



ANNUAL REPORT 2020

Bureau of Business and Economic Research
College of Business
University of Montana



**BUREAU OF BUSINESS AND
ECONOMIC RESEARCH**
UNIVERSITY OF MONTANA

TABLE OF CONTENTS

Message From the Director	4
Staff and Advisory Board	5
2019-20 Year in Review	6
Outreach and Communications	8
Financial Report	10
Economic Analysis	12
Survey Research	14
Health Care Industry Research	16
Forest Industry Research Program	18
Service to the University, Community and Professional Associations	21
Publications	22

OUR MISSION

The Bureau of Business and Economic Research'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 and work.

ABOUT US

The Bureau of Business and Economic Research (BBER) is Montana's oldest and most distinguished business research center. Serving as the preeminent source of business and economic information and analysis for over 70 years, BBER has earned the reputation as an independent, nonpartisan, objective research organization, bringing facts, information and analysis to bear on issues of importance to the Montana economy.

BBER has grown to become one of the largest and most successful business research centers in the country by:

- Providing trusted and precise analysis of local, state and national economies.
- Offering reliable income, employment and population forecasts.
- Conducting extensive research on forest products, manufacturing, health care and child welfare.
- Thirty-five years of designing and conducting comprehensive survey research for businesses or organizations.
- Presenting the 45th annual Economic Outlook Seminar series in cities throughout Montana.
- Publishing the award-winning Montana Business Quarterly magazine.
- Growing the Forest Industry Research Program (FIRP) throughout the West, with a total of \$7.17 million in project agreements, since FY08.
 - FIRP's 13-year annual income average is \$552,000 per year.
 - In the past five years, FIRP's annual income average has been \$627,000 per year.
- Continuing to develop specialized expertise, resulting in increased external funding.
- Fostering our long-standing professional relationships, and developing new connections that further broaden and strengthen our reach.



MESSAGE FROM THE DIRECTOR

The academic year 2019-20, was a certainly a story of contrast – between an economy running out of workers, to one that locked us in our houses. I am proud of the way that everyone at BBER has stepped up to meet the challenge of providing timely and relevant information for decision-making at a time when our own lives have been so profoundly disrupted. You can appreciate those efforts by thumbing through this report.

But even if we operate in a virtual world these days, we still have responsibilities and a mission. In fact, the experience of the last five months has taught us all that the need for good information on the economic and business environment is elevated when economic growth is challenged. That has been made clear from the high interest and attendance in our pandemic-related research and at our presentations.

2019-20 was a year of transition and change for one long tenured BBER program. The Annie Casey Foundation’s decision to end its partnership with university-based research centers like our brought our own KIDS COUNT program to an end last year. Our commitment to understanding issues that pertain to child welfare and well-being continues uninterrupted however, as the survey project conducted for the Federal Reserve Bank of Minneapolis on child care availability reported in these pages makes clear.

We have made an important addition to our team as well. Christina Voyles joined us as marketing director and event planner in February, just in time to participate in the COVID-19 vortex of activity that has consumed us ever since. After tours of duty at Kaiser Permanente in Hawaii and the University of California-Berkeley, she has returned to Missoula and is hard at work refining and enhancing our digital presence.

The new year promises to be an important one for us, just as it is for businesses and communities across the state. The appetite for information and research has strengthened in the current environment, even as the business models of places like universities that bring people together are challenged. We look forward to a world where we press flesh and break bread again – but in the interim we look forward to working with you in any way feasible to address your needs and concerns.

Here’s hoping for good health and prosperity to come.

Sincerely,

Patrick Barkey

Director

Bureau of Business and Economic Research

Seth Bodnar
President, University of Montana

Scott Whittenburg
Vice President for Research and
Creative Scholarship

Suzanne Tilleman
Interim Dean, College of Business

OUR STAFF

Patrick Barkey
Director

Steve Hayes
Senior Research Forester

Thale Dillon
Research Economist

Scott Hawk
Publications Director

Robert Sonora
Associate Director
Director of Health Care
Research

Erik Berg
Research Forester

Bob Campbell
Senior Database
Administrator
Programmer

Christina Voyles
Marketing Director

Todd Morgan
Associate Director
Director of Forestry
Industry Research

Eric Simmons
Senior Research
Associate

Lucas Townsend
Research Associate

Paul Polzin
Director Emeritus

Brandon Bridge
Economist
Director of Forecasting

Kate Marcille
Forest Economist

Michael Niccolucci
Research Economist

Megan Elensky
Fiscal Manager

Dorian Smith
Research Associate

John Baldrige
Project Manager

Thomas Donahue
Research Associate

Janet Stevens
Survey Research Field
Coordinator

ADVISORY BOARD MEMBERS 2020-21

Taylor Brown
President
Northern Broadcasting
System
Billings

Christina Henderson
Executive Director
Montana High Tech
Business Alliance
Missoula

Heather McDowell
Vice President Legal,
Environmental and
Government Affairs
Sibanye-Stillwater
Columbus

Bill Whitsitt
Executive in Residence
Devon Energy Corp.
(Retired)
Bigfork

Webb Brown
CEO
Montana Regional
Multiple Listing Service
Helena

Scott Levandowski
Market President
First Interstate Bank
Bozeman

Thomas Schultz
Vice President of
Government Affairs
Idaho Forest Group
Coeur d'Alene

2019-20 YEAR IN REVIEW

Continuing to Provide Valuable Information, Analysis and Research

BBER continues to operate in a competitive arena for grants and projects. These areas generate a large portion of our revenue, while remaining steadfast to our mission of providing reliable, high-quality analysis, insights and information. We continue to thrive by being nimble and adjusting our work to what's happening in Montana and beyond, and by streamlining in-house resources while partnering with other organizations and entities.

Our collaborators include the Rural Institute, Blackstone Launchpad, the Institute for Tourism and Recreation Research, the Montana Manufacturing Extension Center, Montana's High Tech Business Alliance, the Greater Montana Foundation, University of Montana faculty in business, forestry, public health, education and social work, as well as Montana University System faculty, centers and departments.

While the latter part of this year presented challenges to local communities due to the COVID-19 pandemic, BBER served as a trusted source for economic and health care industry information related to the economic effects of COVID-19.

Notable events and activities in 2019-20 included:

The Economic Contributions of Hutterite Communities in Montana
In partnership with Montana State University's Department of Agricultural Economic and Economics in the College of Agriculture, we conducted a study that highlights the positive economic impacts of the Lehrerleut branch of Hutterite communities in Montana.

BBER presented the study via a press conference for statewide media, discussing the findings of how the Lehrerleut communities contribute to Montana:

- 2,191 more permanent, year-round jobs.
- An additional \$63.2 million in income received by Montana households, annually.
- \$365.3 million more gross revenue received by Montana business and nonbusiness organizations, annually.
- More than 5,300 more people in the Montana economy.

Our Connection to the Association for University Business and Economic Research (AUBER)

AUBER is the premier professional organization for regional economics centers across the United States with members from 75+ leading universities and affiliate organizations. We are one of the founding members of AUBER, which was established in 1948. Building further upon our long history of affiliation with AUBER, this year Patrick Barkey serves as AUBER president.

COVID-19 Publications and Analysis

When COVID-19 entered the picture early in the year, we quickly began focusing on providing analysis and forecasts on the pandemic's economic impact. We participated in discussions by providing:

- A preliminary analysis entitled, "The Economic Impact of COVID-19 on Montana's Economy," supported by Northwestern Energy.
- A press conference for 350 statewide media, for the release of our preliminary analysis report.

- COVID-19 focused articles in the Montana Business Quarterly.
- Numerous interviews and articles in newspapers across the state.
- Continued appearances on PBS Montana, Voices of Montana, KVGQ and Montana Talks.
- Multiple guest speaker engagements for business meetings and webinars, discussing COVID-19's impact and the effect it will have on the economy.
- A dedicated COVID-19 analysis and information section on our website.

Forest Industry Research Continues to Grow

Our forest industry research program continues to serve as an integral partner with the U.S. Forest Service, as well as providing valuable resources and information for many entities. Our forest industry researchers published in the Journal of Forestry and Forest Science and constantly strive to grow this program in Montana and throughout the West; including Alaska, Washington, Oregon, Idaho, New Mexico, and California.

Polling Webinar

This year our survey research group collaborated with the Greater Montana Foundation and guest speakers from nationally recognized polling institutions and universities on the webinar, "A Montana Field Guide to 2020 Election Polls." Its purpose, to help the media and citizens disseminate polling information ahead of the November general elections.

Economic Outlook Seminar

For the 45th consecutive year, BBER held its outlook on the state economy, presented in 10 cities across Montana. Held between January and March 2020, this year's theme, "Finding Good Workers," featured outlooks on both the U.S. and Montana economies, including travel and recreation, agriculture, health care, real estate and construction, manufacturing and the forest industry, as well as high-tech and startups. We presented specific outlooks for each city where seminars were held.

Due to COVID-19 closures, the last three seminar cities were moved online, with information and early economic insights about the impact of the virus added to the program. We received unsolicited feedback from those cities thanking us for offering remote access, with some even requesting that this option continues for future

seminars. This year we had a 95% approval rating, the highest satisfaction rating we've ever received from seminar attendees.

"I haven't been to this seminar in a couple of years and this one was the best one yet as far as length and content. I didn't know it could be done via webinar. I look forward to that next year. Thank you!"

This year, new seminar elements included:

- A town hall lunch discussion during the Kalispell seminar with over 300 attendees, hosted jointly by BBER and Neel Kashkari, president of the Federal Reserve Bank of Minneapolis.
- A high-tech and startups overview by Christina Henderson, executive director of the Montana High Tech Business Alliance.
- Participation of sponsors in the program, with lunch panels featuring two sponsors in all 10 cities.
- A special presentation at the Missoula seminar honoring director emeritus Paul Polzin, commemorating his 44 years presenting at the economic outlook seminars.
- A new registration platform with a more thorough post-event evaluation system.

Our sponsors continue to be an integral component of the seminar series and for the first time, took part in presentations and panel discussions. We would like to thank and recognize our new sponsors this year: Sibayne-Stillwater, Idaho Forest Group and MDU Resources. We would also like to thank our statewide sponsors Benefis Health System and First Interstate Bank. Special thanks to our principal sponsor, NorthWestern Energy, for their continued and generous support.

Montana Chamber Foundation Economic Update Series

In August 2019, we partnered again with the Montana Chamber Foundation on their 13th annual summer economic update series. This year's program entitled "The Silver Tsunami," focused on the aging of Montana's workforce. The tour traveled to seven cities and featured our director, Patrick Barkey, who gave a midyear update on the economic outlook for Montana and its local communities. This year marked the first economic update BBER presented with the chamber's new leadership, Todd O'Hair and his team. BBER looks forward to continued collaboration and new outreach efforts with this energetic team.

OUTREACH AND COMMUNICATIONS

Making Our Research Accessible to the Public

We continue to seek ways to bolster our communications and broaden our reach, making our research more accessible to the public. We know the importance of providing our information in a variety of ways in order to reach different audiences; the importance of showcasing the significance of the work we're doing, and how we benefit our clients, partners, and local communities. These efforts require strategic marketing, public relations and outreach, which involved:

Presentations

BBER researchers gave 68 presentations to a variety of audiences (state chambers, universities, media, businesses, etc.), covering multiple topics like trends in the economy, the COVID-19 pandemic and its effect on the Montana economy, growth of the tech industry in

Montana, health care, global energy consumption forest economics, carbon in harvested wood products, and affordable housing.

Publications

We produced 58 publications, distributed directly to our clients, via our website and through information requests.

- Economic analysis publications – 26
- Forest industry research publications – 17
- Health care research publications – 15

BBER Website

Our current website continues to be utilized as a resource for data and information, generating 44,594 page views and 11,595 new users (87.5% of all users). We are refreshing the site to better

showcase our studies, data and information, to foster new audiences, partnerships and projects, and for mobile responsiveness.

Economic Outlook Seminar Website

Not only does our seminar website provide access to our economic outlook seminar event, but it serves as a resource for associated seminar materials, publications, speaker presentations and videos of past seminars. This year it generated 23,023 page views with 11,299 visitors (a 51% increase in page views, and a 124% increase in visitors from last year).

Montana Economic Report

Our 2020 Montana Economic Report publication is produced in tandem with the economic outlook seminar, and provides detailed analysis of Montana's economic performance. This year, we published the report in a special issue of the Montana Business Quarterly and provided copies to seminar attendees, as well as decision-makers in Montana.

Montana Business Quarterly

The award-winning Montana Business Quarterly covers important issues about the state's economy and topics relevant to Montanans, like affordable housing, agriculture, forest products, tourism, youth homelessness and the economic contributions of its residents. Articles this year covered the economic impact of COVID-19, Montana's tax system, the trade war with China, and how to find good workers. Subscribers to the print editions include business executives, government officials, all Montana legislators, libraries and universities. Our online presence has grown substantially over the past four years. We want to recognize and thank Clearwater Credit Union for their continued sponsorship of the magazine.

Strategic Marketing

Our marketing efforts focus on increasing awareness and reach, fostering new audiences and partnerships to drive future studies and work, and further entrench BBER's reputation as the foremost research center in Montana. This year's marketing approach included:

- Social media campaigns.
- Email, digital and printed materials.

- The broadcast of our radio program, the Montana Economic Minute, on radio stations across the state. A program that is also available on iTunes and our website.
- TV, radio and webinar appearances and interviews on statewide media (Montana PBS, Voices of Montana, Montana Talks, KVGQ, etc.).
- Collaboration with the Montana Chamber Foundation on messaging and events.
- A press conference for our analysis on COVID-19's effect on the economy.
- A dedicated COVID-19 information page on our website with links to our interviews, resources and other reputable information.
- Researchers responding to hundreds of data requests.
- The development a new website to better provide our data and foster new audiences, partnerships and projects.
- Our dedicated Economic Outlook Seminar website with registration portal.

2021 BBER Goals

- Maintain BBER's position as the primary source of information and analysis, and foremost authority on Montana's economy.
- Uphold BBER's high reputation for carefully researched, reliable, unbiased and relevant analysis of policy issues that are important to Montanans.
- Identify new and untapped project opportunities from the public and private sector, identify new ways to work with UM students.



FINANCIAL REPORT

Although total revenues declined in the 2019-20 fiscal year, the bureau's financial health remains robust. We saw a decrease in revenue this year due to the Montana KIDS COUNT program's removal by the Annie E. Casey Foundation, who shifted their focus to advocacy. Seminar profits declined from refunding attendees in our final three cities due to the need to move the seminar to a remote venue.

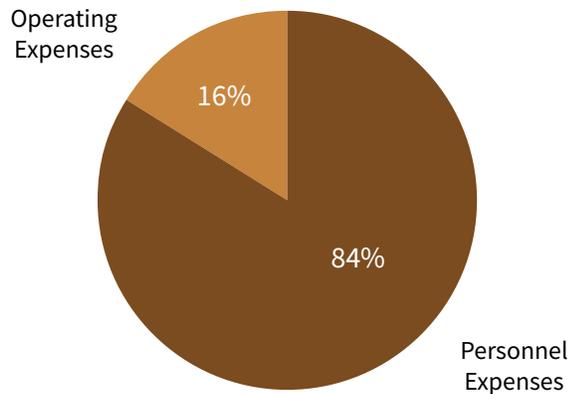
Our largest revenue source comes from externally funded projects; contracts and grant-funded projects administered by the University

of Montana's Office of Research and Sponsored Programs and carried out by BBER researchers and staff. They include a mixture of multiyear and short-term projects. Sponsors include the federal government, state government, private foundations, nonprofits and businesses.

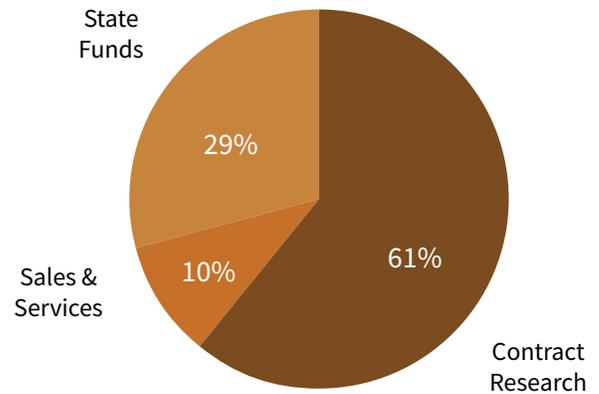
Revenue	FY 2019	%	FY 2020	%
Contract Research	\$1,094,213	60%	\$1,008,349	61%
Sales & Services	\$253,205	14%	\$158,473	10%
State Contribution	\$480,037	26%	\$482,233	29%
Total Revenue	\$1,827,455	100%	\$1,649,055	100%

Expenses	FY 2019	%	FY 2020	%
Personnel – State	\$479,876		\$482,133	35%
Personnel – Other	\$901,289		\$900,569	65%
Total Personnel Expenses	\$1,381,165	76%	\$1,382,702	84%
Operating Expenses – State	\$161		\$99	
Operating Expenses – Other Sources	\$441,110		\$266,098	
Total Operating Expenses	\$441,271	24%	\$266,197	16%
Total Expenses	\$1,822,436	100%	\$1,648,899	100%

FY 2020 Expenses



FY 2020 Revenue



ECONOMIC ANALYSIS

Providing Expert Analysis on Montana's Business and Economic Environments

Economic research is at the heart of everything we do. Our analysts utilize decades of experience to provide unparalleled industry and economic impact reports, market analysis and niche studies dealing with both specific and broad issues. Through our “always on” approach, our data is available via information requests, presentations, business partnerships, our web and data library, social media, and on multiple news outlets.

2019-20 marked another year of high profile projects and publications, which included: Bureau director emeritus Paul Polzin continues to contribute to our research and takes an active role in meetings and partnerships with all BBER staff. His continued service is greatly appreciated.

The Economic Impact of COVID-19 in Montana

When the effects of COVID-19 became clear, we shifted gears and focused on providing information and analysis about the impact it could have on the Montana economy. Supported by NorthWestern Energy, we developed an assessment of how the forecast for the Montana economy would change after December 2019, due to the economic downturn associated with the pandemic. This analysis

Efforts surrounding COVID-19

- Multiple interviews and articles with statewide media outlets on the economic impact of COVID-19.
- Weekly appearances on Montana PBS, Voices of Montana, Montana Talks, KVGQ, and other audio/visual media outlets.
- A press conference for the release of our report entitled, “The Economic Impact of COVID-19 in Montana.”
- Provided analysis during webinars held by local partners, various city chamber events and local events.
- Created a dedicated webpage for our COVID-19 news and analysis, as well as links to other reputable news articles and information from nationally recognized media outlets.

was revised again in May, as new information emerged. Nearly 400 media contacts statewide were invited to a press conference to discuss the findings and to ask questions. BBER continued to provide analysis and insights for multiple media outlets from March 2020 onward and became a prominent voice in the local economic discussions.

Economic Analysis Research Projects

Affordable Housing in Montana

A survey of the affordable housing programs and properties in Montana. It reported on relevant programs from other states, assessing the demand for affordable housing in the population centers in Montana, as well as the costs of not rehabilitating existing properties.

An Assessment of the Market and Tax Revenue Potential of Recreational Cannabis in Montana

This assessment provides an estimation of revenue from a 20% tax on recreational cannabis sales in Montana, should it become legal by ballot referendum in the 2020 election. Sponsored by New Approach Montana.

Evaluation and Economic Impact of the Montana Manufacturing Extension Center

An ongoing report details client survey results of the MMEC in 2018.

Montana Economic Forecast

This ongoing analysis develops state and county-level forecast of employment and wages by industrial sector.

Montana Housing Starts Report

This report gathers data for the calculation of housing starts in Montana for 2019.

Montana Manufacturers Survey

This ongoing survey is sponsored by the Montana Manufacturing Extension Center. The report details findings of a survey of manufacturers in the state, which aims to learn about manufacturers' assessment of their plant's economic performance in 2018 and their outlook for 2019.

The Continuing Contributions of the Oil and Gas Industry to the Montana Economy

An article written for the Montana Petroleum Association magazine that describes the industry's economic footprint in Montana. Sponsored by the Montana Petroleum Association.

The Economic Contribution of Montana's Hutterite Communities

Using financial records from 38 Hutterite (Lehrerleut) communities, the ongoing economic contributions of the 81 farming operations on the state economy was examined.

The Economic Impact of Cognizant/ATG in Missoula

This is an updated impact study of the high-tech consulting firm with a significant footprint in Missoula. The study covered a period when ATG was acquired by Cognizant, and worker-owners received significant stock options as compensation.

The Economic Impact of COVID-19 in Montana

Supported by NorthWestern Energy, this assessment of how the forecast for the Montana economy has changed since December 2019, because of the economic downturn associated with the pandemic.

The Economic Impact of the Montana Osteopathic Medical School

Sponsored by the Benefis Health System, this study considered the economic impacts of the construction, operations, and graduates of a four-year medical school proposed for Great Falls.

SURVEY RESEARCH

Client-Specific, Scientific Data Collection and Analysis

Our researchers utilize sophisticated data collection mechanisms and techniques to conduct surveys for contract clients in the private and public sectors. For nearly four decades, our expert team in the survey research program has been governed by the rigorous professional standards established by the American Association of Public Opinion Researchers.

During 2019-20, the survey research program assisted Montana state agencies, federal agencies, trade associations, the University of Montana and nonprofit organizations by collecting and analyzing primary data for a variety of projects, including:

- Big Horn County Survey
- Economic Impact of Inadequate Child Care in Montana
- Economic Impact of Montana's Cooperatives (data collection)
- Island Mountain Development Group Impact Study
- Kalispell Regional Medical Center Data Analysis
- MilTech Client Survey
- Missoula Metro Planning Organization Transportation Survey
- Montana Department of Transportation Public Involvement Survey
- Montana Department of Transportation Stakeholder Survey
- Montana High Tech Business Alliance Survey
- Montana Manufacturing Survey
- Montana World Trade Center Survey
- Montanans' Perceptions About Grizzly Bear Management Oregon Forest Products Mill Energy Use Survey

Polling Webinar with Greater MT Foundation

This year our survey research group collaborated with the Greater Montana Foundation, as well as guest speakers from nationally recognized polling institutions and universities, on a webinar entitled, "A Montana Field Guide to 2020 Election Polls."

The goal of the webinar was to help the media and citizens better understand the polling process, and how to disseminate polling information and credibility ahead of the November general elections.



 BUREAU OF BUSINESS AND
ECONOMIC RESEARCH
UNIVERSITY OF MONTANA

HEALTH CARE INDUSTRY RESEARCH

Bringing in Newly Funded Projects

Our health care research program continues to play a dominant role in the discussion on health care in Montana, and this year we were an active voice in conversations surrounding the COVID-19 pandemic.

Our director Patrick Barkey and director of health care research Robert Sonora, were interviewed and took part in many panel discussions on COVID-19 analysis and projections related to unemployment, the economy, and health care.

We developed a specific COVID-19 news and analysis page on our website to post new information daily, as data was constant and quickly evolving in the early days of the crisis.

The COVID-19 pandemic has resulted in entities seeking out our services for specific studies on its impact, and these projects are currently being developed.

This year, health care research continued to focus on studies about child care and the implications of inadequate child care on Montana's families, employers and taxpayers, as well as how inadequate housing can impact health of communities. We are in the process of securing projects related to the COVID-19 impact, as well as other health care industry concerns. Sonora has also continued to provide academic research papers for various audiences, conventions and presentations.

Academic Paper: A Panel Analysis of Income Inequality, Institutions and Energy Use

This paper investigates the relationship between energy consumption and income inequality in an unbalanced panel of 147 countries over the period 1990-2014. Using a variety of panel methods, and controlling for other determinants of inequality, such as education, health, investment, etc., the paper details the

strong negative relationship between energy use and income inequality. It also demonstrates that greater access reduces the share of income enjoyed by the top 20% and increases the share for the bottom 20%.

Health Care Research Projects

Affordable Housing and Health in Montana

Sponsored by the Montana Healthcare Foundation, this study investigates the impacts on health and mental health outcomes of affordable housing availability for low income households. Estimating the effects of affordable housing on health benefits in terms of outcome, such as access to nutritious food; stress reduction and addiction; effects of poor quality housing on health; chronic illness – e.g. diabetes; access to health care; and reduction of communicable illness due to overcrowding and subpar housing.

Assessment of the Market and Tax Revenue Potential for Recreational Cannabis in Montana

Working with New Approach Montana, to estimate the effects of recreational marijuana legalization on Montana tax revenues and impacts on tourism.

Data Analysis Support for Reducing Barriers to Complex Care Navigation

This project is in partnership with Kalispell Regional Medical Center, financed by a grant from the Patient-Centered Outcomes Research Institute to determine engagement award to build capacity to conduct research across our rural community and healthcare systems.

The Contribution of MilTech to the State and National Economy

This study considers the economic impact of MilTech, Montana State University, Bozeman, on the state economy. It also uses panel econometric methods to estimate the impacts of MilTech on county economies throughout the country.

The Economic Contribution of Benefis Health System to Cascade County: Update

This study details the impact of Benefis Health Systems on the Cascade County economy, Great Falls (with Patrick Barkey).

The Economic Contribution of the Island Mountain Development Group

This impact study, owned by the Gros Ventre and Assiniboine Nations of the Fort Belknap Indian Community, was cited in an “Allocation of COVID-19 Response Funds to American Indian Nations” letter to Treasury Secretary Steve Mnuchin from the Ash Center for Democratic Governance and Innovation, Harvard University, Cambridge, Massachusetts.

The Economic Impact of the Montana Osteopathic Medical School

A study for the Benefis Health Systems that looks at the economic impact of a proposed osteopathic medical school on the state economy.

Opportunities Lost: The Impacts of Inadequate Child Care on Montana’s Families, Employers and Taxpayers

Sponsored by the Federal Reserve Bank of Minneapolis, this study is currently in its final stages. Initial findings suggest there is a toll on the economy and working parents due to inadequate child care. The initial data tells us that:

- 52% of households reported that finding affordable child care is a challenge.
- 46% of respondents left work early and 44% of respondents missed a full day of work in the past month, due to inadequate child care.
- Over 10 years the economic burden for Montanans are:
 - Montana households with children ages 0-5 will be \$572 million dollars.
 - Montana businesses that employ the cohort’s parents will be \$207 million dollars.
 - Taxpayers is \$128 million dollars in reduced income tax receipts.

FOREST INDUSTRY RESEARCH PROGRAM

Nationally Prominent Program Brings in New Funds for Projects

The forest industry research program (FIRP) is the largest and oldest individual research program within BBER.

FIRP continued its core research with the U.S. Forest Service's Forest Inventory and Analysis (FIA) Program at both the regional (12 western states) and national levels. Ongoing agreements with FIA involve Timber Products Output (TPO) research; studying timber harvest and use and forest industry operations throughout the western U.S.

This year FIRP:

- Developed TPO data for several western states (AK, CA, MT, OR, and WY).
- Submitted state-level timber harvest and industry reports and a study of logging in Alaska, published through our partners in the U.S. Forest Service FIA Program.
- Continued work with the Northern Region of the Forest Service, collecting timber harvesting costs in Idaho and Montana and updating the regional timber sale appraisal system, as well

as capacity and timber flow projects for the Rocky Mountain Region and the National Forest System.

- Was funded to expand a logging utilization study in California.
- Developed timber appraisal information, identified market areas, and collected delivered log prices for the U.S. Forest Service Intermountain Region.
- Will begin a new multi-year project with NFS Ecosystem Management Coordination economists to update direct response coefficients for measuring economic impacts of National Forest timber harvest.

FIRP researchers remain a strong presence in the industry and published multiple articles in the Montana Business Quarterly and the Journal of Forestry. Staff coauthored reports and articles, made professional presentations, served as the bureau's representatives on campus and off, responded to numerous information requests, reviewed journal articles, and/or served in various professional and community organizations throughout the 2020 fiscal year.

Informing Federal Land Managers About Timber Use

Our federal timber flow analysis tracks the flow of logs by wood product type for the U.S. Forest Service, to better understand the impacts of agency timber harvest on the people in surrounding communities. We provide data which helps them understand how timber from national forests is being used, where logs are flowing to be processed, so they can identify their economic impacts and

prioritize their goals, projects and policies. We also conduct analysis on changes in employment and wages at both the regional and local level, as well as forest industry output across the U.S., to update employment and income direct response coefficients for the United States. The timber industry mill and market information we provide supports U.S. Forest Service decision-making.

Helping the Forest Service Offset Costs of Ongoing Restoration Work

FIRP is helping the U.S. Forest Service and public land managers understand their regional milling infrastructure, which allows them better align their restoration projects with their available industry workforce. Our work identifies opportunities for them to increase harvest, restoration, and to identify the impact land management decisions and activities have on regional economies.

We provide them with:

- Highly-detailed data to assist with project planning, design and packaging.
- Mill survey data that quantifies surrounding mill production capacity, capacity utilization and milling capability by log size.

Providing Valuable Data for the Northern Region of the U.S. Forest Service

We continue supporting the Northern Region of the U.S. Forest Service with a range of data they use to make decisions during their timber appraisal process. This work has grown during the 2019-20 fiscal year. Our data informs a variety of aspects:

- Logging and hauling costs.
- Log flow (from where it's harvested to where it's manufactured).

- Timber market analysis (provided from mill data we collect, analyze and disseminate).
- Determining starting bid prices for timber sales through the transaction evidence timber appraisal system.

University of Montana's Student Connection with FIRP

Over the years, BBER has worked with many University of Montana (UM) students and alumni. We value their contributions to our work. This year, FIRP worked with two UM affiliated researchers:

- Thomas Donahue joined BBER in September 2018, after completing his bachelor's in resource conservation at UM. He worked as a research associate on the California and Oregon HWP carbon and sawmill energy analyses and logging utilization studies in Alaska and California. He left BBER this past summer to pursue a master's degree in environmental and natural resource economics at the University of Copenhagen.
- Lucas Townsend completed his master's degree in forestry at UM and joined FIRP in November 2019 as a research associate. He has worked on the Alaska logging utilization study, as well as our Idaho, Montana and Wyoming mill studies, and the R1 timber appraisal project. During the summer months he also works with the Bureau of Land Management as a forestry technician.

Forest Industry Research Projects

Alaska Logging Utilization Study

This study is the result of partnering with the USDA Forest Service and Pacific Northwest Research Station, collecting data and providing analysis of logging utilization at the state level for Alaska.

California Logging Utilization

A joint venture with Pacific Northwest Research Station FIA and CalFire, collecting data to provide an analysis of logging utilization at the state level for California. With the addition of measurements in dead tree harvest sites to aid the state of California with carbon accounting strategies.

Employment and Income Direct Response Coefficients for the U.S. Forest Service

Partnering with the USDA Forest Service, Ecosystem Management Coordination program, Fort Collins, Colorado, to update employment and income direct response coefficients for the United States and provide timber industry mill and market information to support U.S. Forest Service decision-making.

National Timber Products Output Annualized Data Estimation Effort

Assembled a comprehensive list of all United States wood processing facilities; developed regression-based estimators to impute missing data.

National Forest System Timber Flow Analysis for Economic Impact Modeling

This analysis is a challenge cost share agreement with the USDA Forest Service to analyze timber flow by forest and product type for national forests throughout the United States.

Oregon Harvested Wood Products Carbon & Sawmill Energy

A cost reimbursable agreement with the USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon, and Oregon Department of Forestry, to analyze sawmill energy use and carbon captured in harvested wood products in Oregon.

Oregon Sawmill Production Functions

A joint venture research agreement with Dr. Jean Daniels of the USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon to analyze changes in the productivity of Oregon sawmills from 2003-17.

Pacific North West Wood Flow

A forthcoming agreement with USDA Forest Service, PNW FIA program, Portland, Oregon, and California Department of Forestry and Fire Protection, to provide regional data (B.C., WA, OR and CA) on timber and log flow (export and import) to enhance ongoing work focused on understanding carbon flux, leakage and carbon stored in wood products.

Pacific West Timber Product Output and Forest Industry Analysis

A joint venture research agreement with the USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon to provide analysis of the forest industry, timber use, and impact on timber inventory in the Pacific Coast states.

Region One Logging Costs and Timber Appraisal Analysis

A challenge cost share agreement with the USDA Forest Service, Region One, Missoula, Montana to conduct an analysis of logging and log-hauling costs and assist with timber appraisal in Montana and Idaho.

Region Two Capacity and Capability Analysis

A challenge cost share agreement with the USDA Forest Service to analyze timber flow, timber-processing capacity and capability by tree size class among mills for national forests in Region Two (Wyoming and Colorado).

Region Four Log Prices and Market Appraisal Zones

A challenge cost share agreement with the USDA Forest Service, Region Four, Ogden, Utah, to identify appropriate timber market appraisal zones and collect log price data from timber purchasers.

Ongoing Timber Product Output and Forest Industry Analysis for the Interior West States

A joint venture research agreement with the USDA Forest Service, Rocky Mountain Research Station, Ogden, Utah to provide analysis of the forest industry, timber use and impact on timber inventory in the Rocky Mountain region.

SERVICE TO THE UNIVERSITY, COMMUNITY AND PROFESSIONAL ASSOCIATIONS

Partnering with Our Community

Our researchers are frequent collaborators in educational and research activities at the University of Montana, including co-authoring research reports and academic articles, teaching and serving on committees.

We work with the Rural Institute, the Blackstone Launchpad, faculty in business, political science, sociology, forestry, public health, education, social work, psychology, as well as the Mansfield Center and the Western Montana Family Medicine Residency program. We also work with smaller communities that lack the resources for planning, research and analysis. These activities raise the image of the University of Montana among taxpayers and decision-makers across the state by providing services and information of value.

Professional Affiliations:

Collectively, we are members of and serve on boards and committees for over 30 different organizations. We are one of the founding members of the Association for University Business and Economic Research, a national organization established in 1948. Director Patrick Barkey, currently serves as president for the organization.

Current professional affiliations among BBER staff include:

- American Association of Public Opinion Research
- American Economic Association
- American Society of Health Economists
- American Society of Hispanic Economists
- Association of Academic Survey Research Organizations
- Association for University Business and Economic Research
- Association of Public Data Users
- Boy Scouts of America
- Euro Area Business Cycle Network
- Forest Products Society
- Greater Montana Foundation
- Korean American Economic Association
- Missoula Development Authority
- Momentive Corp. Community Advisory Panel
- Montana Council on Economic Education
- Montana Economic Developers Association
- Montana Environmental Education Association
- Montana Forest Products Industry Retention Roundtable
- Montana Health Care Forum
- Montana Manufacturing Extension Center
- Mountain Pacific Quality Health Foundation
- National Association of Business Economists
- Northwestern Energy and Transmission Advisory Council
- Pacific Northwest Regional Economic Conference
- Parent Teacher Home Visit Project
- Society of American Foresters
- Southern Economic Association
- Timber Measurements Society
- U.S. Geological Survey
- Western Economic Association
- Western Forest Economists

PUBLICATIONS

Barkey, Patrick M., "Finding Good Workers: Finding the Best Solution for Montana," Montana Economic Report, January 2020.

Barkey, Patrick M., "The U.S. and Global Economies: Is Global Growth Rebounding?" Montana Economic Report, January 2020.

Barkey, Patrick M., "Major Economic Events of 2019: Another Year of Growth," Montana Economic Report, January 2020.

Barkey, Patrick M., "State Revenue Growth: Another Strong Growth Year," Montana Economic Report, January 2020.

Barkey, Patrick M., "Montana's Cities and Regions: Gallatin County Economy Now State's Second Largest," Montana Economic Report, January 2020.

Barkey, Patrick M., "Statewide Economic Performance: Montana's Growth Engine is Humming," Montana Economic Report, January 2020.

Barkey, Patrick M. and Todd Morgan, "How the Forest Industry Changed the Bitterroot Valley," Montana Business Quarterly, Vol. 57 No. 3.

Barkey, Patrick M., George Haynes and Joel Schumacher, "The Economic Contributions of Hutterite Communities in Montana," Montana Business Quarterly, Vol. 58 No. 1.

Barkey, Patrick M. and Robert Sonora, "The Economic Impact of COVID-19 in Montana," Montana Business Quarterly, Vol. 58 No. 2.

Barkey, Patrick M., Robert Sonora, Brandon Bridge and Paul Polzin, "The Economic Impacts of COVID-19 in Montana: Revised Analysis," NorthWestern Energy, May 2020.

Barkey, Patrick M., Robert Sonora, Brandon Bridge and Paul Polzin, "The Economic Impacts of COVID-19 in Montana: Preliminary Analysis," NorthWestern Energy, April 2020.

Barkey, Patrick M., "The Economic Impact of Cognizant/ATG in Missoula," Cognizant/ATG, July 2019.

Barkey, Patrick M. and Thale Dillon, "The Economic Contributions of the Sibanye-Stillwater Mine Operations in Montana," Sibanye-Stillwater U.S. Region, January 2019.

Barkey, P.M., Morgan, T.A. 2019. "How the Forest Industry Changed the Bitterroot Valley," Montana Business Quarterly, Vol. 57, No. 3. 26-30.

Berg, E. C., E.A. Simmons, T. A. Morgan, and S. J. Zarnoch. Predicting Logging Residues in Alaska. Submitted Forest Science, June 2, 2020 returned requesting revisions resubmission June 9, 2020. Revisions in process through June 30, 2020.

Bridge, Brandon, "Scientific Research's Multimillion-dollar Economic Punch," Montana Business Quarterly, Vol. 57, No. 3.

Bridge, Brandon, 2019 Vital Statistics Report, FSCPE, reviewed and revised vital statistics estimates by county from the US Census for reasonableness and potential processing or data input errors, September 2019.

Bridge, Brandon, 2019 State/County Population Review, FSCPE, reviewed and revised demographic estimates from the US Census for reasonableness and potential processing or data input errors, November 2019.

Bridge, Brandon, "The Performance of the BBER Forecast: Improving Accuracy," 2020 Montana Economic Report, January 2020.

Bridge, Brandon, "Real Estate and Construction: Housing Markets Lack Inventory," 2020 Montana Economic Report, January 2020.

Bridge, Brandon, Housing Unit Estimates Review, FSCPE, reviewed and revised housing unit estimates by county from the US Census for reasonableness and potential processing or data input errors, January 2020.

Bridge, Brandon, "Three-Dimensional Geometric Morphometric Sex Determination of the Human Pubic Bone," with Katherine Baca and Meredith Snow (under review at PLOS ONE).

Bridge, Brandon, "Modeled Fragmentary Analysis Using a Geometric Morphometric Sex Determination Method of the Human Pubic Bone," with Katherine Baca and Meredith Snow (under review at the Journal of Forensic Sciences).

Bridge, Brandon, 2019 Missoula Housing Report, Missoula Organization of Realtors. Gathered data and constructed tables and figures describing and analyzing the Missoula housing market, March 2020.

Bridge, Brandon, Vintage 2019 Subcounty Population Estimates Review, FSCPE, Reviewed and revised demographic estimates from the U.S. Census for reasonableness and potential processing or data input errors, April 2020.

Bridge, Brandon, "Missoula Housing Prices Soar," Montana Business Quarterly, Vol. 52, No. 2.

Bridge, Brandon A., "Evaluation and Economic Impact of the Montana Manufacturing Extension Center." Prepared for the Montana Manufacturing Extension Center, August 2019.

Bridge, Brandon A., "2019 Montana Manufacturers Survey." Prepared for the Montana Manufacturing Extension Center, August 2019.

Hayes, S.W., Bingaman, C.A. Morgan, T.A. Simmons, E.A. Marcille, K.C., Shaw, J.D. The Four Corners Timber Harvest and Forest Products Industry, 2016. Resour. Bull. RMRS-RB-XX. Fort Collins, CO: USDA, Forest Service, Rocky Mountain Research Station.

Marcille, K.C.; McIver, C.P.; Hayes, S.W.; Morgan, T.A.; Witt, C. 2020. Montana's Forest Products Industry and Timber Harvest, 2014, Part 3: Sales, Employment and Economic contribution. Resour. Bull. RMRS-RB-32-3. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 8 p.

Marcille, K.C., Berg, E.C., Morgan, T.A., and G. Christensen. Alaska's Forest Products Industry and Timber Harvest, 2015, Part 1: Timber Harvest, Products and Flow. PNW Resource Bulletin. USDA Forest Service, Pacific Northwest Research Station, Portland, OR.

Marcille, K.C., Berg, E.C., Morgan, T.A., and G. Christensen. Alaska's Forest Products Industry and Timber Harvest, 2015, Part 2: Industry Sectors, Capacity and Outputs. PNW Resource Bulletin. USDA Forest Service, Pacific Northwest Research Station, Portland, OR.

Marcille, K.C., McIver, C.P., Berg, E.C., Morgan, T.A. and G. Christensen. Alaska's Forest Products Industry and Timber Harvest, 2015, Part 3: Sales, Employment and Contribution to the State's Economy. PNW Resource Bulletin. USDA Forest Service, Pacific Northwest Research Station, Portland, OR.

Marcille, K.C.; McIver, C.P.; Morgan, T.A.; Christensen, G.A. California's Forest Products Industry and Timber Harvest, 2016. Gen. Tech. Rep. PNW-GTR-XXX. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

Morgan, T.A., K. Marcille, S. Hayes. 2019. "Forest Products: Positive Signs for Montana." Montana Economic Report, January 2020.

Simmons, E.A., Marcille, K.C., Alward, G.S., and T.A. Morgan.. Idaho's Forest Products Industry and Timber Harvest, 2015, Part 3: Sales, Employment and Contribution to the State's economy. RMRS Resource Bulletin. USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO.

Simmons, E.A., Marcille, K.C., Lettman, G.J., Morgan, T.A., Smith, D.C., Rymniak, L.A. and G. Christensen. Oregon's Forest Products Industry and Timber Harvest, 2017 with Trends Through 2018. PNW Resource Bulletin. USDA Forest Service, Pacific Northwest Research Station, Portland, OR.

Simmons E. A., T. A. Morgan, S. W. Hayes, E. C. Berg, and J. D. Shaw. Logging Utilization in Arizona and New Mexico 2012-2017: Current and Past Trends. USDA Forest Service Rocky Mountain Research Station General Technical Report RMRS-RB-31, March 2020. 24p.

Simmons E. A., T. A. Morgan, S. W. Hayes, K. Ng, and E. C. Berg. Timber Use, Processing Capacity and Capability within the USDA Forest Service Rocky Mountain Region Timber-Processing Area. *Journal of Forestry*, 2020, 233-243, March 24, 29020. 11p.

Simmons, E.A., T.A. Morgan, S.W. Hayes, P.W. Williams. 2018. Timber Use, Processing Capacity and Capability within the Pike-San Isabel National Forest Timber-Processing Area. Report submitted September 19, 2019 to USDA Forest Service Rocky Mountain Region, Lakewood, CO. 17p

Simmons, E.A., T.A. Morgan, S.W. Hayes, L.A. Rymniak 2020. Timber Use, Processing Capacity and Capability within the White River National Forest Timber-Processing Area. Report submitted January 14, 2020 to USDA Forest Service Rocky Mountain Region, Lakewood, CO. 17p.

Sonora, Robert, The State of Montana Manufacturing, Montana Manufacturing Extension Center, Bozeman, Montana, August 2019.

Sonora, Robert, Barkey P., "The Economic Impact of COVID-19 in Montana", *Montana Business Quarterly*, Vol. 58, No. 2.

Sonora, Robert, "COVID-19 Creates Economic Uncertainty", *Montana Business Quarterly*, Vol. 58, No. 2.

Sonora, Robert, "The Economic Impact of a Global Pandemic", *Montana Business Quarterly*, Vol. 58, No. 1.

Sonora, Robert, "Renewed Medicaid Expansion Grows Montana's Economy", *Montana Business Quarterly*, Vol. 57, No. 3.

Sonora, Robert, "The U.S. Economy Remains Robust", *Montana Business Quarterly*, Vol 57, No. 2.

Sonora, Robert, "Income Inequality, Poverty and the Rule of Law: Latin America vs. the Rest of the World" in *Temas Contemporáneos de Investigación en Economía y Políticas Públicas*, eds. Antonio Ruiz Porras and Iván Alejandro Salas Durazo, Universidad de Guadalajara, Centro Universitario de Ciencias Económico Administrativas, Guadalajara, Mexico, 2020.

Sonora, Robert, "A Panel Analysis of Income Inequality, Institutions, and Energy Use" revise and resubmit, *Contemporary Economic Policy*.

Sonora, Robert, "Income Inequality and the Rule of Law in Europe: The East, West, and Russian Federation", Presentation, Faculty of Economics and Business, University of Zagreb, Croatia June 2019

Sonora, Robert, "Land Use and Regional Economic Growth in the Western U.S.: An Investigation Across Space and Time" Presentation, AUBER conference, Savannah, GA, October 2019 and Western Economic Association, Denver, CO June 2020.

Sonora, Robert, "How To Give A Good Theory Presentation", Presentation, Southern Economic Association Conference, Ft. Lauderdale, FL, November 2019.

Sonora, Robert, "Effects of Rent Seeking on Economic Growth", Presentation, Western Economic Association, Denver, CO June 2020.

Sonora, Robert, "How Does China's Belt Road Initiative Change Export Flows from Eastern to Western EU Countries? Evidence from a Gravity Model" (with Martina Gottwald-Belinic), Presentation, Odyssey Conference on Economics and Business, Zagreb, Croatia, June 2020.

Sonora, Robert, "Grim Economic Forecasts Show Glimmers of Hope", *Missoulian*, April 2020.

Sonora, Robert, "Recession Will Be Painful but Not a Depression", *Missoulian*, May 2020.

Sun, C.; Daniels, J.; Marcille, K. 2020. "The Common Integrating Factor in Roundwood Exports from the United States." *Canadian Journal of Forest Research*, 50(5): 7 p.

Winn, M.F.; Royer, L.A.; Bentley, J.W.; Piva, R.J.; Morgan, T.A.; Berg, C.; and Coulston, J.W. 2020. Timber Products Monitoring: Unit of Measure Conversion Factors for Roundwood Receiving Facilities. e-Gen. Tech. Rep. SRS-251. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 148 p.



Bureau of Business and Economic Research
Gallagher Business Building, Suite 231
32 Campus Drive
Missoula, Montana 59812
Phone: (406) 243-5113
bbermail@business.umt.edu
www.bber.umt.edu