MONTANA'S AI FUTURE

Rethinking How to Staff and Run Your Business

presented by

BUREAU OF BUSINESS AND ECONOMIC RESEARCH
UNIVERSITY OF MONTANA

NorthWestern® Energy

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.umt.edu if we can be of any help to you or your business.

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DATES AND LOCATIONS

Helena
January 28
Helena Great Northern Hotel

Great Falls
January 29
Hilton Garden Inn

Missoula
January 31
Hilton Garden Inn

Billings
February 4
Big Horn Resort

Bozeman
February 5
The Commons

Butte
February 6
NorthWestern General Office

Kalispell
February 11
Wachholz College Center

Sidney
March 11
MSU Richland County Extension

Miles City
March 12
Sleep Inn & Suites

WELCOME TO THE 50ᵀᴴ ECONOMIC OUTLOOK SEMINAR

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by Patrick M. Barkey
Director of Research

BBER

50 YEARS **Montana Economic Outlook Seminar**

BBER Economic Outlook Seminars 1976 - 2025

- 50 .... Years
- 450 .... Programs
- 4,050 .... Presentations
- 60,750 .... Graphs and Charts
- 118,750 ..... Miles Traveled

The Evolution of Artificial Intelligence

- Pre-Chat GPT (November 2022) advances were less noticed
- Ability to write text, compose music, and create digital art, has captured headlines and users
- Speed of development has been torrid
- Deep learning models process extremely large and varied sets of unstructured data and perform more than one task.
- Is AI a "second industrial revolution?"

AI and Productivity

- AlphaZero was set up in late 2017. Almost immediately, it began training by playing hundreds of millions of games of chess against itself. <u>After about four hours, it was the best chess-playing entity that ever had been created</u>.

AI and Productivity

- Bahala says each of his calls at Concentrix is monitored by an artificial intelligence (AI) program that checks his performance. He says his volume of calls has increased under the AI's watch.
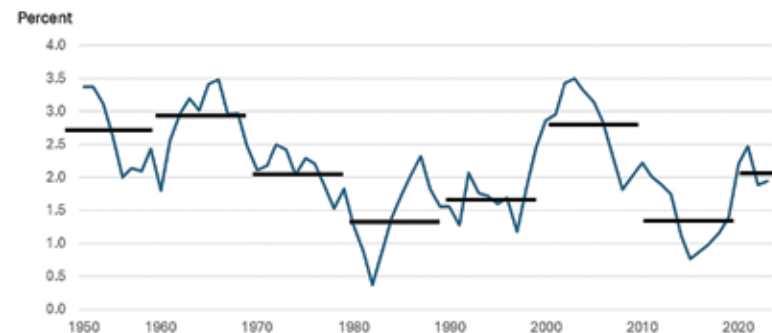
  At his previous call center job, without an AI program, he answered at most 30 calls per eight-hour shift. Now, <u>he gets through that many before lunchtime.</u> He gets help from an AI "co-pilot," an assistant that pulls up caller information and makes suggestions in real time
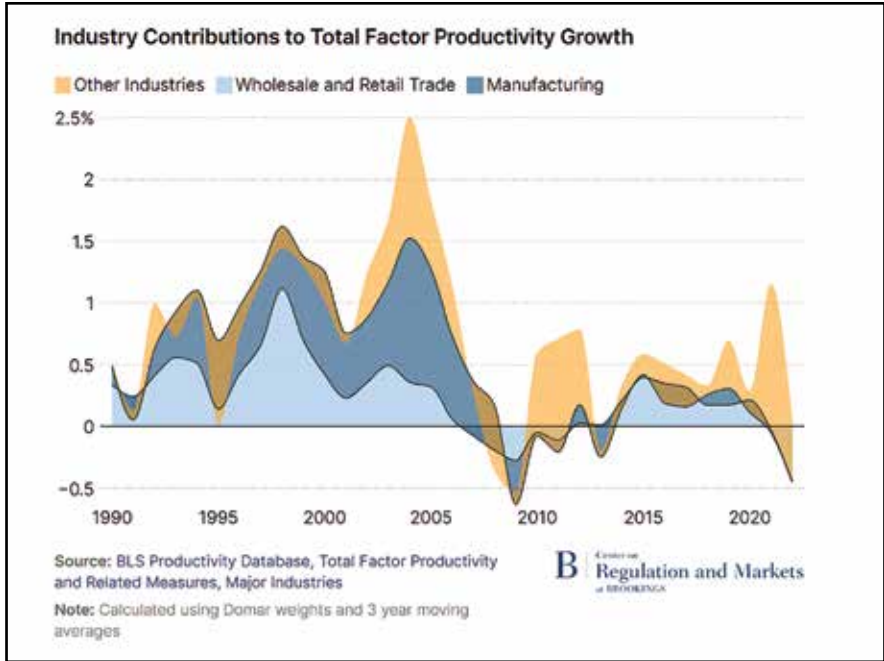
AI and Productivity

- Peng et al. (2023) hired programmers on Upwork to write an HTTP server in Javascript; half of the programmers got access to CoPilot (this was before CoPilot was widely available) half did not.

  Conditioning on completing the task, the average completion time from the treated group is 71.17 minutes and 160.89 minutes for the control group. <u>This represents a 55.8% reduction in completion time.</u>

U.S. Productivity Growth Since World War II, 1950-2023

Percentage change in output per hour, all workers, U.S.
Source: Federal Reserve Bank of St. Louis (FRED)

Industry Contributions to Total Factor Productivity Growth

Source: BLS Productivity Database, Total Factor Productivity and Related Measures, Major Industries

Note: Calculated using Domar weights and 3 year moving averages

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