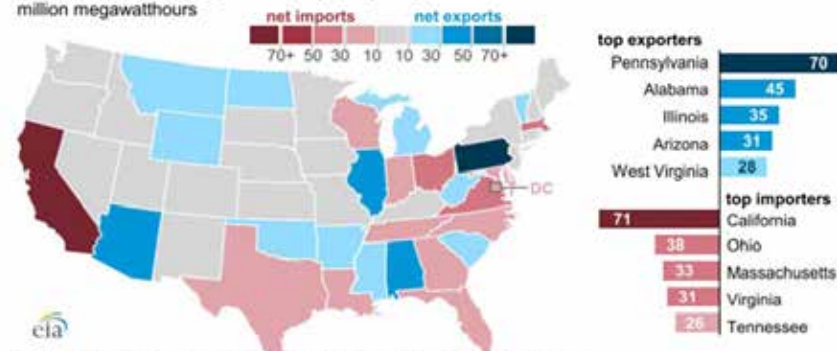
- Further stimulus from Washington
- Low inventories, high froth in housing markets
- Rising lumber prices
- Legacy of supply chain disruptions of 2020
- Closure of Colstrip Units 1 & 2



Montana Economic Outlook

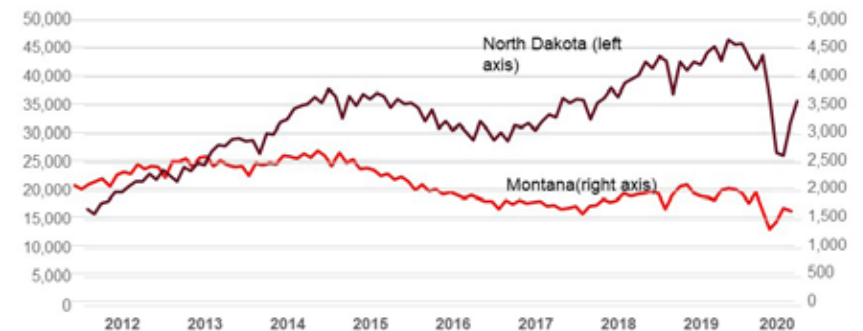
California was the largest net electricity importer of any state in 2019

State net electricity exports and imports (2019)
million megawatthours



Bakken Oil Production Recovers From Record Fall

Montana and North Dakota Monthly Crude Oil Production, Thousand Barrels

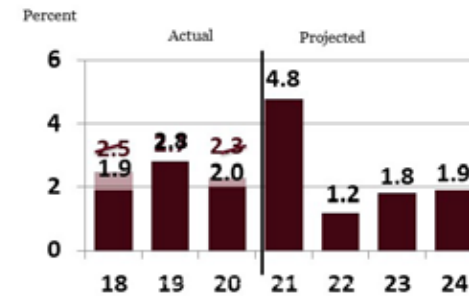


Montana Economic Outlook

Outlook for Montana's Key Industries

- Post-pandemic future is the wild card
- Harder times ahead for coal and oil
- Brighter prospects for agriculture
- Tech's star is shining brighter
- Will 2021 be a year when home building breaks out?

Growth in Nonfarm Earnings,
Montana, 2018-24



Source: BBER and U.S. Bureau of Economic Analysis

Health Care

Change on the Horizon?

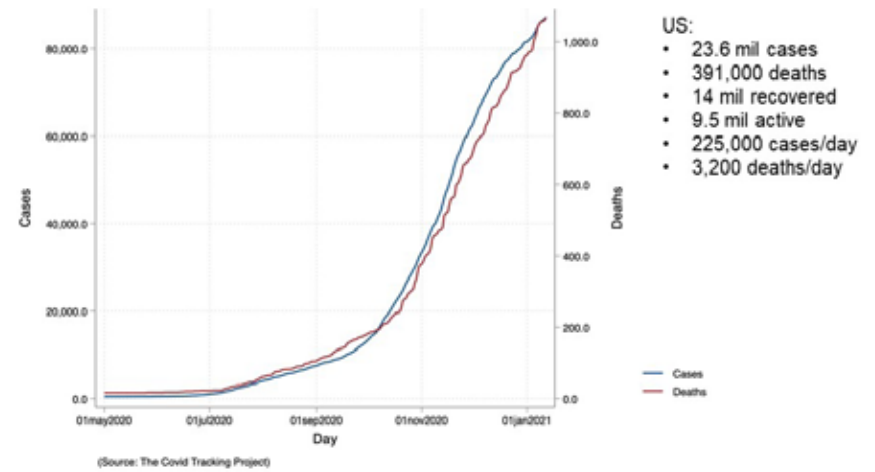
Dr. Robert Sonora
Associate Director | Director Health Research
Bureau of Business and Economic Research
Senior Research Professor
University of Montana

All data presented in this presentation is as of January 14, 2021



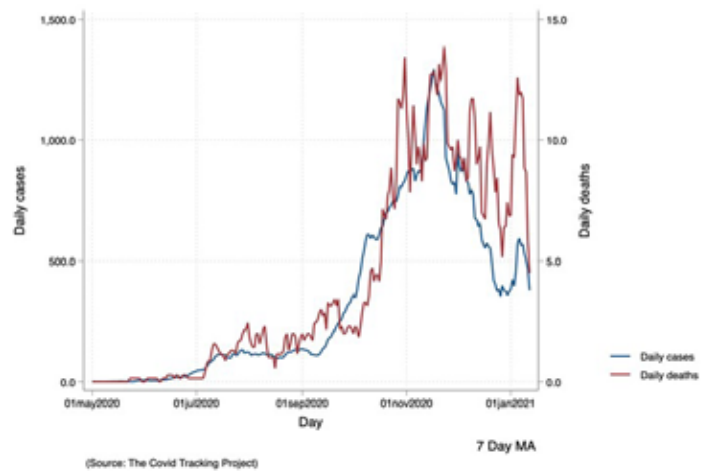
Health Care

Cumulative Covid cases and deaths in Montana



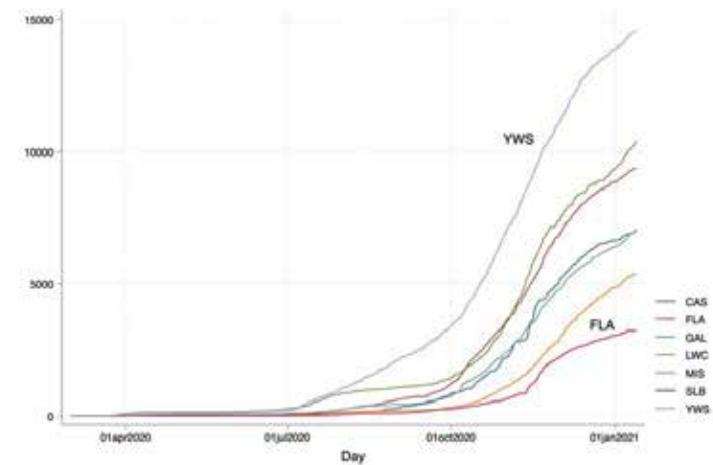
Health Care

Daily Covid cases and deaths in Montana



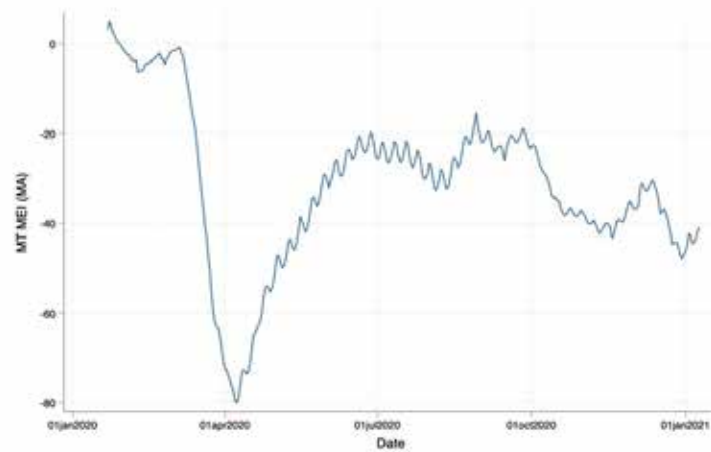
Health Care

Index of cases by county in Montana (3/1/2020= 1)

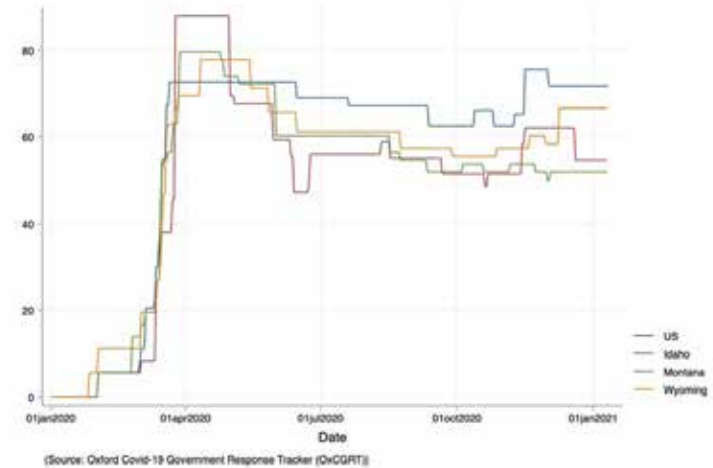


Health Care

Montana mobility and engagement index: policy + behavior

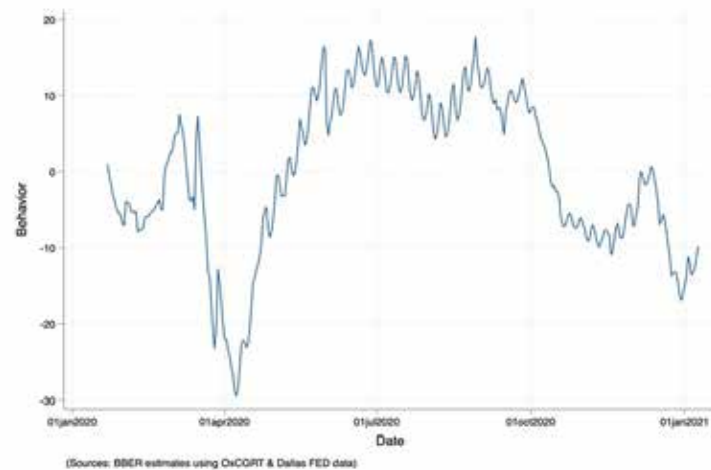


Policy "stringency"

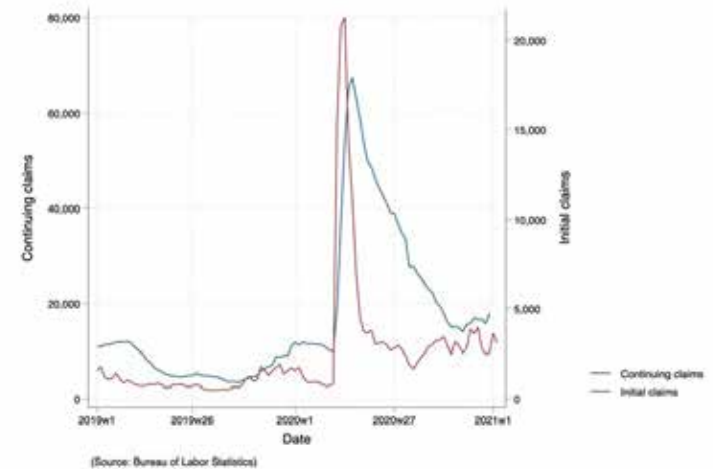


Index includes: containment and health, economic support, behavior restrictions, and overall state response

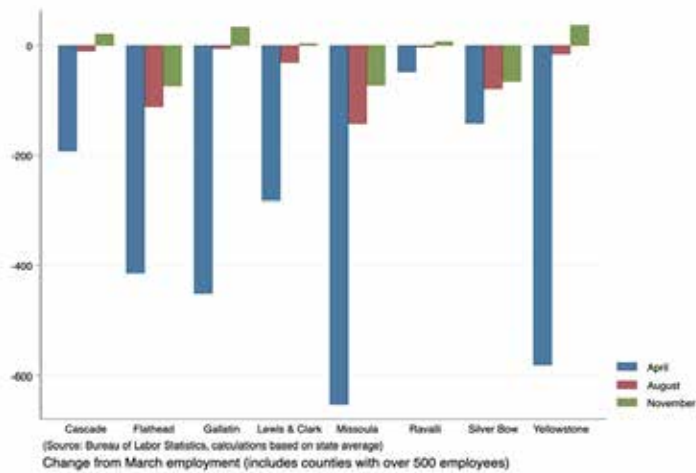
Mobility in Montana: household behavior



Unemployment insurance claims in Montana



Healthcare employment impact by county



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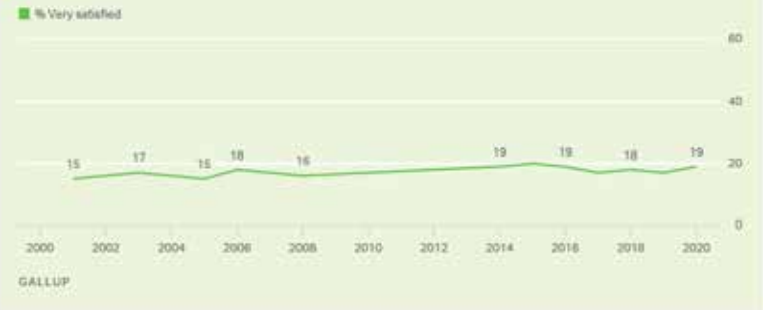
Health Care

State of healthcare

healthcare spending in 2019 was \$3.8 trillion or \$11,582 per person, 17.7% of GDP

Few Americans "Very Satisfied" With Medical Care Quality in U.S.

Next, we'd like to know how you feel about the state of the nation in each of the following areas. For each one, please say whether you are very satisfied, somewhat satisfied, somewhat dissatisfied or very dissatisfied. How about the quality of medical care in the nation?



Source: Gallup, "Five Forces That Will Reshape the Future of Healthcare"

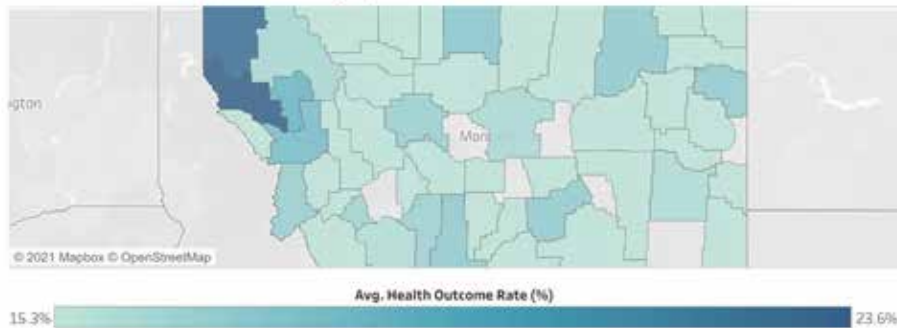


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Health Care

Health outcomes: heart failure readmission + death rate heart failure

County-Level Geographical View of Health Outcome Rates



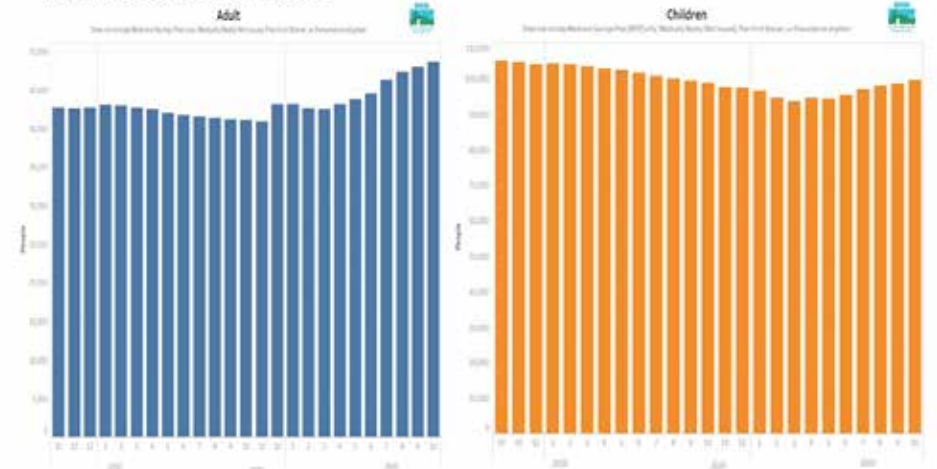
Source: National Rural Health Center, Sanders and Lincoln have incomplete data



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Health Care

Medicaid enrollment



Source: Montana DPHSS



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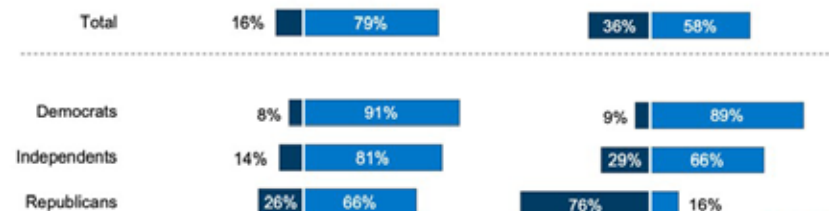
Health Care

Would you like to see the Supreme Court overturn...?

☒ Yes, overturn

- No, do not overturn

...the Affordable Care Act



SOURCE: KFF Health Tracking Poll (conducted October 7-12, 2020). See topline for full question wording.

KFF

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Health Care

1. Rural/Telehealth:

- Removal of restrictions to allowing online appointments
 - Improved technology
 - Better billing technology
2. Value based care
- Patients: bespoke and better care, low cost
 - Providers: better services and more efficient (patients=customers)
 - Payers: reduced cost and risk
 - Suppliers: Prices consistent with outcomes
 - Reduce: overall health care and better health

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Health Care

Map of the United States showing the percentage of the population aged 65 and over in each state. The map uses a color scale from light blue (low percentage) to dark blue (high percentage).

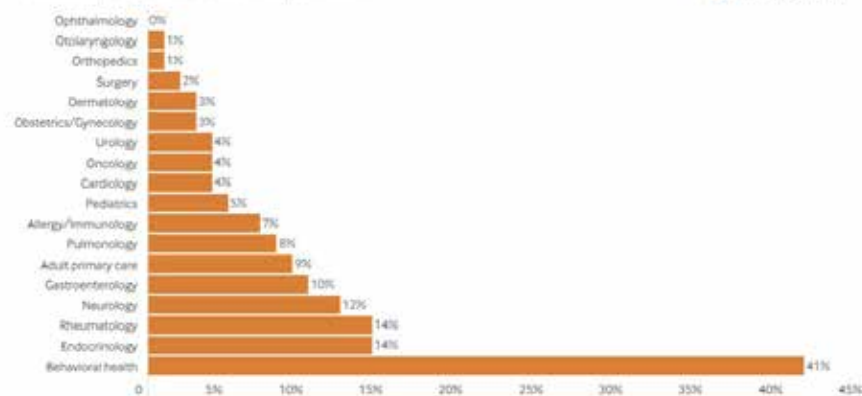
State	Percentage (%)
Alaska	14.6
Alabama	12.8
Arizona	12.8
Arkansas	12.8
California	12.8
Colorado	12.8
Connecticut	14.6
Delaware	14.6
District of Columbia	14.6
Florida	14.6
Georgia	12.8
Hawaii	14.6
Idaho	12.8
Illinois	12.8
Indiana	12.8
Iowa	12.8
Kansas	12.8
Kentucky	12.8
Louisiana	12.8
Maine	14.6
Maryland	14.6
Massachusetts	14.6
Michigan	12.8
Minnesota	12.8
Mississippi	12.8
Missouri	12.8
Montana	12.8
Nebraska	12.8
Nevada	12.8
New Hampshire	14.6
New Jersey	14.6
New Mexico	12.8
New York	14.6
North Carolina	12.8
North Dakota	12.8
Ohio	12.8
Oklahoma	12.8
Oregon	12.8
Pennsylvania	14.6
Rhode Island	14.6
South Carolina	12.8
South Dakota	12.8
Tennessee	12.8
Texas	12.8
Utah	12.8
Vermont	14.6
Virginia	12.8
Washington	12.8
West Virginia	12.8
Wisconsin	12.8
Wyoming	12.8

Source: Choi (2019) JAMA Psychiatry

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ECONOMIC RESEARCH
UNIVERSITY OF MONTANA

Health Care

Telehealth usage as percent of total visits during baseline week

 Week starting 10/04

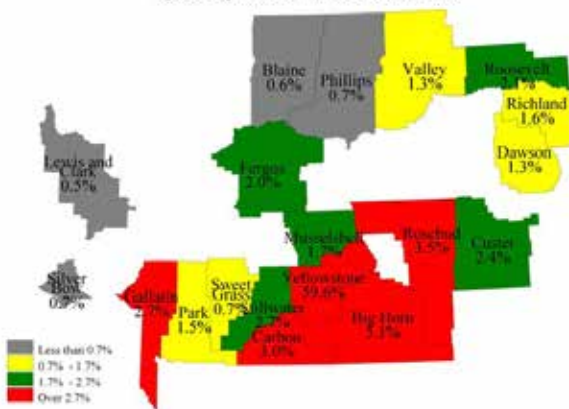
Source: Mehrotra (2021) "Has Telemedicine Increased Access to Care in Rural Communities?". MSU

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Health Care

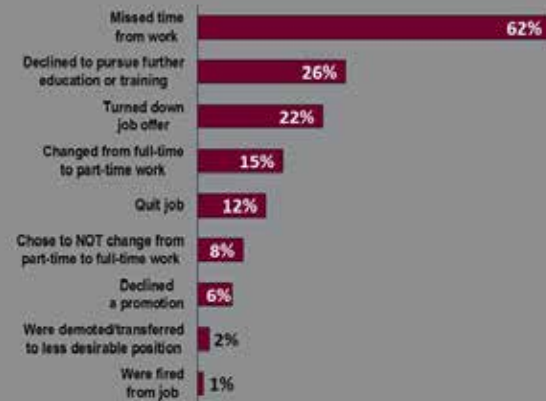
Rural - Urban healthcare flows

Yellowstone County Hospital Charges By County Where Patients Reside, 2019



Results of Early Childcare BBER/FRB Minneapolis

Parents experiencing the following child care-related work problems during the past YEAR



Results of Early Childcare BBER/FRB Minneapolis

Losses to the Montana economy caused by inadequate child care (2019)

	Loss to households	Loss to businesses	Loss to taxpayers
Average per household	\$5,700	\$2,150	\$1,260
State total	\$145,146,000	\$54,562,000	\$32,036,000

Future of SARS-CoV-2

- Newly published research posits SARS-CoV-2 → common cold/seasonal flu
 - herd immunity and
 - Vaccine
 - Evidence the 1890 Great Russian flu pandemic, which killed about 1 million, was due Cov-OC43 → "common cold"?
- New vaccines: Pfizer (2), Moderna (2), J&J (1)
 - MT @4.5% received 1st vaccination
- New variants 70% more contagious: UK (B-117) → surge in March

Vaccine schedule for Montana

As of January 15, 2021, there's been 51,000 total doses (1st + 2nd)

Phase 1a Prioritization	Phase 1b Prioritization	Phase 1c Prioritization
Health care workers and long-term care facility residents	includes people ages 70+; American Indians and other people of color at elevated risk for workers; COVID-19 complications; people ages 16-69 with high-risk medical conditions; people living in congregate settings and correctional facilities	includes people ages 60-69; limited to frontline essential workers; people ages 16-59 with medical conditions not included in Phase 1b

As of Jan 11, in Phase 1a

Travel and Tourism

Navigating a pandemic and the desires for open spaces

JEREMY L. SAGE, Ph.D.

ECONOMIST & INTERIM DIRECTOR
INSTITUTE FOR TOURISM AND RECREATION RESEARCH

ASSOCIATE RESEARCH PROFESSOR
DEPARTMENT OF GEOGRAPHY

FRANKE COLLEGE OF FORESTRY AND CONSERVATION
In the aboriginal territories of the Salish and Kalispel people



Travel & Tourism

ITRR Director Norma Nickerson Retires



After 25 years at the helm of ITRR, Norma has retired. We all sincerely thank her for the leadership, entertainment, and friendship. We wish her happy trails as she ventures into retirement!



Travel & Tourism

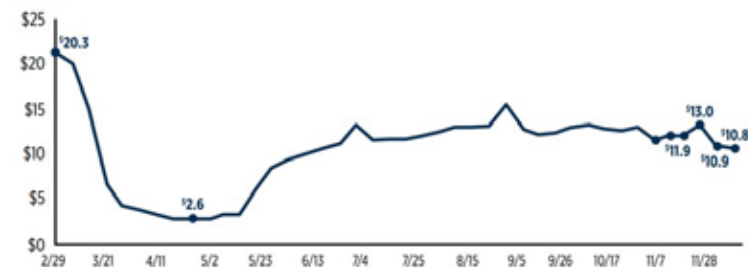
U.S. Travel

Travel and tourism has been one of the hardest hit industries, U.S. and worldwide



Travel & Tourism

National Weekly Travel Spending
(\$ billions)



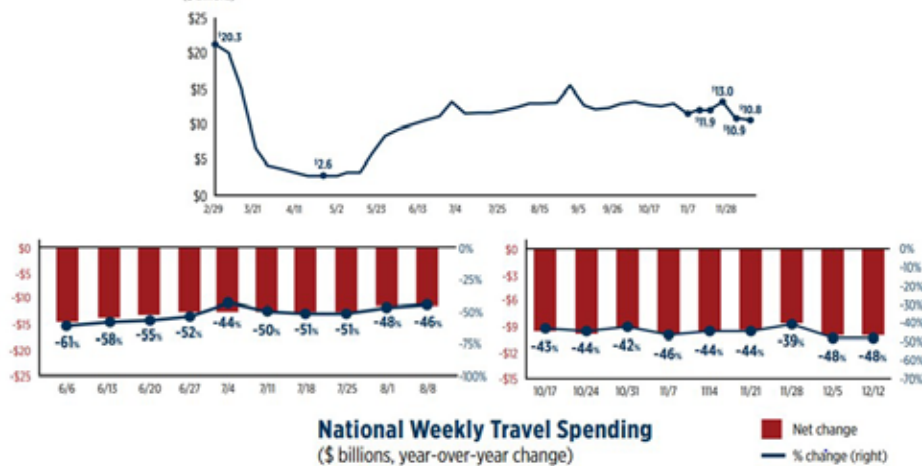
The U.S. travel economy has lost over \$500 billion in cumulative losses as a result of the COVID-19 pandemic. That equates to losses of \$1.75 billion per day of the pandemic.

Source: U.S. Travel Association and Tourism Economics



Travel & Tourism

National Weekly Travel Spending
(\$ billions)

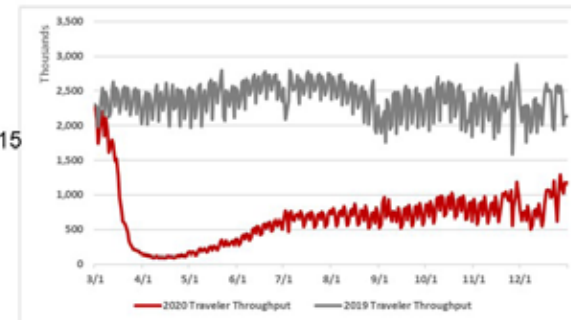


Source: U.S. Travel Association and Tourism Economics

TSA checkpoint travel numbers (current year versus same day last year)

Average
April 15 – May 15

-94%



Average
December 1 – 31

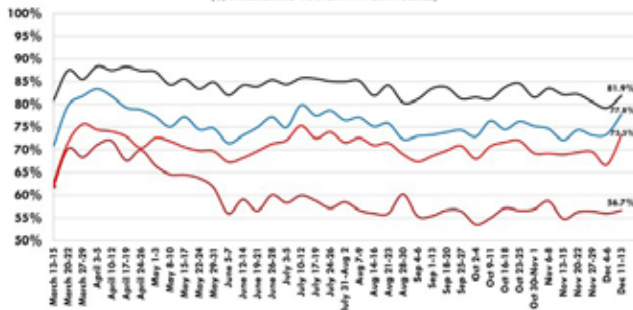
-62%

Source: U.S. Travel Association and Tourism Economics

National Anxiety



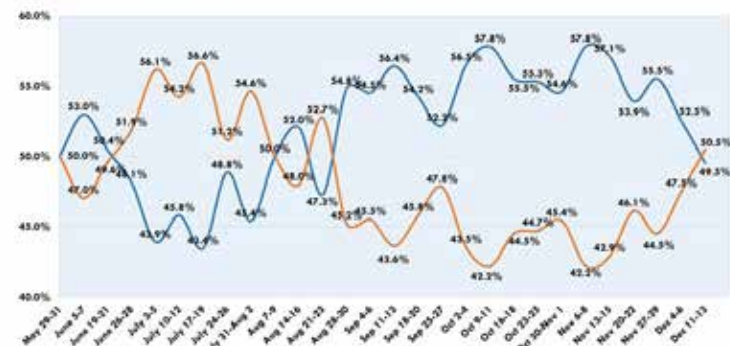
(% ANSWERING 10-6 ON 11-POINT SCALE)



QUESTION: THINKING ABOUT THE CURRENT CORONAVIRUS SITUATION, HOW CONCERNED ARE YOU ABOUT THE IMPACT IT MAY HAVE ON THE/YOUR _____ ?

Source: U.S. Travel Association and Destination Analysts

Travel State-of-Mind



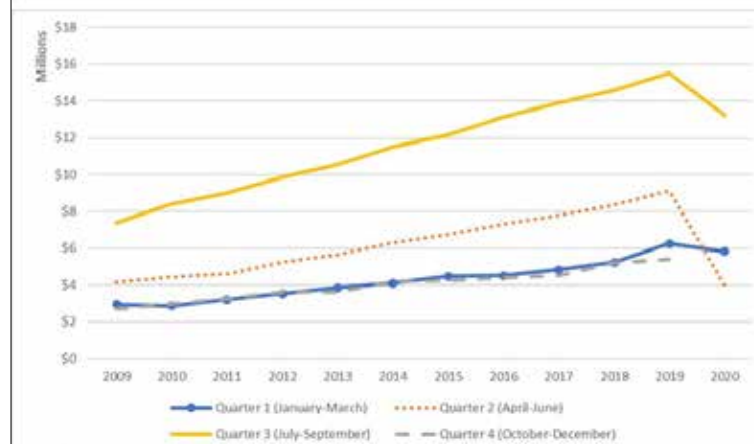
QUESTION: WHEN IT COMES TO GETTING BACK OUT AND TRAVELING AGAIN, WHICH BEST DESCRIBES YOUR CURRENT STATE OF MIND? (SELECT ONE)

Source: U.S. Travel Association and Destination Analysts

Montana Travel

Following national trends?
Or finding its own way?

Lodging Facility Use Tax Collection (Bed Tax)



In 2020

Quarter 1:
-7%

Quarter 2:
-57%

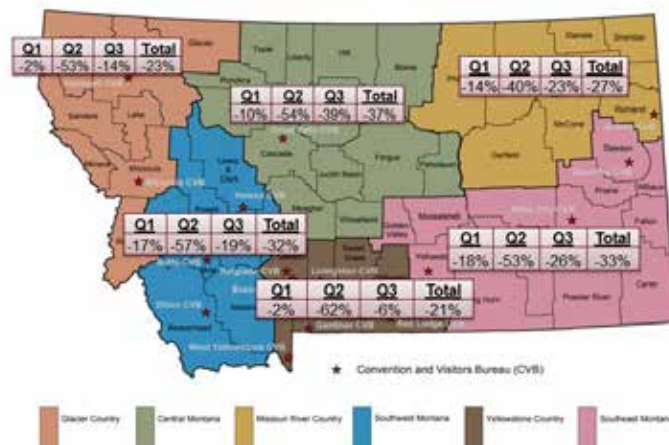
Quarter 3:
-14%

Quarter 4:
?

Total:
-25%

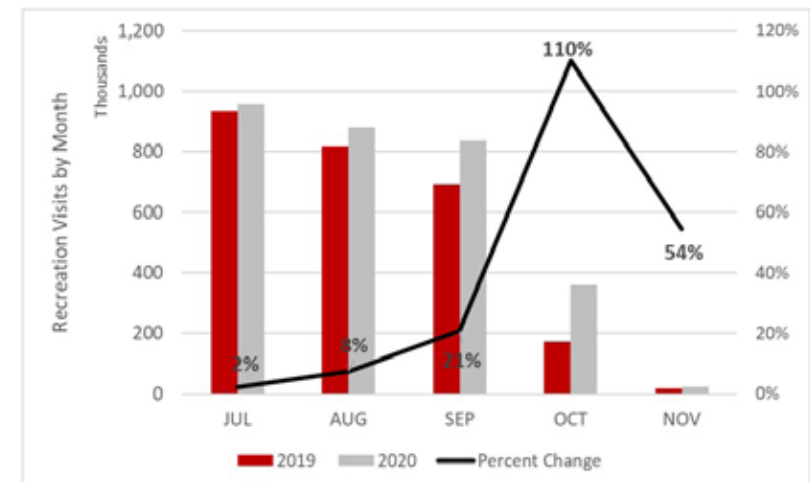
Source: Montana Department of Commerce

Lodging Facility Use Tax Collection Quarterly Reduction 2019-2020



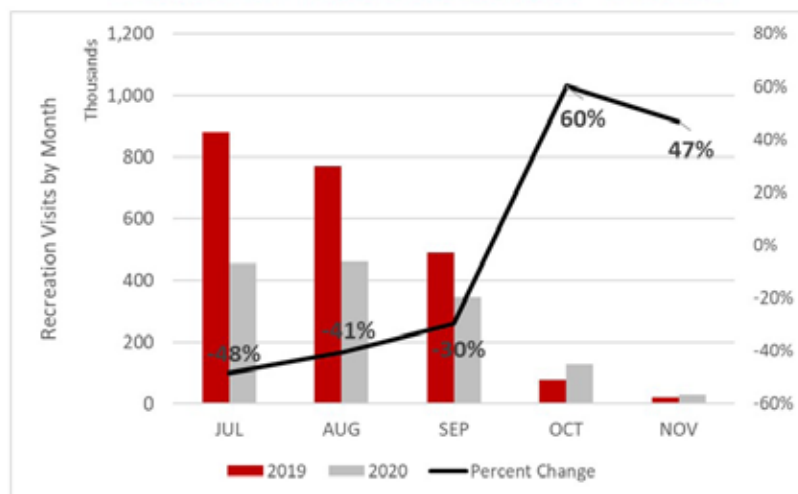
Source: Montana Department of Commerce

Yellowstone Recreation Visits



Source: National Park Service

Glacier Recreation Visits



Montana State Parks

MONTANA STATE PARKS SEE RECORD SETTING VISITATION IN 2020

Top five most visited parks through September 2020:

- 1- Flathead Lake State Park (all units): **+33.5%** YoY
- 2- Cooney Reservoir State Park: **+26%** YoY
- 3- Giant Springs State Park: **-0.2%** YoY
- 4- Lake Elmo State Park: **+25.7%** YoY
- 5- Thompson Chain of Lakes State Park: **+42.5%** YoY

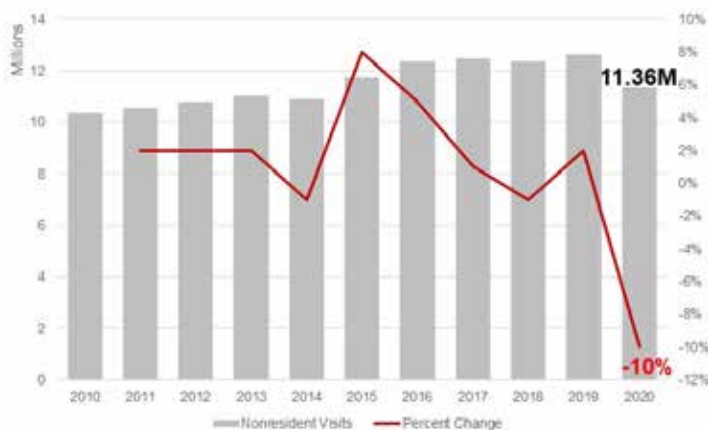


System wide, Montana's parks hosted 3 million visitors; a 24.4% increase over 2019.

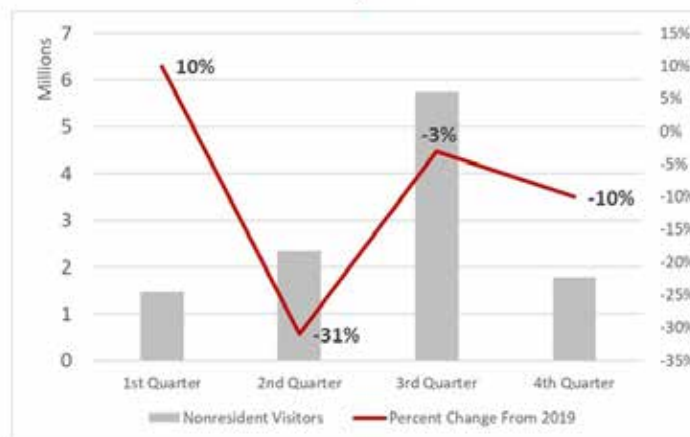
80% of parks saw increases from 2019 to 2020.

Source: Montana FWP

Nonresident Visitors



Nonresident Visitors 2020 by Quarter



Moving Forward

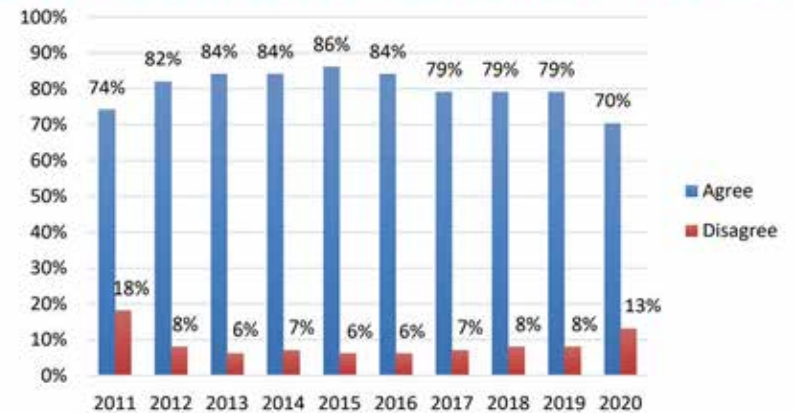
Expect the draw to open spaces to remain high through 2021

Residents' perception of tourism matters



Travel & Tourism

Resident Attitudes Towards Tourism



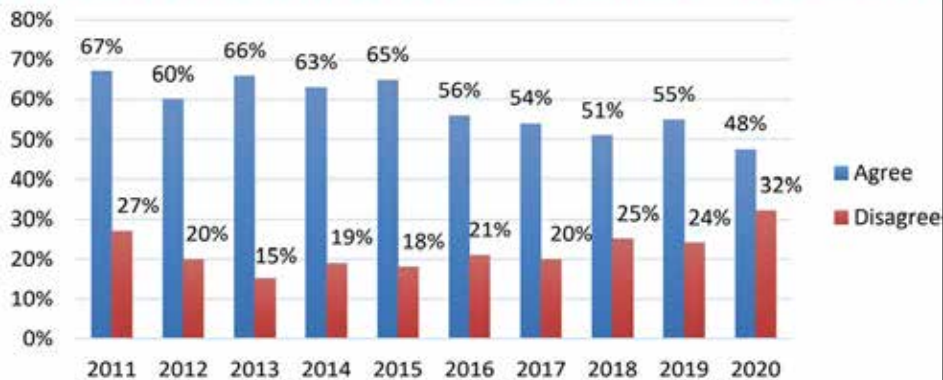
Question: The overall benefits of tourism outweigh the negative impacts
Rated on a scale of Strongly Disagree to Strongly Agree

Source: Institute for Tourism and Recreation Research



Travel & Tourism

Resident Attitudes Towards Tourism



Question: If tourism increases in Montana, the overall quality of life for resident will improve
Rated on a scale of Strongly Disagree to Strongly Agree

Source: Institute for Tourism and Recreation Research



Travel & Tourism

Resident Attitudes Towards Tourism



Question: In recent years, the state is becoming overcrowded because of more tourists
Rated on a scale of Strongly Disagree to Strongly Agree

Source: Institute for Tourism and Recreation Research



Travel & Tourism

Moving Forward

Pulling out of the COVID-19 Pandemic



Travel & Tourism

The COVID-19 Vaccine & Travel

49.5% Agree they won't travel until there is a vaccine available

Of parents with children under 18 will vaccinate them **45.2%**

49.6%

Are willing to take the COVID vaccines recently developed

62.4%

believes the recently developed COVID-19 vaccines are safe

58.9%

Feel the recently developed COVID-19 vaccines make them more optimistic about life returning to normal in the next 6 months

Feel the recently developed COVID-19 vaccines make them more optimistic about being able to travel safely in the next 6 months

51.0%

Source: U.S. Travel Association and Destination Analysts

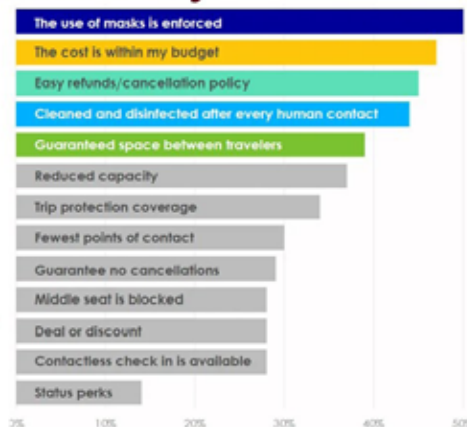


Travel & Tourism

Globally, travelers are eager to travel....safely

Future travel is highly influenced by mask enforcement for travelers globally, followed by costs, refund policies and hygiene practices.

Question: Which of the following play a role in the decision on how you will get to your destination for future travel?



Source: U.S. Travel Association and Expedia Group



Travel & Tourism

Thank You

For all information from the Institute for Tourism and Recreation Research, please see:

itr.umn.edu

jeremy.sage@umontana.edu



Travel & Tourism

2020 Year in Review

Kate Binzen Fuller

George Haynes

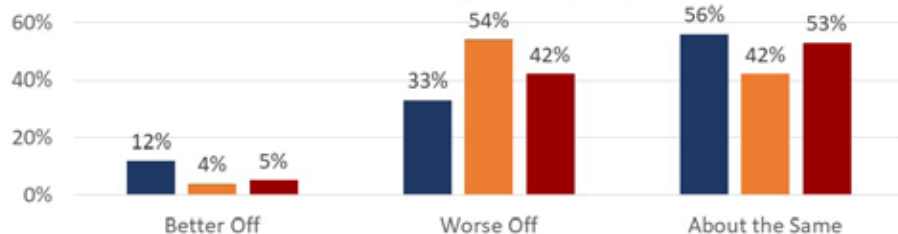
Department of Agricultural Economics & Economics
MSU Extension



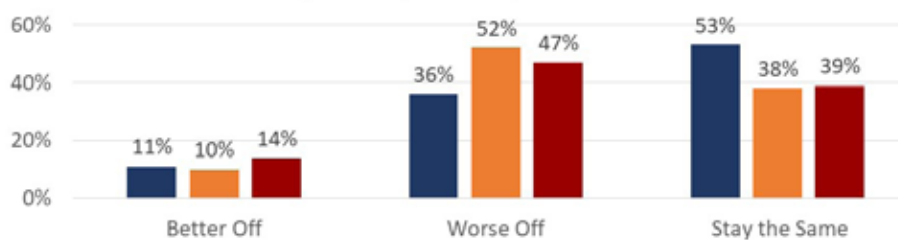
VS



Would you say that your farm operation today is better off, worse off, or about the same compared to a year ago?



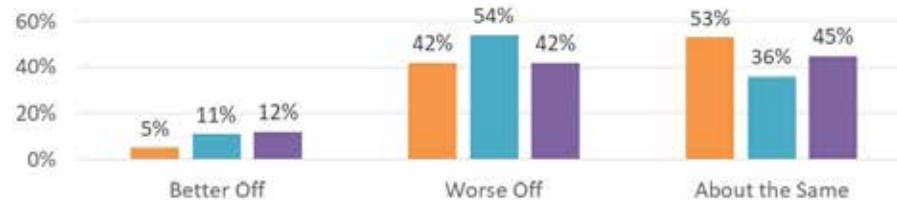
Do you think that a year from now your farm operation will be better off financially, worse off, or will stay the same as now?



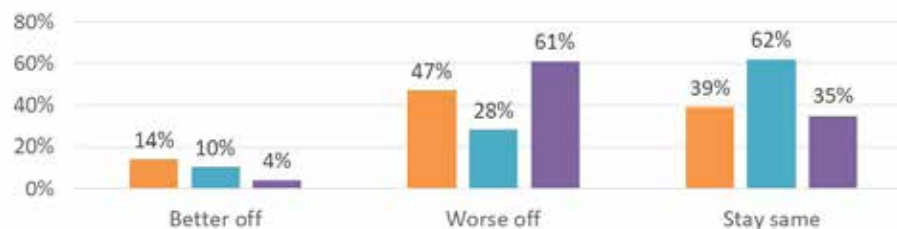
■ 2018 ■ 2019

Source: MWBC Variety Surveys, 2018-2020

Would you say that your farm operation today is better off, worse off or about the same compared to a year ago?



Do you think that a year from now your farm operation will be better off financially, worse off, or about the same as now?

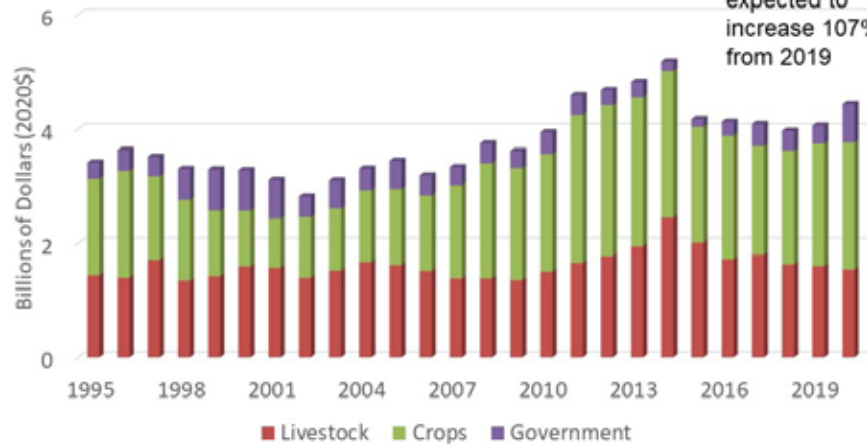


■ Montana ■ February Ag Barometer ■ May Ag Barometer

Montana Cash Receipts (1995 – 2020F)

CFAP1 ~\$175M
CFAP2 ~\$262M

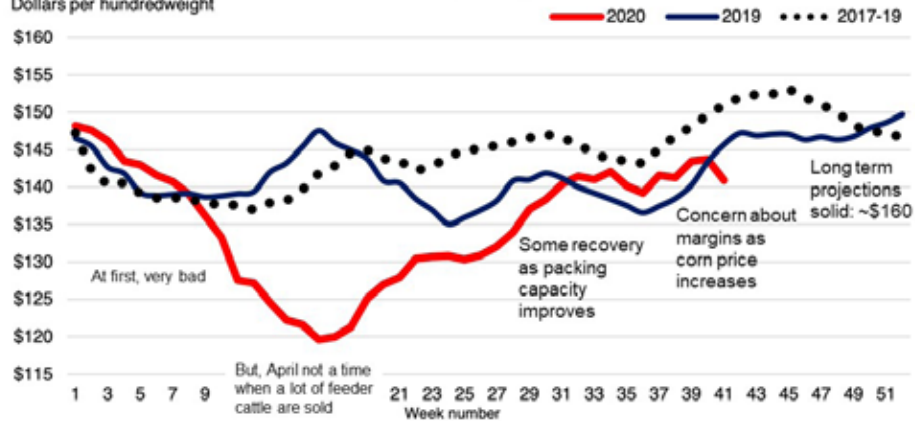
US gov't
payments
expected to
increase 107%
from 2019



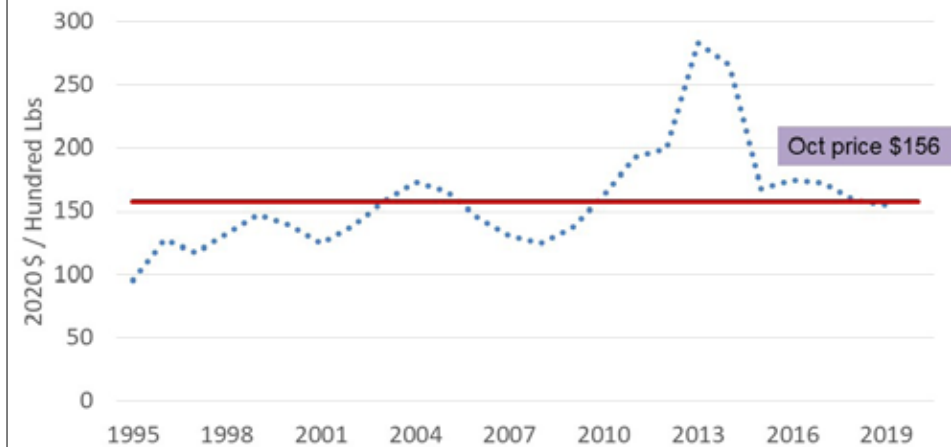
CATTLE

Covid Effects on Cattle Markets

Weekly feeder steer prices on a 4-week moving average
Dollars per hundredweight

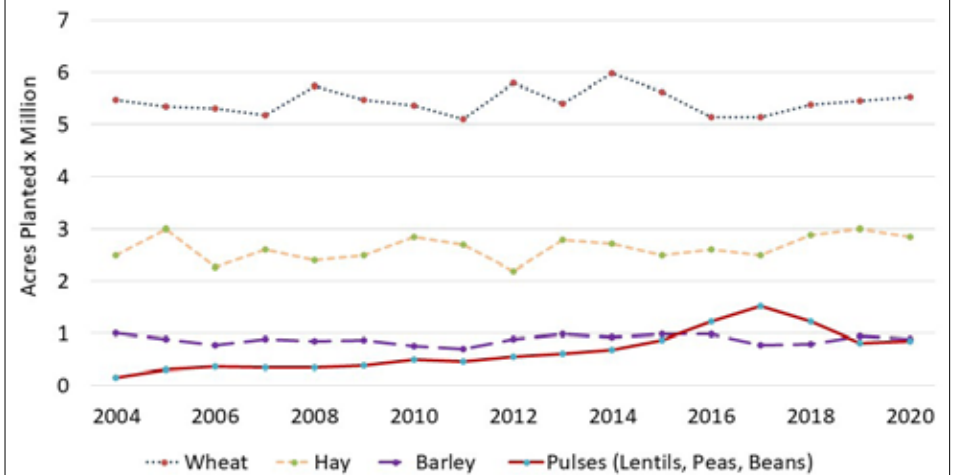


U.S. Average Calf Prices (2020\$)



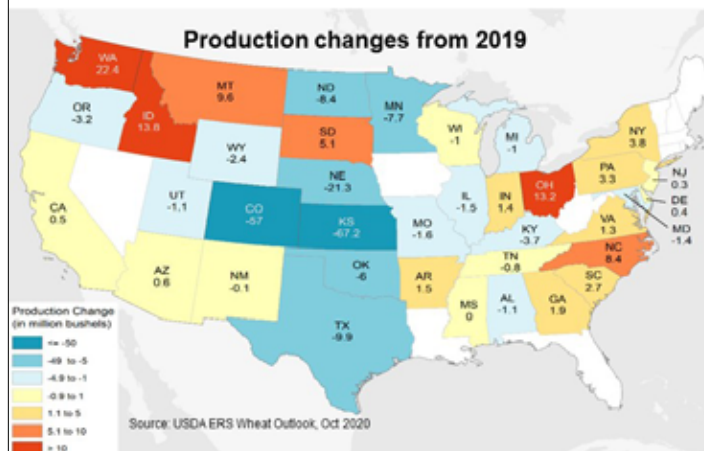
CROPS

Montana Major Crop Acreage



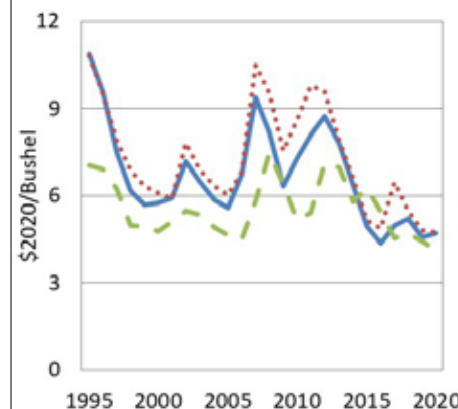
356K organic acres, ~30K in transition
~11K hemp acres

The market for wheat is global...but heavily influenced by domestic happenings



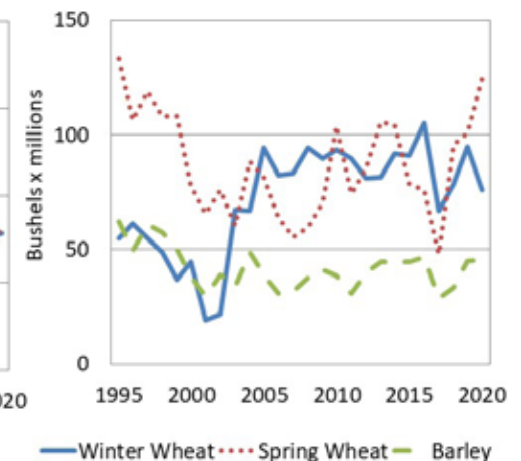
- Global production up, esp. Russia
- Corn, soybean prices improved dramatically in Fall
- Domestic wheat production down overall
- Montana increases: SW, durum
- Product differentiation, quality important!
- Covid effects more muted in grain markets

Montana Grain Prices

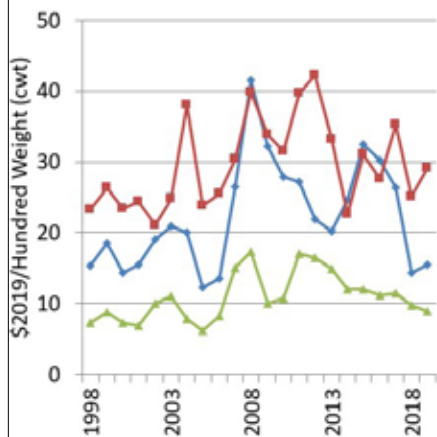


USDA WASDE 2020/21
Predictions:
Wheat \$4.85
USDA Baseline Projections: ~\$5.10

Montana Grain Production

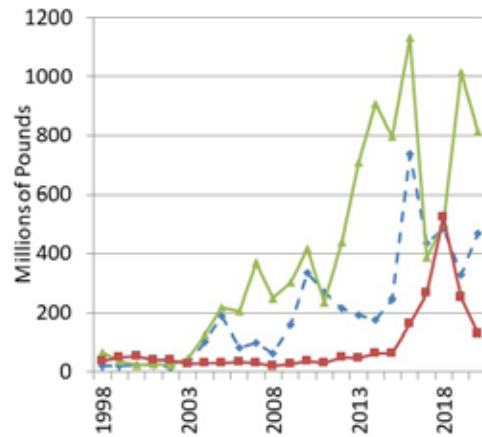


Montana Pulse Prices



Sept 2020 US Prices:
 \$18.60 chickpeas (-)
 \$17.90 lentils (+)
 \$9.10 peas ()

Montana Pulse Production

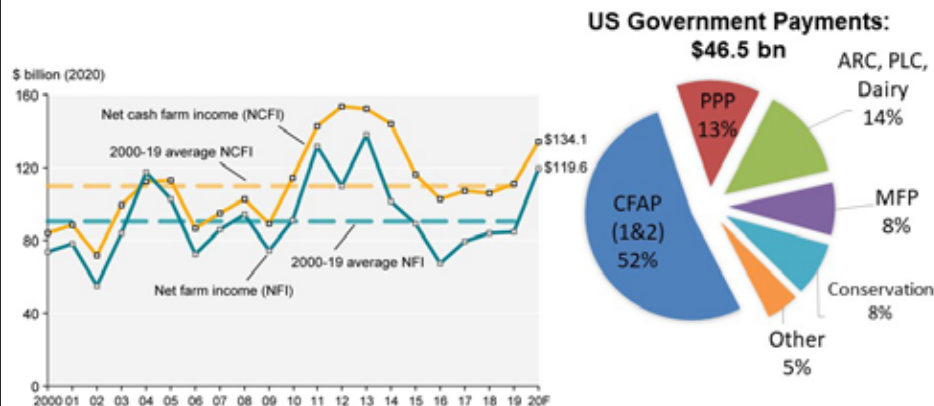


—●— Lentils
 —▲— Dry Edible Peas
 —■— Dry Beans/Chickpeas

Source: NASS Quickstats

TRENDS IN THE GREATER AG ECONOMY

2020: Government Payments = 40% US Net Farm Income

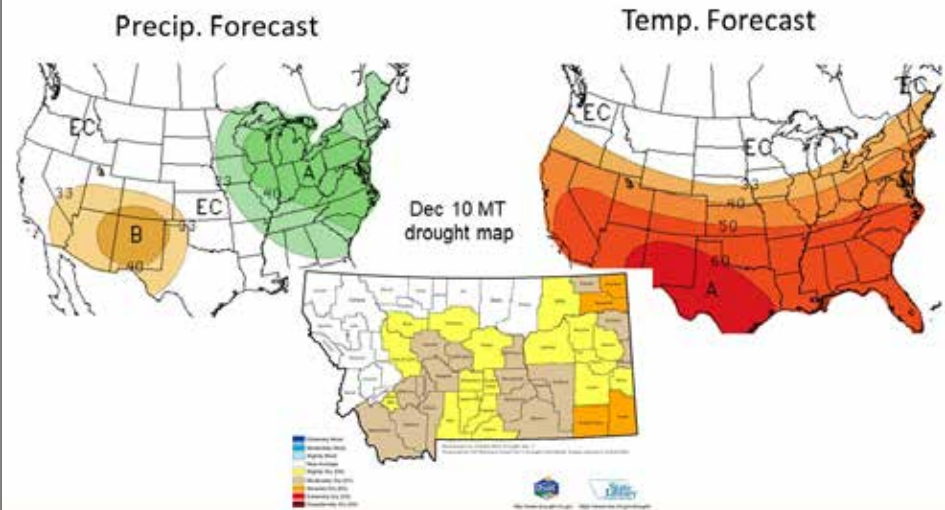


Note: F = forecast. Values are adjusted for inflation using the Gross Domestic Product chain-type price index, 2020=100.
 Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
 Data as of December 2, 2020.

2021 Aid

- \$13bn ag stimulus
- \$11.2bn to direct financial assistance programs (like CFAP)

Production Conditions: Spring (AMJ)



Predictions from 1/12/21 Source: NOAA: www.cpc.ncep.noaa.gov/products/predictions/long_range/

Questions

kate.fuller@montana.edu

Montana Forest Industry Update

2021 Economic Outlook Seminar
February 1, 2021

Todd A. Morgan, CF
Director of Forest Industry Research
University of Montana, Bureau of Business and Economic Research



Montana Forest Industry Update

Forest Industry Research at BBER

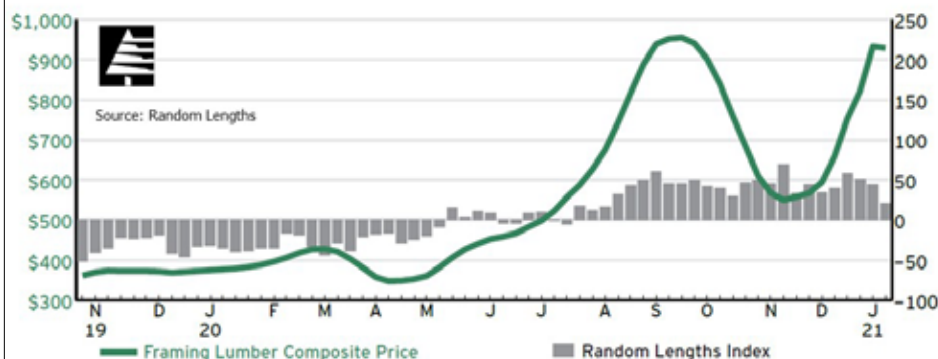
- Mostly for US Forest Service
- Rocky Mountain & Pacific Coast states
- National Forest Regions & WO
- Quarterly & annual Montana reporting
- Various forest economics projects & information requests



Montana Forest Industry Update

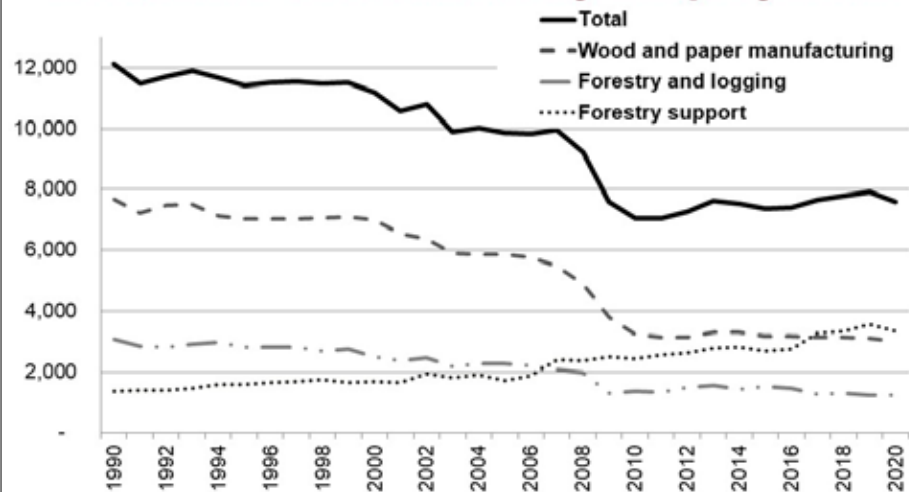
Record High Lumber Prices in 2020

- Repair, remodel, & DIY boosted demand + new housing.
- Post-wildfire rebuilding in CA & OR, mild winter thus far.
- Reduced imports from Canada & COVID-induced supply shortages.



Montana Forest Industry Update

Montana Forest Industry Employment



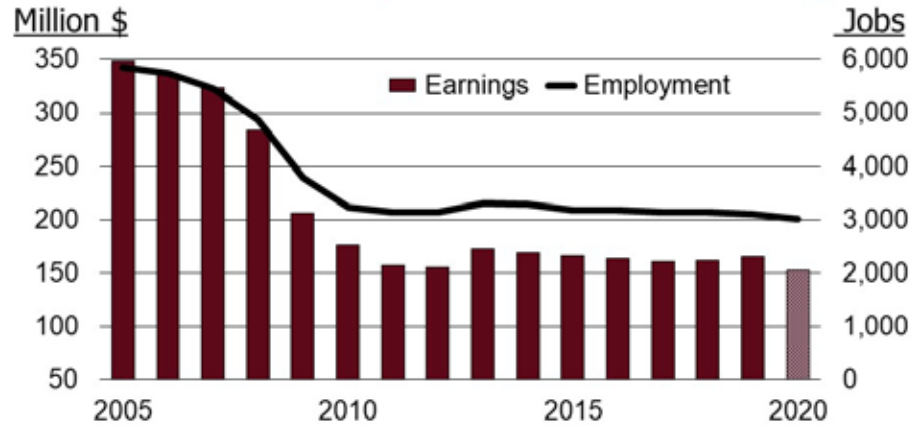
Sources: BEA, BLS-QCEW, BBER.

*2020 Estimated.



Montana Forest Industry Update

Montana Wood & Paper Manufacturing



Sources: Bureau of Economic Analysis, Western Wood Products Association, BBER.

*2020 Estimated.



Montana Forest Industry Update

Montana Forest Industry (Private Sector)

	2004	2010	2020*
Workers (mills & forest)	10,006	7,030	7,641
Earnings (millions)	\$508	\$305	\$347
Primary sales (millions)	\$1,577	\$516	\$607
Lumber production (MMBF)	985	503	428

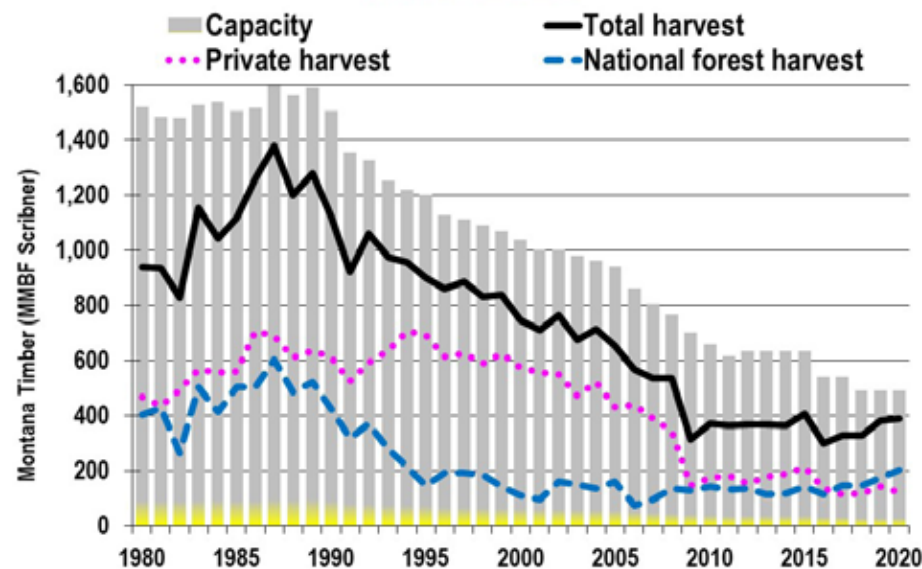
Sources: Bureau of Economic Analysis, Western Wood Products Association, BBER.

*2020 estimated

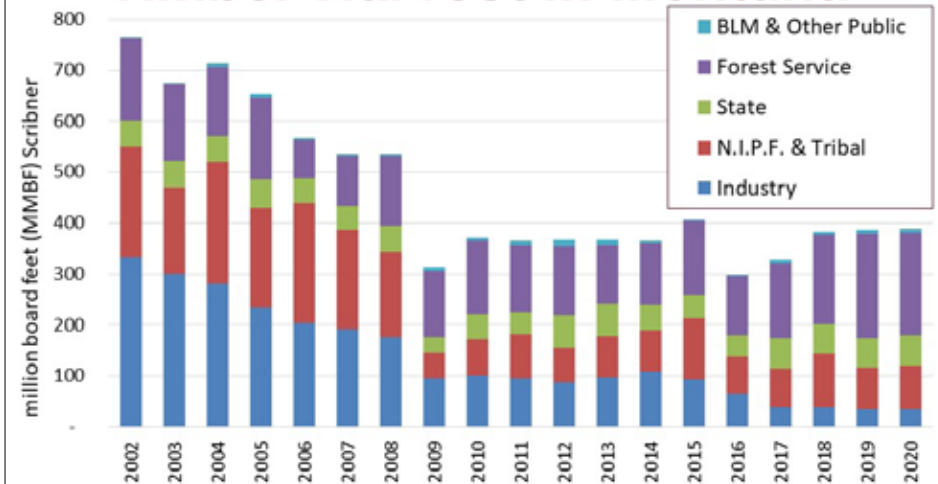


Montana Forest Industry Update

Montana Timber Capacity & Harvest, 1980-2020



Timber Harvest in Montana



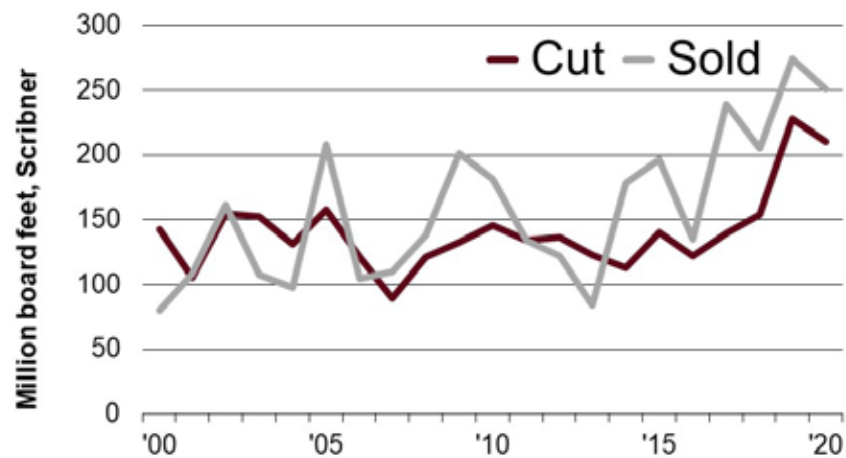
Sources: DNRC, USDA Forest Service, BBER.

* 2020 estimated



Montana Forest Industry Update

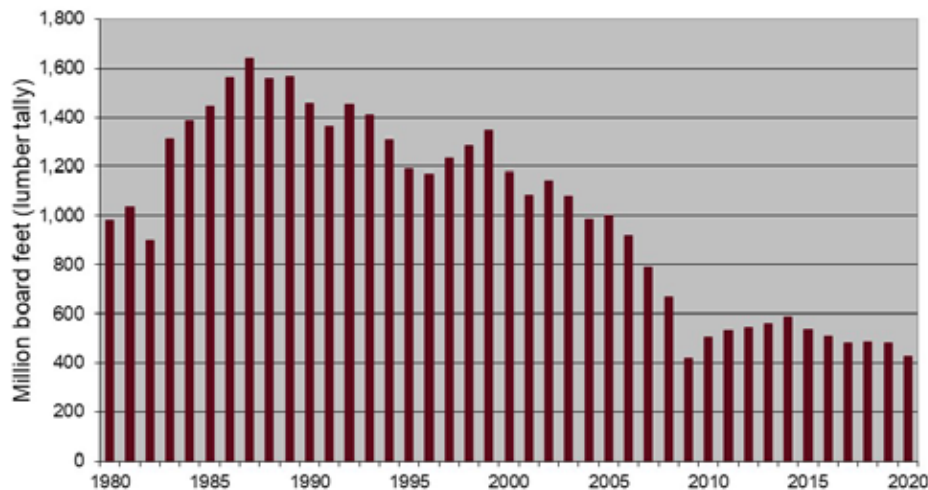
National Forest Timber in Montana



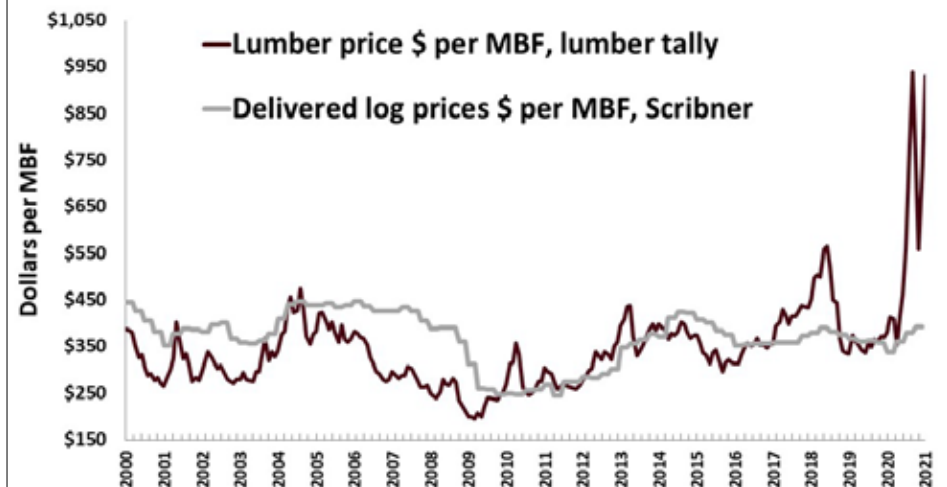
Issues impacting Montana forest owners and wood products in 2021

- Broader US economy
- Homebuilding & remodeling
- Overseas & CAN imports
- Land ownership changes
- Forestland property tax
- Good Neighbor Authority (GNA) & other public lands projects
- Labor & log supply

Montana Lumber Production

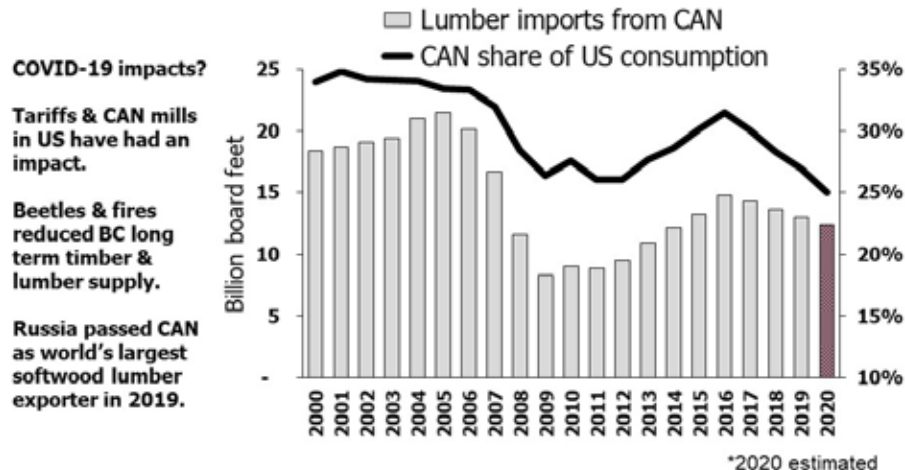


Lumber vs. Log Prices



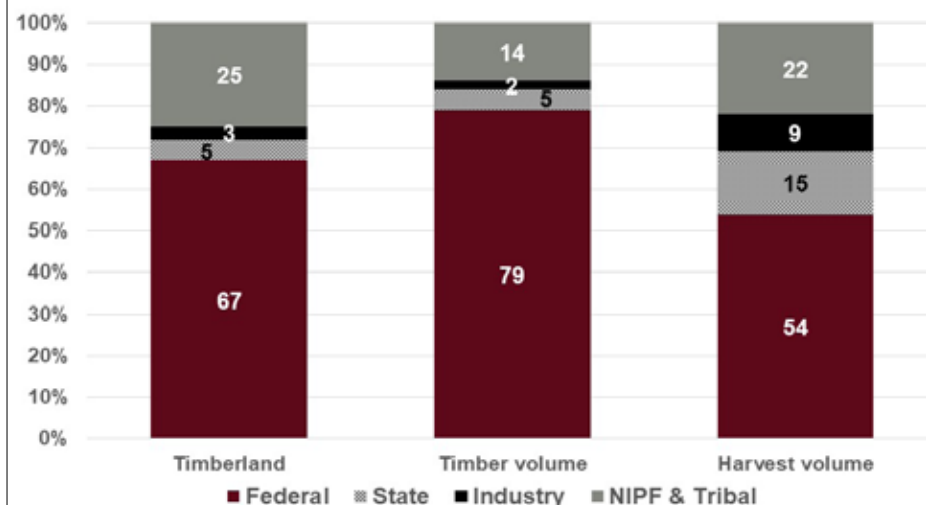
Canadian Lumber

Volume & share of US market declining for 4 years



Montana Forest Industry Update

Montana Timberland



Montana Forest Industry Update

Changing Industrial Timberland Ownership



Montana Forest Industry Update

Montana Forest Land Property Tax

- "Class 10" Forest land
- 14.6 million acres
- Valued every 6 years
- Based on productivity
- Stumpage value
- 4 Zones



2015 Forest Valuation Zones



$$\text{Net Income per Acre} = (\text{Productivity} \times \text{Stumpage Value}) + \text{Income} - \text{Costs}$$



Montana Forest Industry Update

Thank you!

todd.morgan@business.umt.edu
www.BBER.umt.edu/FIR



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Montana Forest Industry Update

High-tech & Startups

Christina Henderson,
Executive Director



MTHighTech.org

2021 Outlook for Montana High-tech

- Holding Steady
- Poised for Fast Comeback
- Adapting to Remote Work



Surveying Montana high-tech firms since 2014.

What is high-tech?

Make or sell high-tech products

Professional services related to tech

E-commerce

Advanced manufacturing



Montana's high-tech sector 2020



More than \$2.5 billion in annual revenue



Growing 9x the Montana economy



Pays 2x the median wage, \$65,000+



600+ firms

Top Montana Tech Subsectors



Software



Consulting



Professional Services



Manufacturing

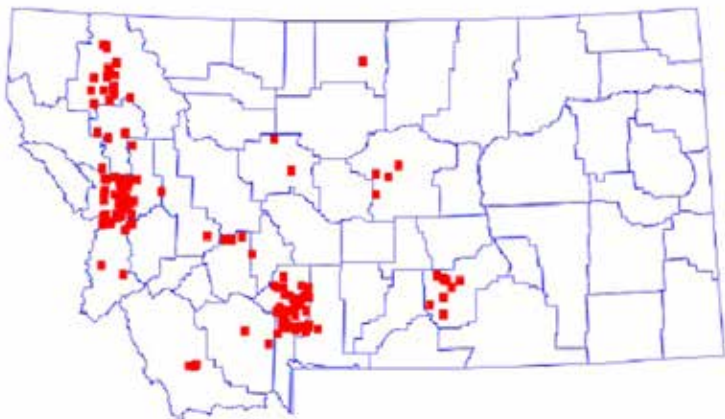


Marketing



Telecommunications

Locations of High-Tech & Manufacturing Firms



Impact of COVID-19

- Sudden downturn in Q2, layoffs
- Jobs rebounding in Q4 2020
- Acceleration of technology adoption



Ascent Vision Technologies, Bozeman

- Counter-drone technology & aerial surveillance
- Acquired by CACI International \$350M
- 60 Employees in Montana, HQ will stay in Bozeman



Inimmune, Missoula

- Therapeutics company addressing COVID
- \$22M Series A investment from Two Bear Capital
- \$30M+ in recent NIH grants and contracts



Biotech

- Vaccines & Testing
- Genomic Data Analysis
- Telemedicine

Three Trends

1. Rise of Remote Work

2. Emerging Zoom Towns

3. Changing Career Pathways



1. Rise of Remote Work

- Change in office use
- Influx of tech workers with jobs
- Requires good broadband



2. Emerging Zoom Towns

- Rising cost of real estate in tech hubs – Bozeman, Missoula
- Some in-state migration to more affordable towns
- Opportunity to distribute tech growth across Montana, including rural and tribal communities

Rural Brain Gain

- Census data shows high school grads often leave rural areas for college or jobs in cities.
- Many come back in their 30s and 40s.
- They bring college degrees, work experience, professional contacts, spending power, and children.
- People migrate to rural communities for 1) a simpler life, 2) safety and security, 3) affordable housing, 4) outdoor recreation, and 5) quality schools.

Source: Ben Winchester, University of Minnesota Extension, "A rural brain gain migration"



3. Changing Career Pathways

- Skilled workforce #1 concern for tech businesses
- Education shifting to address needs
- Need both Liberal Arts + STEM skills

Job Titles Most Often Hired

- Software Developer 22.3%
- Engineer 5.5%
- PR & Fundraising Manager 4.7%
- Sales & Business Development 4.3%

Top Skills in New Hires

- Coding, Programming 11%
- Communication Skills 9%
- Technical Skill 6%
- Ability to Learn, Trainable 6%
- General Soft Skills 5% (emotional intelligence, teamwork, etc.)
- Sales or Marketing 5%

Top Skills to Improve in Existing Workforce

- Sales or Marketing 16.7%
- Business Management or Project Management 11.5%
- Coding, Programming 9.8%
- Technical Skills 8.6%
- Communication Skills 4.6%
- General Soft Skills 4.0%

Christina Henderson

Executive Director

director@mthightech.org



@MontanaHighTech



**MONTANA
HIGH TECH**
BUSINESS ALLIANCE

<https://jobs.mthightech.org>

The Outlook for Real Estate and Construction

Brandon Bridge
Economist and Director of Forecasting
Bureau of Business and Economic Research
University of Montana



Real Estate and Construction

Seller's Market Booms

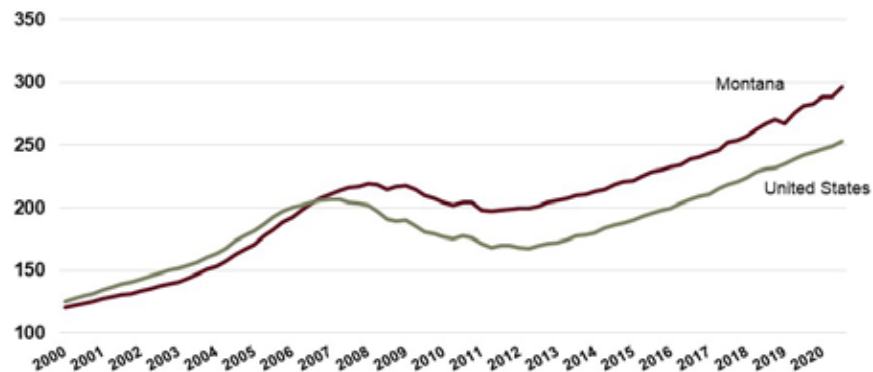
- Strong volumes nationally
- Steady price increases
- Tight Inventories
- Fast moving
- Local markets booming
- Bifurcated market entrenches
- Affordability getting worse
- 2020 economic uncertainty



Real Estate and Construction

Strong Housing Price Growth Since 2011

FHFA Housing Price Index, U.S., 1995=100

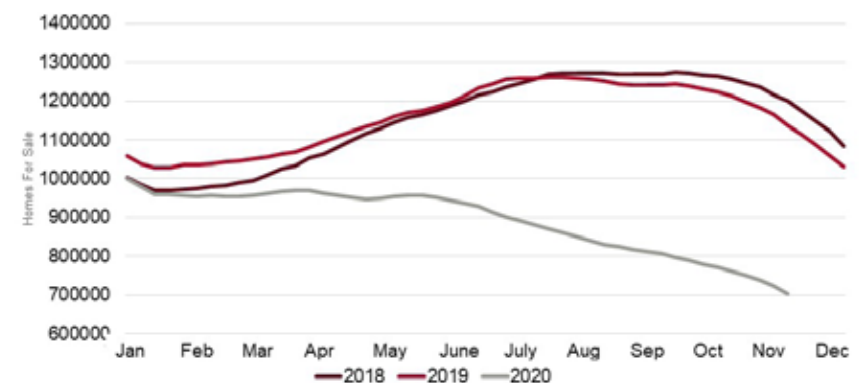


Source: Federal Housing Finance Agency



Real Estate and Construction

Tight Inventories U.S.

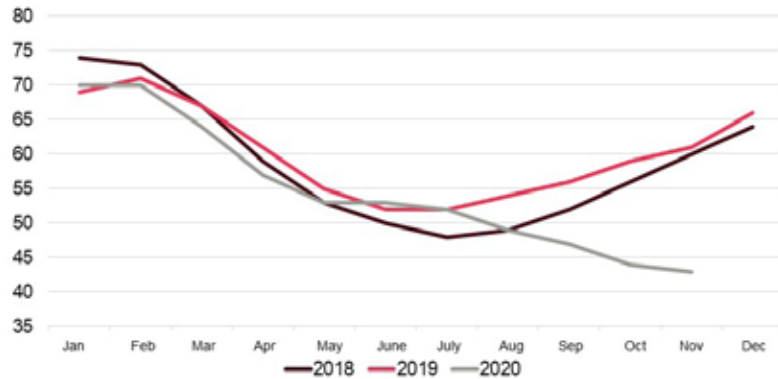


Source: Zillow Real Estate Research



Real Estate and Construction

Days to Pending Sale U.S.



Source: Zillow Real Estate Research

Markets Booming

Cascade County Market Statistics for Single Family Homes



Source: Great Falls Association of Realtors.



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Markets Booming

Flathead County Market Statistics for Single Family Homes



Source: Montana Regional MLS.



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Market Booming

Gallatin County Market Statistics for Single Family Homes



Source: Gallatin Association of Realtors.



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Markets Booming

Lewis & Clark County Market Statistics for Single Family Homes



Source: Montana Regional MLS.



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Markets Booming

Missoula County Market Statistics for Single Family Homes



Source: Montana Regional MLS.



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Markets Booming

Ravalli County Market Statistics for Single Family Homes



Source: Montana Regional MLS.

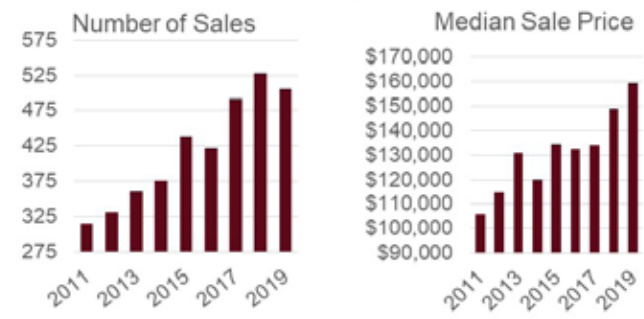


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Markets Looking Healthier

Silver Bow County Market Statistics



Source: Montana Department of Revenue.



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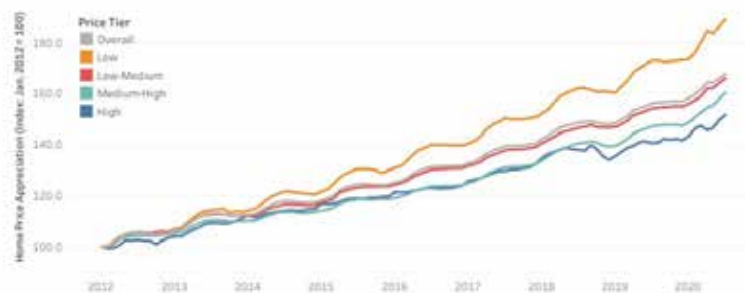
Real Estate and Construction

Markets Booming

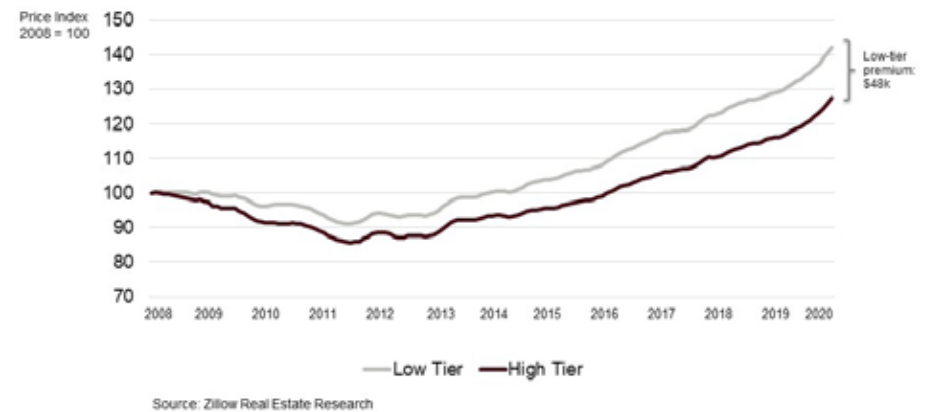


AFFORDABILITY

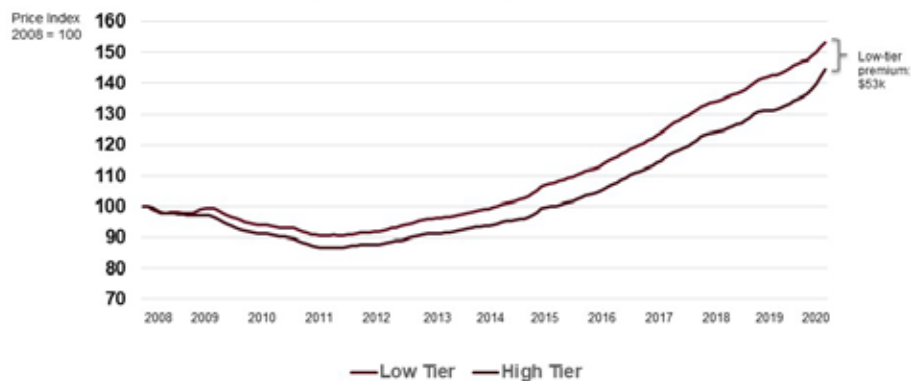
National Price Growth Not Evenly Distributed Across Price Tiers



Missoula County HPI Since 2008 by Market Segment



Gallatin County HPI Since 2008 by Market Segment



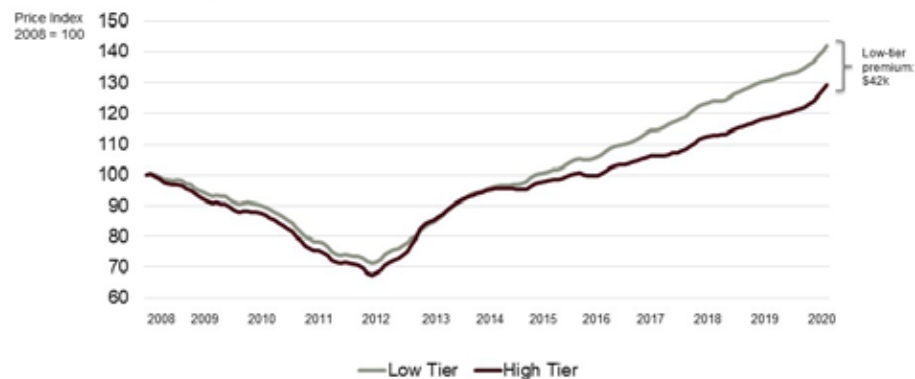
Source: Zillow Real Estate Research



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Real Estate and Construction

Flathead County HPI Since 2011 by Market Segment



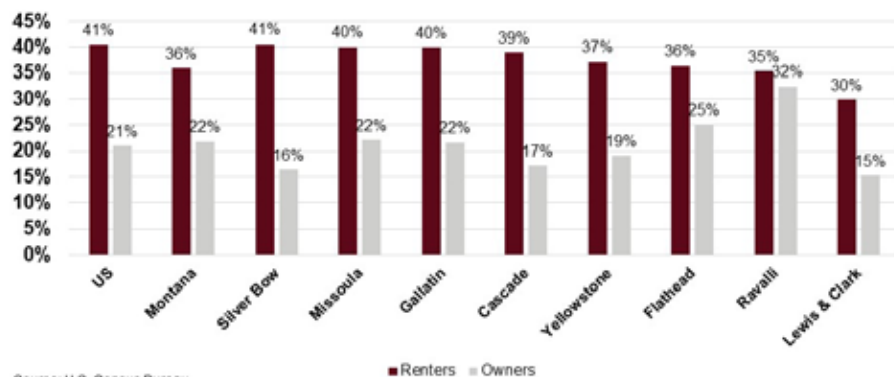
Source: Zillow Real Estate Research



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Real Estate and Construction

Percent of Households That Are Cost Burdened



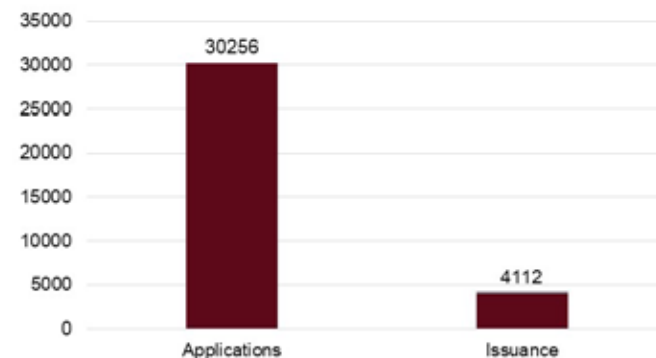
Source: U.S. Census Bureau.



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Montana Housing Choice Vouchers Since 2016



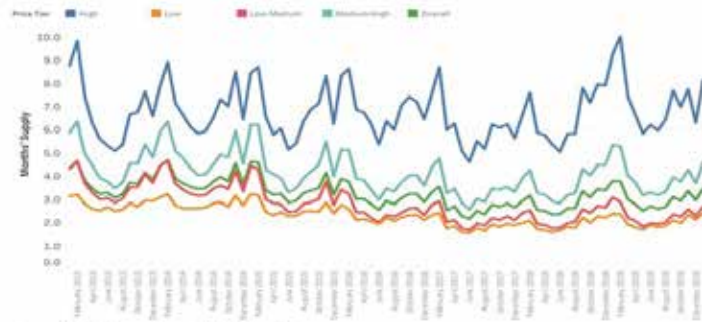
Source: MontanaHousing



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Real Estate and Construction

Months Supply of Homes by Market Segment: US Time Series



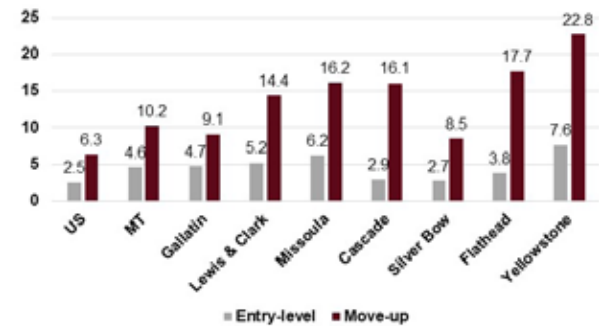
Source: AEI Center on Housing Markets and Finance



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Months Supply of Homes by Market Segment



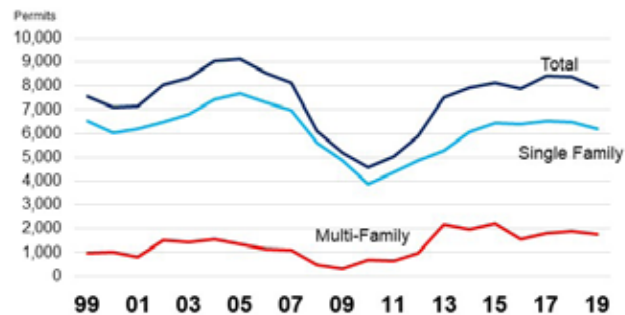
Source: American Enterprise Institute



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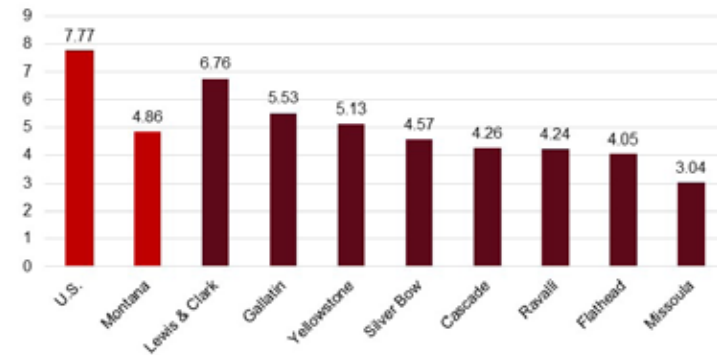
New Home Construction Trending Down
Housing Permits, Montana



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FHA Loans: Percent Seriously Delinquent



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Real Estate and Construction

Looking Ahead to 2020

- Interest rates will stay low
- Real estate risk may increase
- Remote work will continue to spur Montana housing markets
- Affordability will get worse



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Real Estate and Construction

The Economic Outlook for Cascade County

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Cascade Outlook

Cascade County Profile

Indicator	Value	State Rank
Total Population, 2019	81,366	5
Percent change since 2010	0.0%	32
Median age	38.3	48
Percent Aged 65 or Older	18.3%	
Percent with Bachelors Degree or Higher (Age 25+)	25.7%	21
Percent without Health Insurance Coverage, 2018	9.3%	46

Source: U.S. Census Bureau



Cascade Outlook

Cascade County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$50,737	11
Construction	\$61,874	8
Manufacturing	\$67,645	2
Retail Trade	\$33,909	16
Transportation and Warehousing	\$61,714	20
Information	\$55,033	10

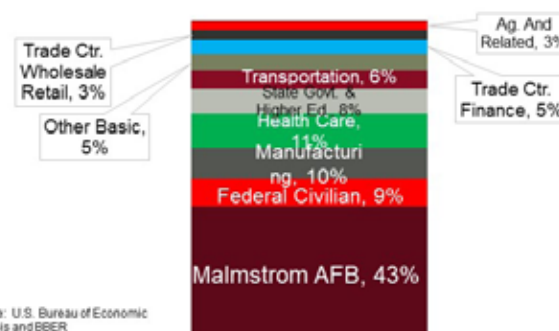
Source: U.S. Bureau of Economic Analysis



Cascade Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Cascade County

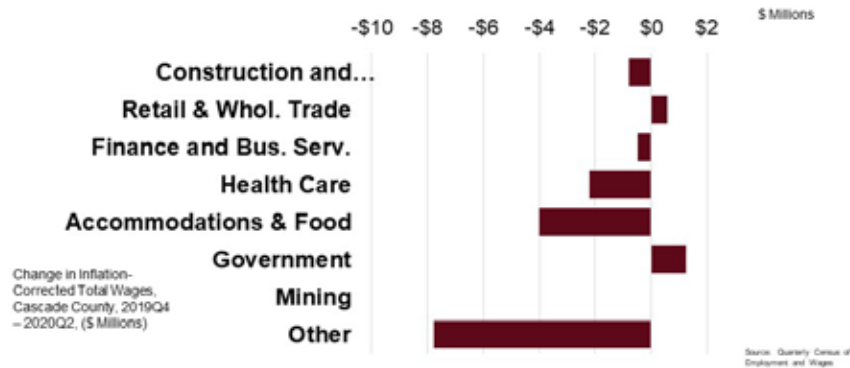


Source: U.S. Bureau of Economic Analysis and BBER



Cascade Outlook

Covid-19 Declines in Wages Were Broad-Based



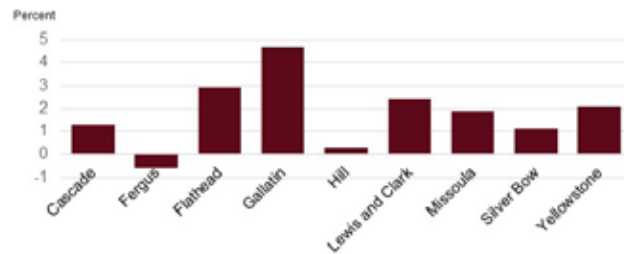
Cascade County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Gallatin County Expected to Pace Growth

Average Growth in Nonfarm Earnings, 2022-24, Percent per Year



The Economic Outlook for Eastern Montana

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Eastern Montana Outlook

Richland County Profile

Indicator	Value	State Rank
Total Population, 2019	10,103	20
Percent change since 2010	10.8%	5
Median age	38.6	46
Percent Aged 65 or Older	14.7%	
Percent with Bachelors Degree or Higher (Age 25+)	18.9%	45
Percent without Health Insurance Coverage, 2018	10.1%	40

Source: U.S. Census Bureau



Eastern Montana Outlook

Richland County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$58,937	3
Construction	\$70,607	3
Manufacturing	\$53,497	8
Retail Trade	\$37,927	10
Mining	\$109,200	6
Transportation and Warehousing	\$88,480	7

Source: U.S. Bureau of Economic Analysis



Eastern Montana Outlook

Custer County Profile

Indicator	Value	State Rank
Total Population, 2019	11,402	17
Percent change since 2010	-2.5%	41
Median age	41.4	39
Percent Aged 65 or Older	19.1%	
Percent with Bachelors Degree or Higher (Age 25+)	24.6%	27
Percent without Health Insurance Coverage, 2018	9.3%	47

Source: U.S. Census Bureau



Eastern Montana Outlook

Custer County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$44,931	18
Construction	\$61,852	9
Manufacturing	\$29,000	23
Retail Trade	\$45,256	5
Mining	\$47,148	13
Information	\$33,951	23

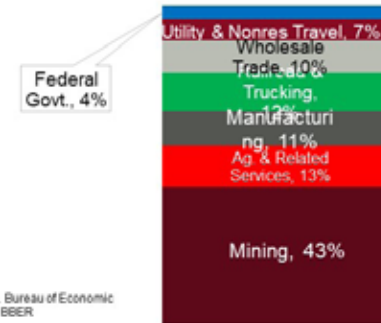
Source: U.S. Bureau of Economic Analysis



Eastern Montana Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Richland County



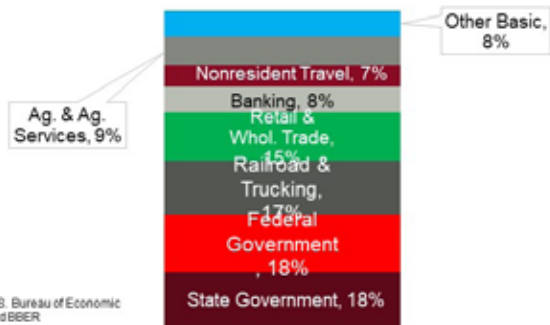
Source: U.S. Bureau of Economic Analysis and BBER



Eastern Montana Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Custer County



Source: U.S. Bureau of Economic Analysis and BBER



Eastern Montana Outlook

Oil Collapse Dominated Richland County's Covid-19 Declines



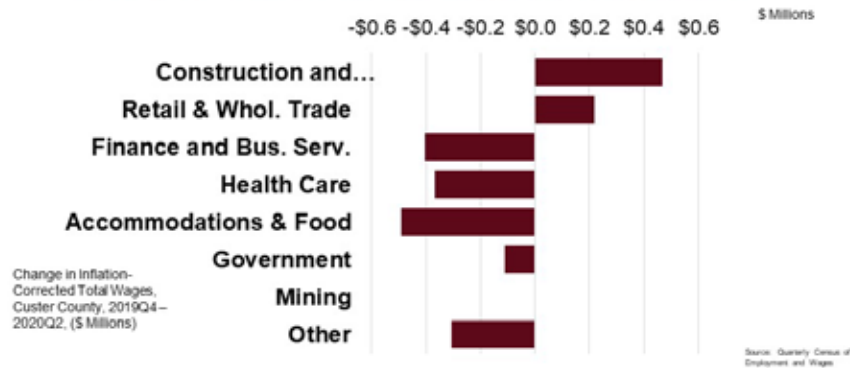
Change in Inflation-Corrected Total Wages, Richland County, 2019Q4 - 2020Q2. (\$ Millions)

Source: Quarterly Census of Employment and Wages



Eastern Montana Outlook

Covid-19 Declines in Custer County Were Mixed



Eastern Montana Outlook

Richland County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



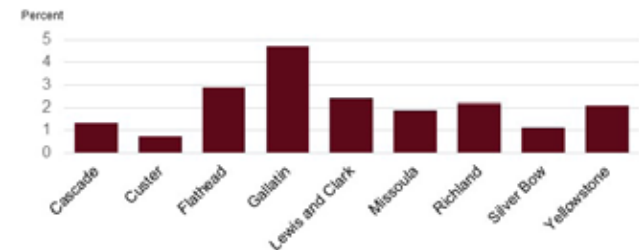
Custer County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Gallatin County Expected to Pace Growth

Average Growth in Nonfarm Earnings, 2022-24, Percent per Year



Eastern Montana Outlook

The Economic Outlook for Flathead County

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Flathead Outlook

Flathead County Profile

Indicator	Value	State Rank
Total Population, 2019	103,806	4
Percent change since 2010	14.2%	2
Median age	42.2	37
Percent Aged 65 or Older	12.2%	
Percent with Bachelors Degree or Higher (Age 25+)	31.0%	10
Percent without Health Insurance Coverage, 2018	9.8%	42

Source: U.S. Census Bureau



Flathead Outlook

Gallatin County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$44,333	20
Construction	\$48,502	23
Manufacturing	\$56,852	6
Retail Trade	\$33,416	17
Mining	\$37,341	21
Information	\$43,560	19

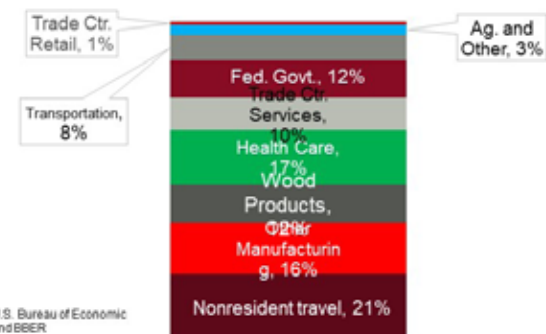
Source: U.S. Bureau of Economic Analysis



Flathead Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Flathead County

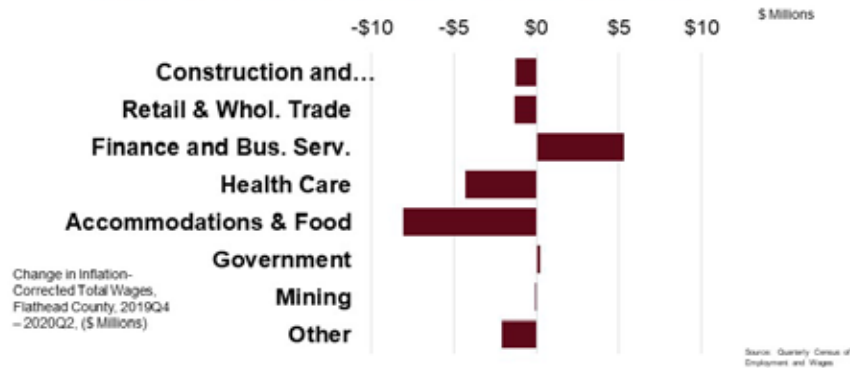


Source: U.S. Bureau of Economic Analysis and BBER



Flathead Outlook

Covid-19 Declines in Wages Were Broad-Based



Flathead County's Recession Experience

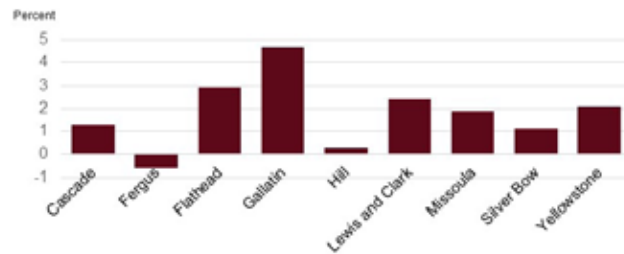
Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Source: BLS Market

Gallatin County Expected to Pace Growth

Average Growth in Nonfarm Earnings, 2022-24, Percent per Year



Source: Bureau of Business and Economic Research

The Economic Outlook for Gallatin County

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Gallatin Outlook

Gallatin County Profile

Indicator	Value	State Rank
Total Population, 2019	114,434	3
Percent change since 2010	27.8%	1
Median age	33.4	53
Percent Aged 65 or Older	12.2%	
Percent with Bachelors Degree or Higher (Age 25+)	50.1%	1
Percent without Health Insurance Coverage, 2018	8.6%	52

Source: U.S. Census Bureau



Gallatin Outlook

Gallatin County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$49,345	12
Construction	\$68,434	4
Manufacturing	\$55,729	7
Retail Trade	\$54,008	3
Forestry, Fishing and Related	\$23,565	11
Information	\$61,739	3

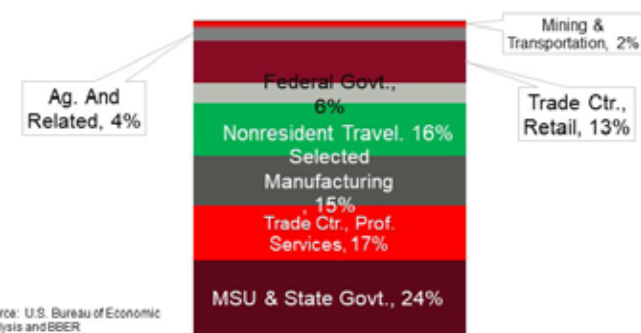
Source: U.S. Bureau of Economic Analysis



Gallatin Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Gallatin County

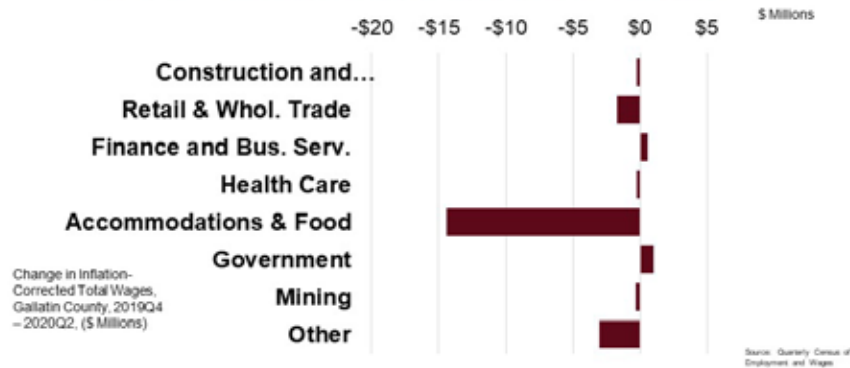


Source: U.S. Bureau of Economic Analysis and BBER



Gallatin Outlook

Covid-19 Declines in Wages Were Unequal



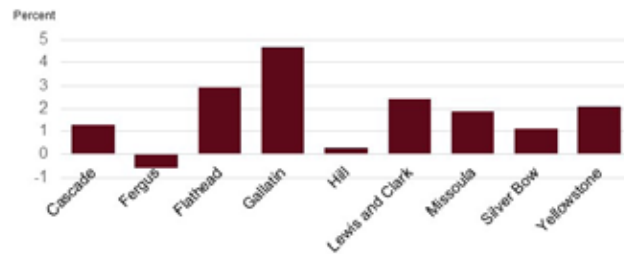
Gallatin County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Gallatin County Expected to Pace Growth

Average Growth in Nonfarm Earnings, 2022-24, Percent per Year



The Economic Outlook for Hill and Fergus Counties

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Hill and Fergus Outlook

Hill County Profile

Indicator	Value	State Rank
Total Population, 2019	16,484	12
Percent change since 2010	2.4%	24
Median age	34.3	51
Percent Aged 65 or Older	14.5%	
Percent with Bachelors Degree or Higher (Age 25+)	25.4%	22
Percent without Health Insurance Coverage, 2018	12.1%	25

Source: U.S. Census Bureau



Hill and Fergus Outlook

Hill County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$48,535	13
Construction	\$54,266	17
Manufacturing	\$21,000	31
Retail Trade	\$32,837	18
Information	\$74,103	1
Transportation and Warehousing	\$110,421	4

Source: U.S. Bureau of Economic Analysis



Hill and Fergus Outlook

Fergus County Profile

Indicator	Value	State Rank
Total Population, 2019	11,050	18
Percent change since 2010	-4.6%	51
Median age	45.3	31
Percent Aged 65 or Older	23.2%	
Percent with Bachelors Degree or Higher (Age 25+)	29.1%	14
Percent without Health Insurance Coverage, 2018	12.7%	20

Source: U.S. Census Bureau



Hill and Fergus Outlook

Fergus County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$39,651	31
Construction	\$74,792	1
Manufacturing	\$53,040	9
Retail Trade	\$30,435	26
Proprietors Income	\$16,686	36
Information	\$31,129	28

Source: U.S. Bureau of Economic Analysis

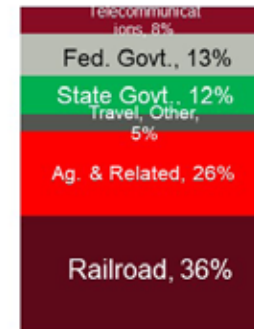


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Hill and Fergus Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Hill County



Source: U.S. Bureau of Economic Analysis and BBER

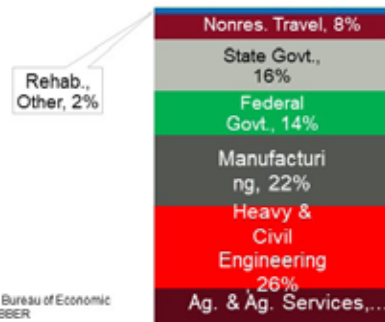


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Hill and Fergus Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Fergus County



Source: U.S. Bureau of Economic Analysis and BBER



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Hill and Fergus Outlook

Hill County Covid-19 Declines Concentrated in Hotels and Restaurants



Change in Inflation-Corrected Total Wages,
Hill County, 2019Q4 – 2020Q2, (\$ Millions)

Source: Quarterly Census of Employment and Wages



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Hill and Fergus Outlook

Covid-19 Declines in Wages Were Broad-Based in Fergus County



Hill and Fergus Outlook

Hill County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



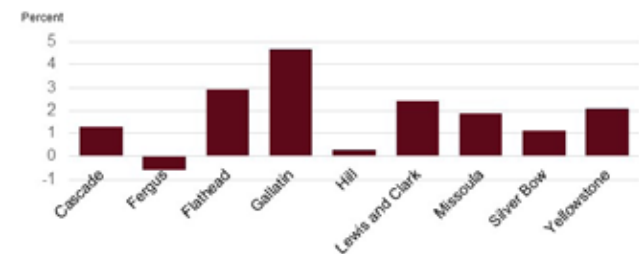
Fergus County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Gallatin County Expected to Pace Growth

Average Growth in Nonfarm Earnings, 2022-24, Percent per Year



Hill and Fergus Outlook

The Economic Outlook for Lewis and Clark County

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Lewis and Clark Outlook

Lewis and Clark County Profile

Indicator	Value	State Rank
Total Population, 2019	69,432	6
Percent change since 2010	9.5%	7
Median age	40.8	42
Percent Aged 65 or Older	18.0%	
Percent with Bachelors Degree or Higher (Age 25+)	40.1%	3
Percent without Health Insurance Coverage, 2018	7.9%	54

Source: U.S. Census Bureau



Lewis and Clark Outlook

Lewis and Clark County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$51,685	10
Construction	\$56,479	14
Manufacturing	\$58,971	5
Retail Trade	\$30,798	24
Transportation and Warehousing	\$56,879	21
Information	\$59,868	8

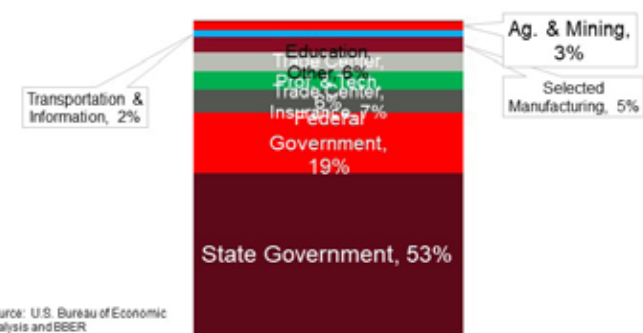
Source: U.S. Bureau of Economic Analysis



Lewis and Clark Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Lewis and Clark County

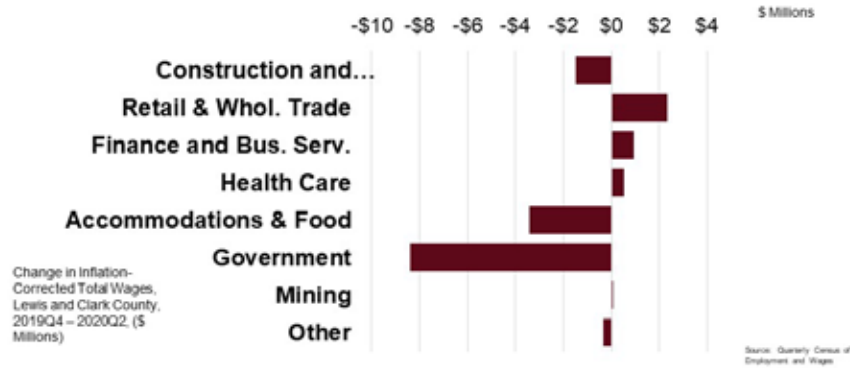


Source: U.S. Bureau of Economic Analysis and BBER



Lewis and Clark Outlook

Government Declines Dominated Covid-19 Downturn



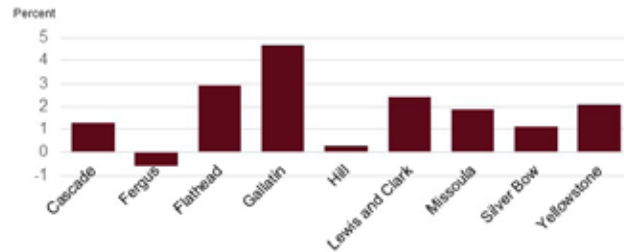
Lewis and Clark County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Gallatin County Expected to Pace Growth

Average Growth in Nonfarm Earnings, 2022-24, Percent per Year



The Economic Outlook for Missoula and Ravalli Counties

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Missoula Outlook

Missoula County Profile

Indicator	Value	State Rank
Total Population, 2019	119,600	2
Percent change since 2010	9.4%	8
Median age	36.0	50
Percent Aged 65 or Older	15.0%	
Percent with Bachelors Degree or Higher (Age 25+)	43.0%	2
Percent without Health Insurance Coverage, 2018	9.0%	49

Source: U.S. Census Bureau



Missoula Outlook

Missoula County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$47,844	15
Construction	\$61,749	11
Manufacturing	\$46,002	12
Retail Trade	\$37,900	11
Forestry, Fishing and related	\$46,871	2
Information	\$61,247	5

Source: U.S. Bureau of Economic Analysis



Missoula Outlook

Ravalli County Profile

Indicator	Value	State Rank
Total Population, 2019	43,806	7
Percent change since 2010	8.9%	10
Median age	49.1	15
Percent Aged 65 or Older	25.1%	
Percent with Bachelors Degree or Higher (Age 25+)	27.8%	17
Percent without Health Insurance Coverage, 2018	14.2%	15

Source: U.S. Census Bureau



Missoula Outlook

Ravalli County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$34,836	41
Construction	\$42,807	30
Manufacturing	\$36,169	15
Retail Trade	\$26,105	34
Transportation and Warehousing	\$61,806	19

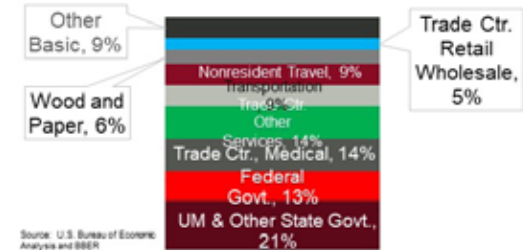
Source: U.S. Bureau of Economic Analysis



Missoula Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Missoula County



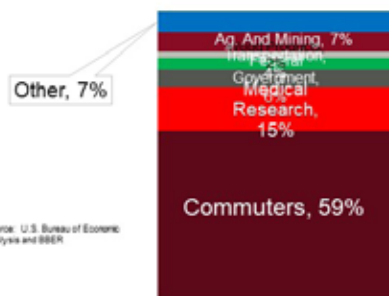
Source: U.S. Bureau of Economic Analysis and BBER



Missoula Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Ravalli County



Source: U.S. Bureau of Economic Analysis and BBER



Missoula Outlook

Covid-19 Declines in Wages Were Mixed



Change in Inflation-Corrected Total Wages, Missoula County, 2019Q4 – 2020Q2. (\$ Millions)

Source: Quarterly Census of Employment and Wages



Missoula Outlook

Missoula County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Source: IHS Markit

Ravalli County's Recession Experience

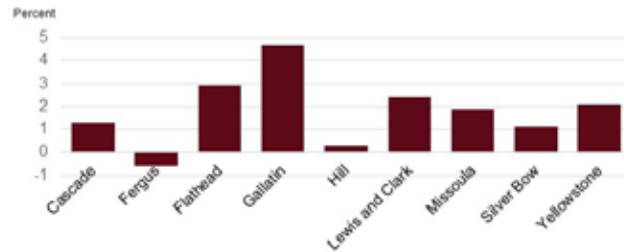
Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Source: IHS Markit

Gallatin County Expected to Pace Growth

Average Growth in Nonfarm Earnings, 2022-24, Percent per Year



Source: Bureau of Business and Economic Research

The Economic Outlook for Silver Bow County

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Silver Bow Outlook

Silver Bow County Profile

Indicator	Value	State Rank
Total Population, 2019	34,915	8
Percent change since 2010	2.1%	27
Median age	40.0	44
Percent Aged 65 or Older	18.7%	
Percent with Bachelors Degree or Higher (Age 25+)	27.2%	18
Percent without Health Insurance Coverage, 2018	9.4%	45

Source: U.S. Census Bureau



Silver Bow Outlook

Silver Bow County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$54,728	8
Construction	\$49,296	21
Manufacturing	\$64,475	3
Retail Trade	\$54,629	2
Proprietors Income	\$56,940	4
Information	\$43,109	21

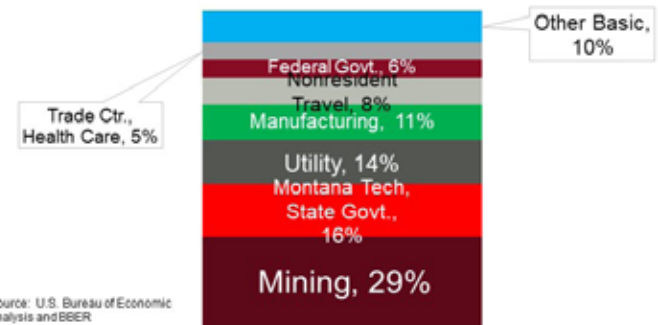
Source: U.S. Bureau of Economic Analysis



Silver Bow Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Silver Bow County



Source: U.S. Bureau of Economic Analysis and BBER



Silver Bow Outlook

Covid-19 Declines in Wages Were Broad-Based



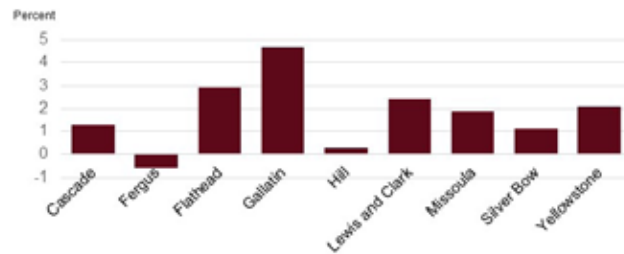
Silver Bow County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Gallatin County Expected to Pace Growth

Average Growth in Nonfarm Earnings, 2022-24, Percent per Year



The Economic Outlook for Yellowstone County

Patrick M. Barkey, Director
Bureau of Business and Economic Research
University of Montana



Yellowstone Outlook

Yellowstone County Profile

Indicator	Value	State Rank
Total Population, 2019	161,300	1
Percent change since 2010	9.0%	9
Median age	38.4	47
Percent Aged 65 or Older	16.5%	
Percent with Bachelors Degree or Higher (Age 25+)	32.1%	7
Percent without Health Insurance Coverage, 2018	8.1%	53

Source: U.S. Census Bureau



Yellowstone Outlook

Yellowstone County Profile

Indicator	Value	State Rank
Earnings per Job, 2019	\$56,008	7
Construction	\$66,145	6
Manufacturing	\$97,428	1
Retail Trade	\$35,129	13
Transportation and Warehousing	\$65,772	15
Information	\$60,300	6

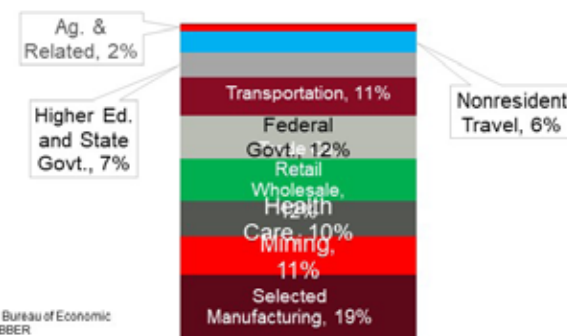
Source: U.S. Bureau of Economic Analysis



Yellowstone Outlook

Drivers of Economic Activity

Percent Share of Income in Basic Industries, Yellowstone County

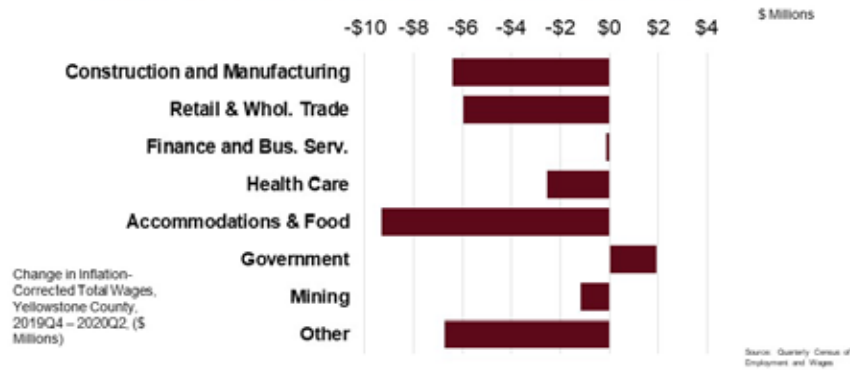


Source: U.S. Bureau of Economic Analysis and BBER



Yellowstone Outlook

Covid-19 Declines in Wages Were Broad-Based



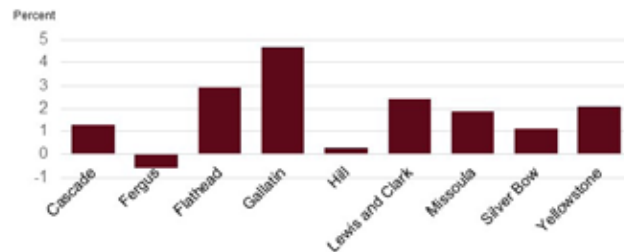
Yellowstone County's Recession Experience

Employment, Wages and Salary and Income Growth, Actual and Forecast, Percent



Gallatin County Expected to Pace Growth

Average Growth in Nonfarm Earnings, 2022-24, Percent per Year




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Sibanye-Stillwater is a leading international precious metals mining company, with a diverse portfolio of platinum group metal (PGM) operations in the United States and Southern Africa, as well as gold operations and projects in South Africa. The Group is the world's largest primary producer of platinum and rhodium, and the second largest primary producer of palladium, while it ranks third globally, on a gold and gold-equivalent basis.

MONTANA OPERATIONS

Sibanye-Stillwater is engaged in the development, extraction and processing of PGMs from a geological formation in south-central Montana known as the J-M Reef, which is the only known significant source of PGMs in the US and the highest-grade PGM deposit known in the world. Sibanye-Stillwater is also one of the world's largest global recyclers of PGMs derived from spent catalytic converters. Most of the PGMs produced are used in catalytic converters to reduce vehicle air emissions.

STILLWATER AND EAST BOULDER MINES

	Leading low-cost PGM producer
	594,000 ounces mined in 2019
	To date, a total of around 13.6 million PGM ounces produced historically
	Almost 27 million ounces proven and probable reserves (78% palladium and 22% platinum)

COLUMBUS METALLURGICAL COMPLEX

	Includes smelter, base metal refinery and analytical laboratory
	More than 853,00 ounces of PGMs recycled in 2019
	A record 1.45 million PGM ounces processed in 2019
	Consistently less than 5% of operating permit air emissions limits at the smelter

COMMUNITY LEADER

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

	1,789 Montana employees
	\$22.6 million paid in local taxes in 2019
	\$191 million in payroll costs in 2019
	\$44 million paid in employee taxes in 2019
	\$334 million spent in total on purchases in 2019
	Scholarships worth \$91,500 awarded in 2019
	Almost \$400,000 spent on charitable contributions in 2019 – focused on rural emergency and healthcare services, STEM education, local community improvement activities and environmental stewardship

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Thank you.

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