

# Economic Outlook for the State of Michigan

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# Welcome and Introductions

- REMI models
- Big Picture: REMI Regional Growth Matrix
- Economic outlook
  - Short-term forecast
  - Long-term forecast
- Model demonstration

# Model



Regional Economic Models, Inc. (REMI) was founded in 1980 on a transformative idea: *government decision-makers should test the economic effects of their policies before they're implemented.* We are the nation's leader in dynamic local, state and national policy modeling. Our clients use REMI models to perform rigorous economic analysis that critically influences local, state and national policies.

## OUR CLIENTS:

Business Roundtable • Sandia National Laboratories • Ernst & Young • Texas Comptroller  
University of Michigan • Tennessee Valley Authority • National Education Association  
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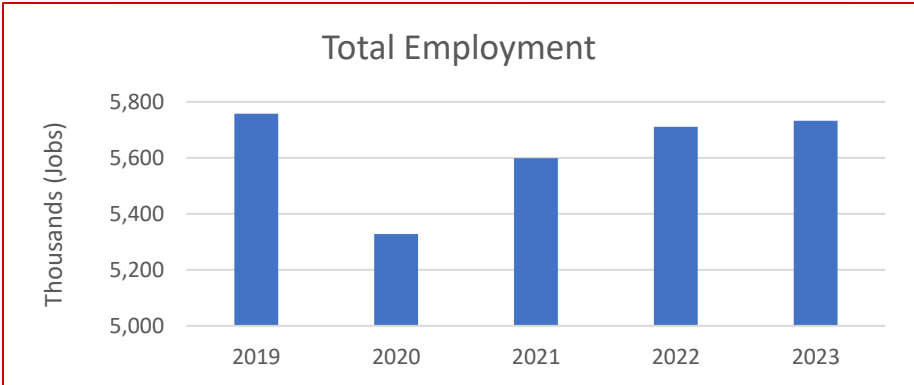
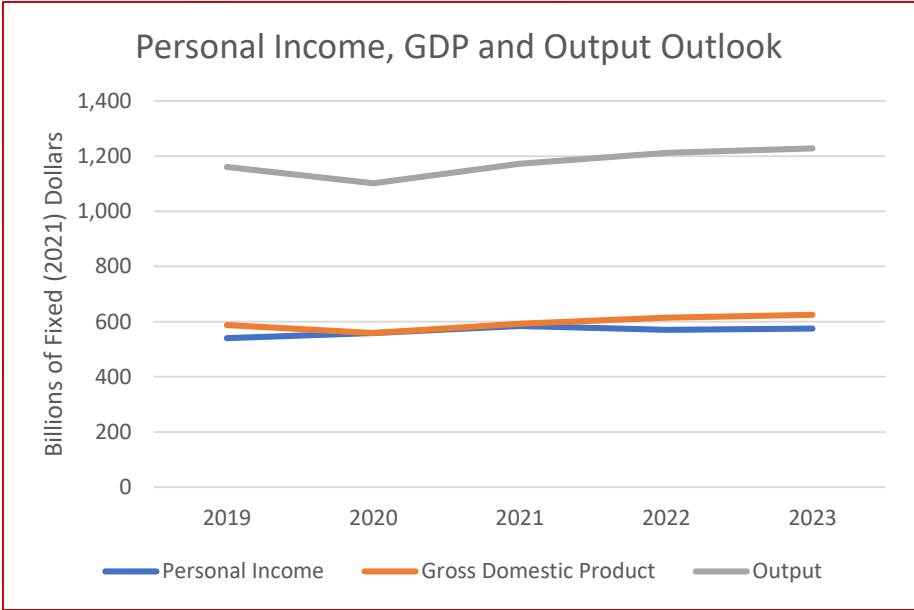
# Michigan State Economy

- The state economy has undergone serious changes, from copper/iron **mining & lumber** to **automobiles** to more recent shifts away from manufacturing.
- Slight decline in **agricultural** production in recent decades; main crops include dairy, pigs, corn, soybeans, wheat, & many fruits (esp. blueberries).
- Slight increase in **lumber**, as trees slowly grow back.
- **Manufacturing** of cars, machinery, fabricated metal, & processed food generate much economic activity.
- **Tourism** along the lakeshores have contributed to economic growth in both Peninsulas.

# Short-Term Outlook: Michigan



- Years 2019-2023
- Growth 2020-2021
  - Personal income : 4.4%
  - GDP: 6.0%
  - Output: 6.4%
  - Employment: 271 thousand jobs
- Uncertainty



# Data Sources

- Baseline (Standard National Control)
  - BLS Forecast Data
- Economic Forecast Update March 2021
  - 2019-2020 historical data from BEA
  - The U.S. Economic Outlook for 2020-2022 from the University of Michigan's Research Seminar in Quantitative Economics (RSQE)
  - An update to the Economics Outlook from CBO
  - Includes \$1.6 trillion stimulus, additional vaccination, and additional consumer spending<sup>1</sup>

# REMI Regional Growth Matrix: Economic & Demographic Factors



## Economic Factors

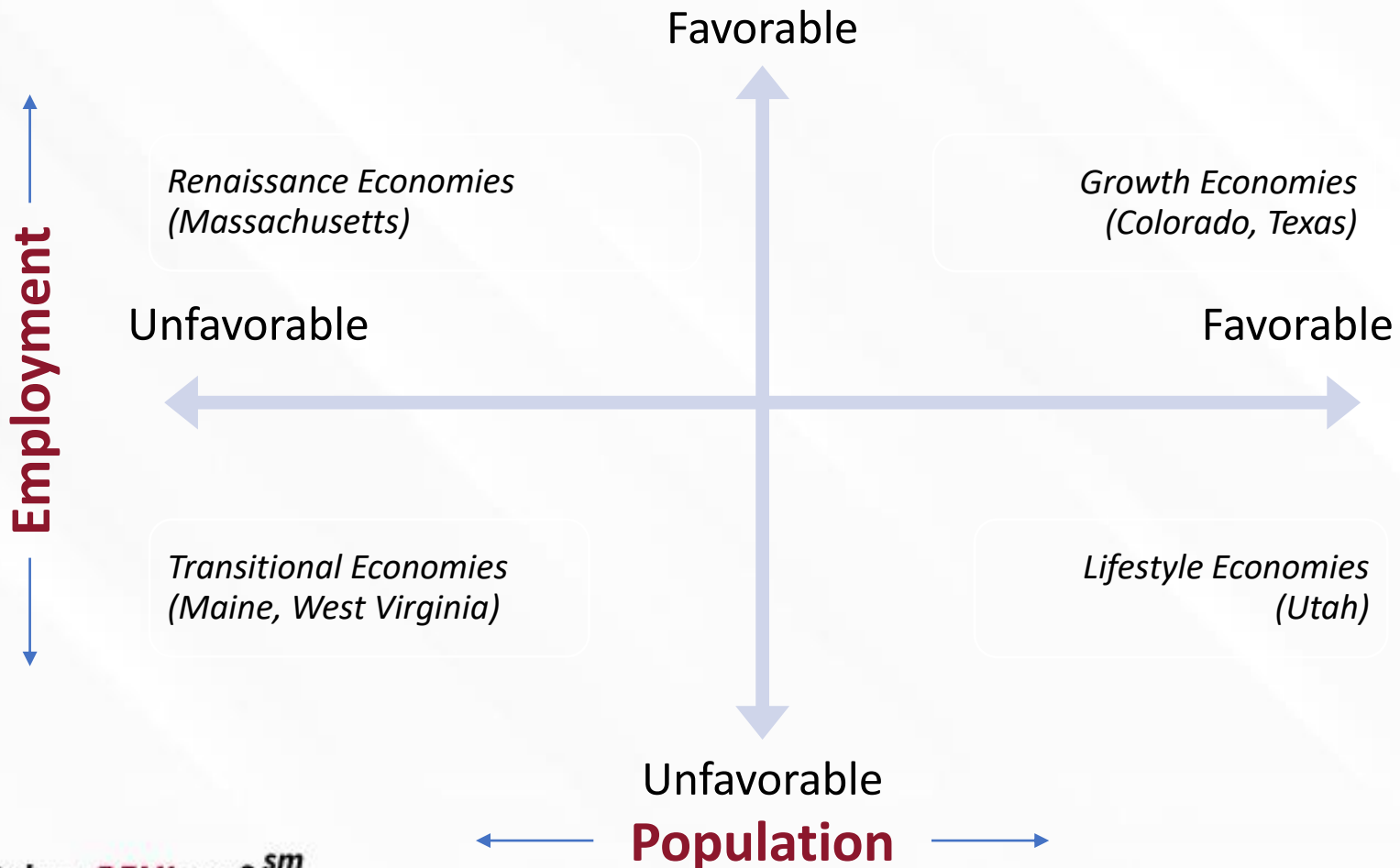
	Industry Growth	Industry Clusters	Pay	Productivity	Business Cost
Favorable	Growing	Strong	High-paid industries	High	Low
Unfavorable	Declining	Weak	Low-paid industries	Low	High

## Demographic Factors

	Population Age	Retirees	Immigration	Amenities	Housing Cost
Favorable	Younger	Gains retirees	Immigration gateway	High	Low
Unfavorable	Older	Loses retirees	Low internat'l immigration	Low	High

what does **REMI** say? <sup>sm</sup>

# Regional Growth Matrix





# Growth Matrix

## Difference in Growth from US Average (2021-2022)

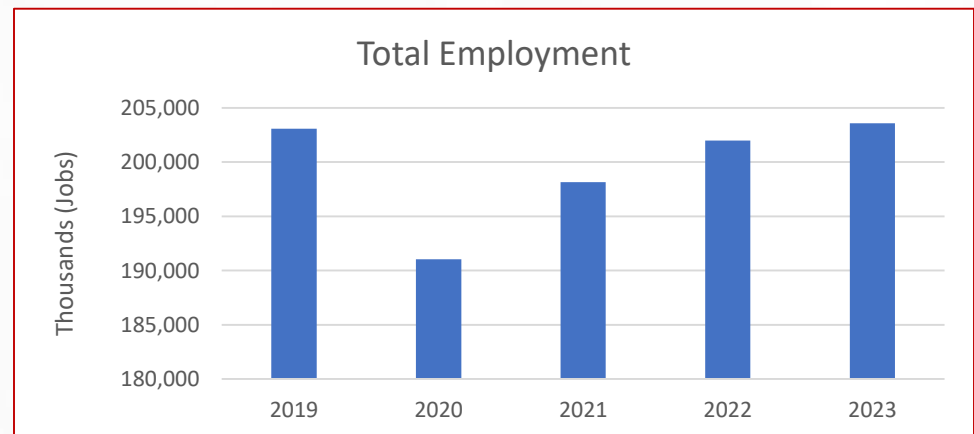
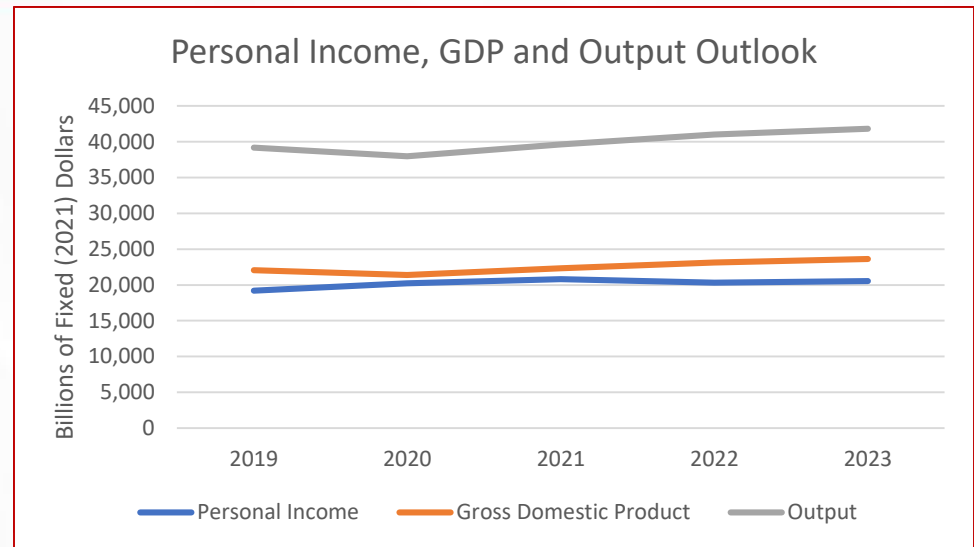


# National Outlook

# Short-Term Outlook: the U.S.

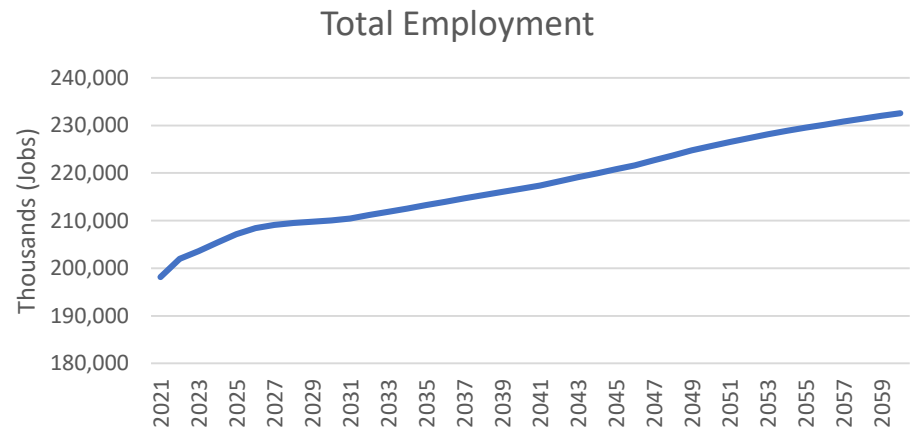
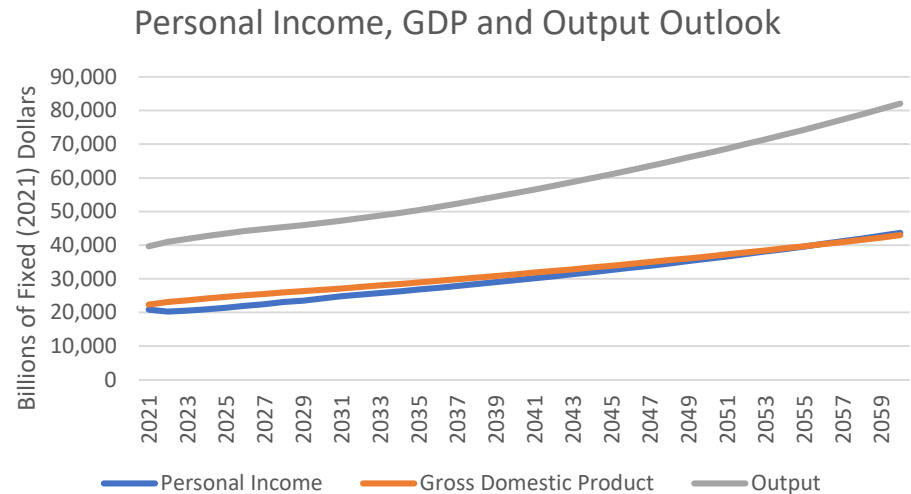


- Years 2019-2023
- Growth 2020-2021
  - Personal income: 2.9%
  - GDP: 4.4%
  - Output: 4.4%
  - Employment: +7 million jobs



# Long-Term Outlook: The U.S.

- Years 2021-2060
- Average growth / year
  - Personal income: 1.9%
  - GDP: 1.8%
  - Output: 1.9%
  - Total employment: +1,038 thousand jobs



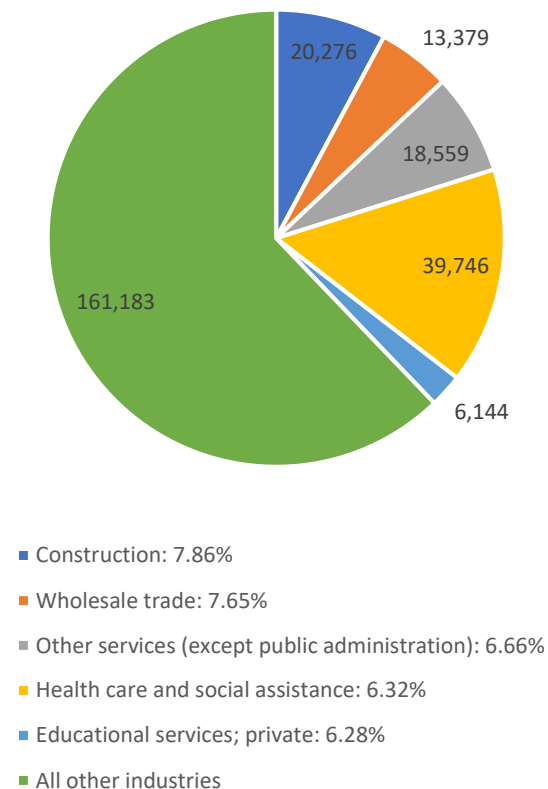
# Regional Outlook: Michigan

# Short-Term Outlook: Employment by Industry



- Industries with largest employment growth rates in 2021
- 2020 - 2021: 98,104 jobs increasing in the top 5 fast growing industries

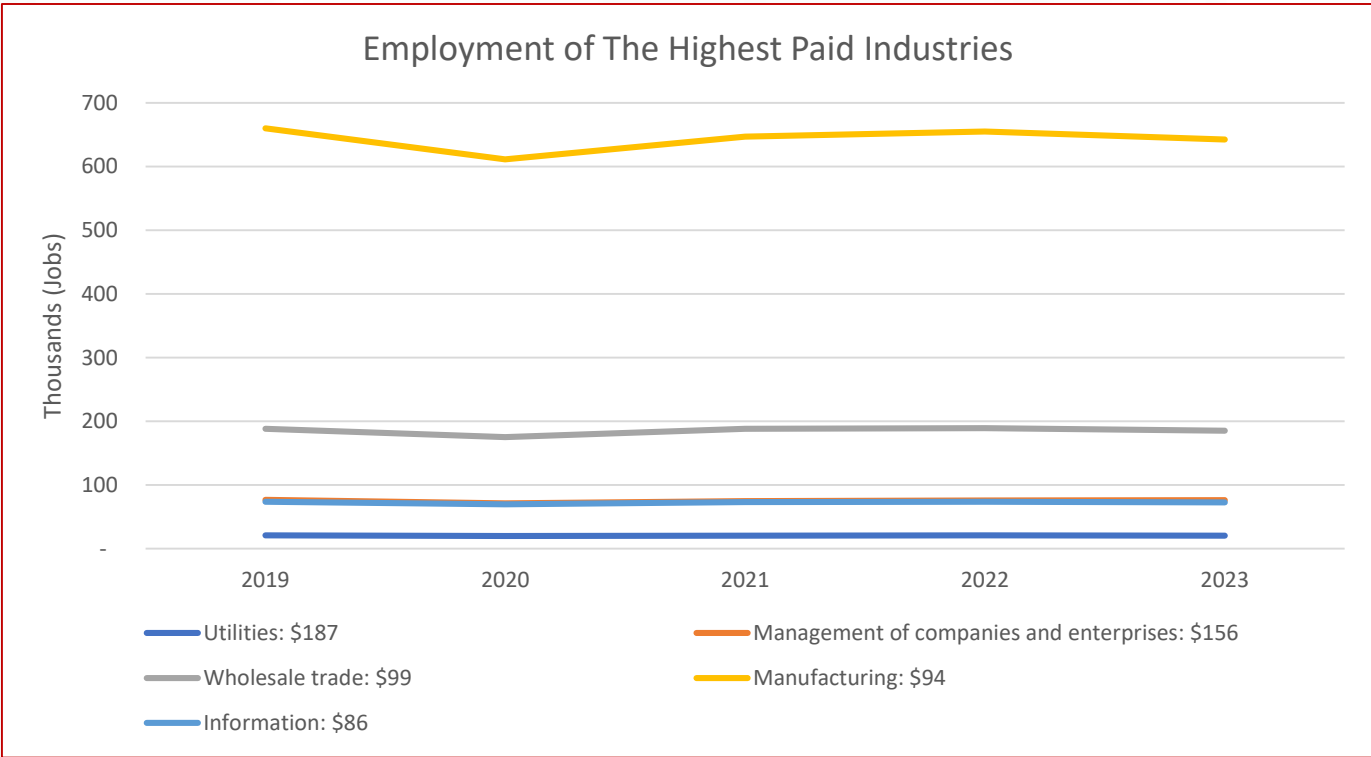
Job Increase in The Fastest Growing Industries in 2021



# Short-Term Outlook: Employment by Industry



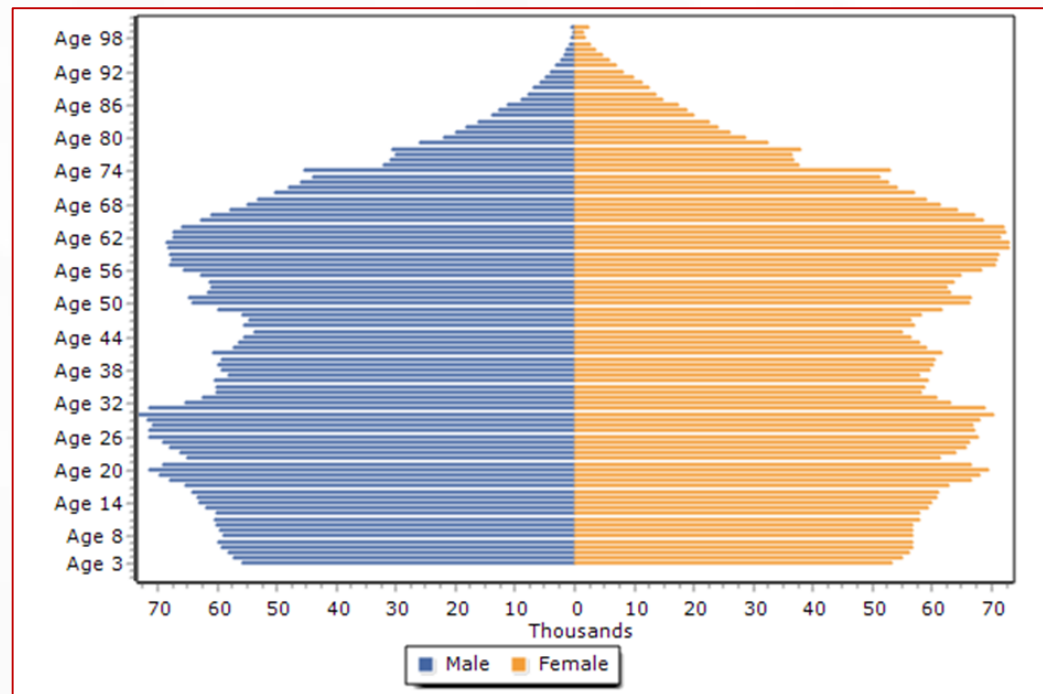
- Industries with highest average annual compensation rates in 2021



# Short-Term Outlook: Population Pyramid (2021)

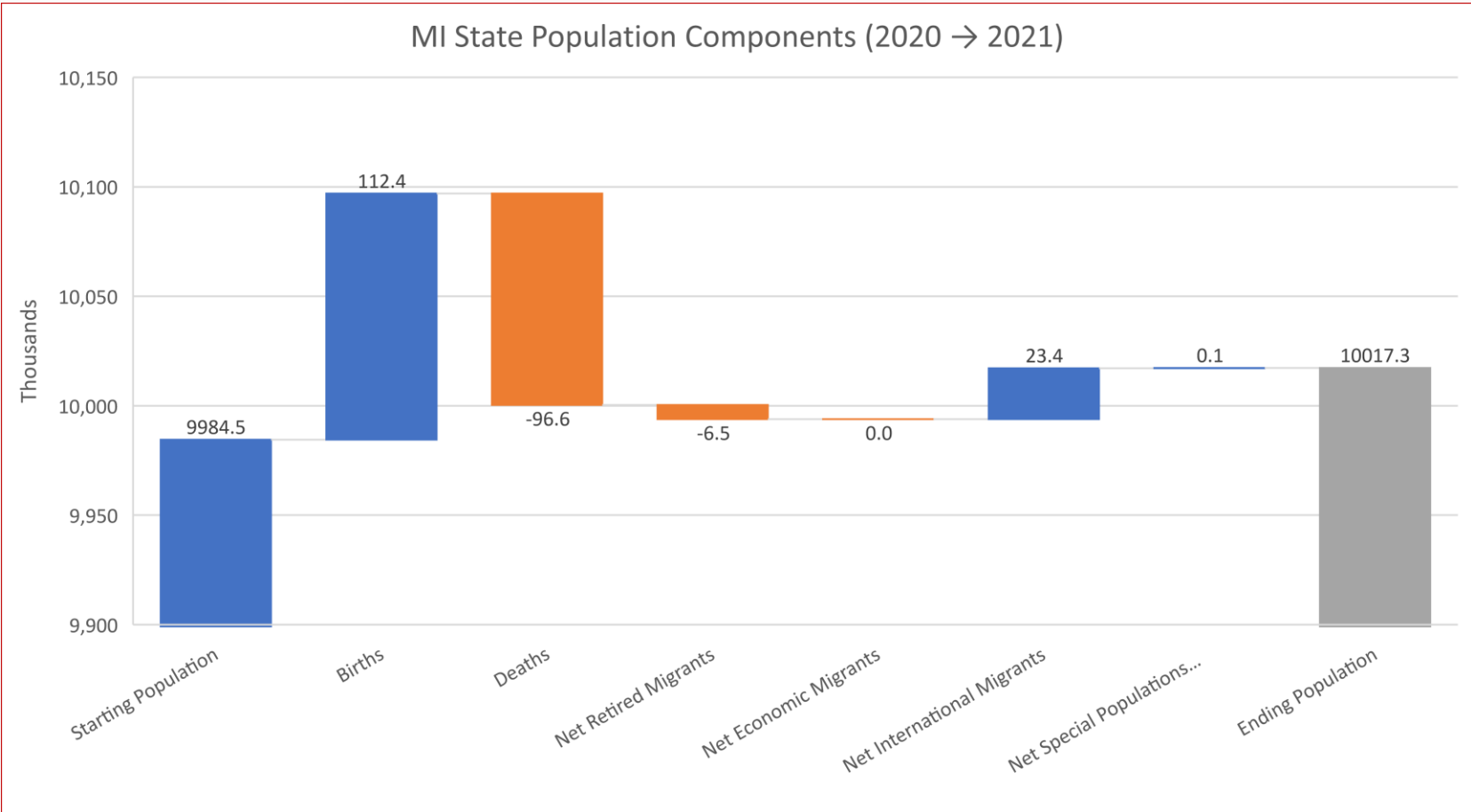


- Year 2021
- Constrictive





# Short-Term Outlook: Population Components

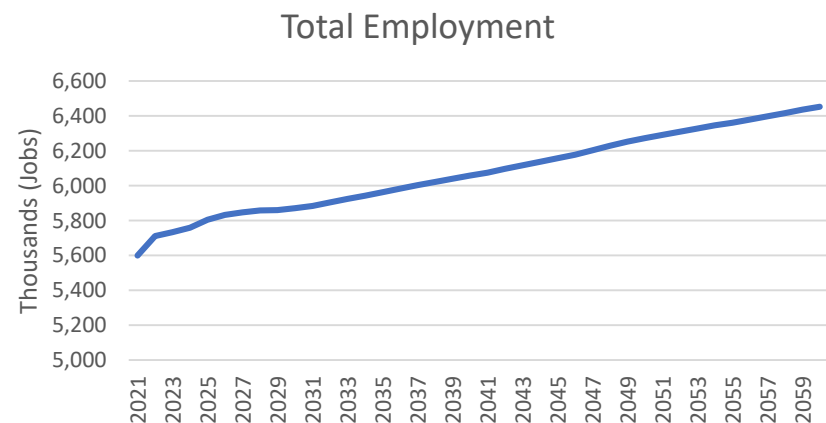
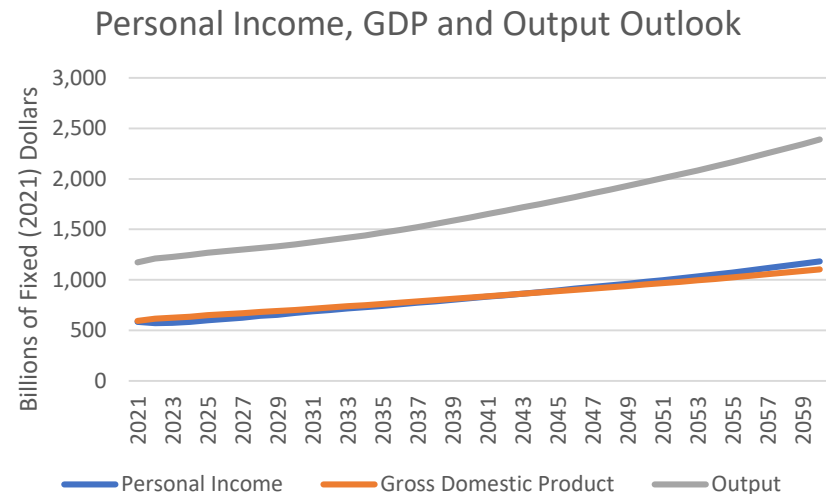


what does **REMI** say? <sup>sm</sup>

# Long-Term Outlook: Michigan



- Years 2021-2060
- Average growth / year
  - Personal income: 1.9%
  - GDP: 1.7%
  - Output: 2.0%
- Total employment: 28 thousand jobs

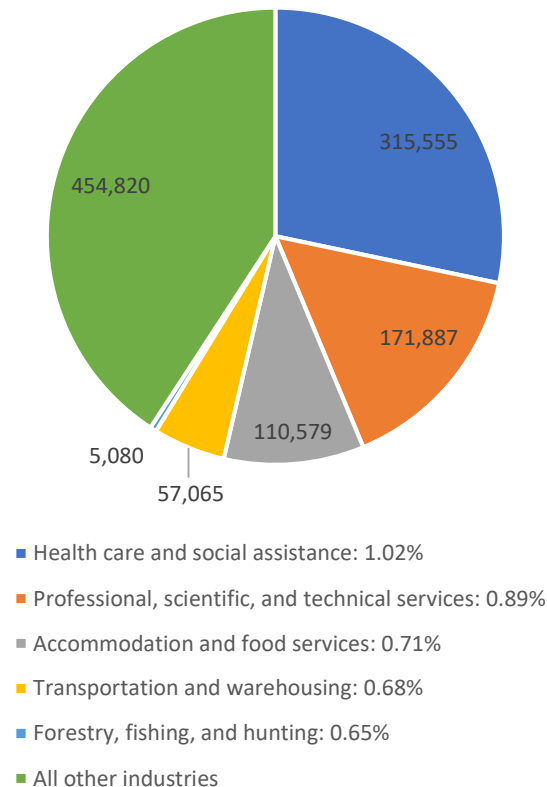


# Long-Term Outlook: Employment by Industry



- Industries with fastest employment increasing
- 2020 - 2060: 660,166 jobs increasing in the top 5 fast growing industries

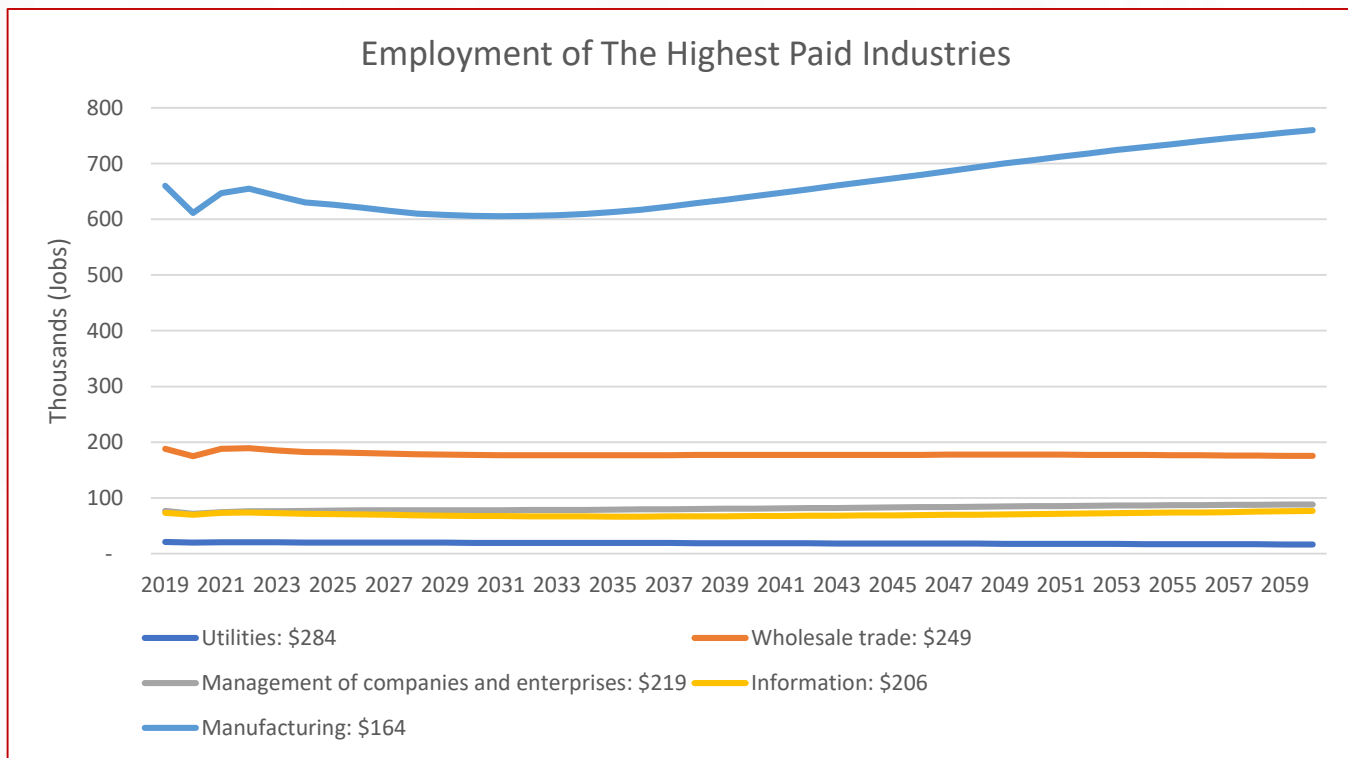
Job Increase in The Fastest Growing Industries  
(2020 → 2060)



# Long-Term Outlook: Employment by Industry



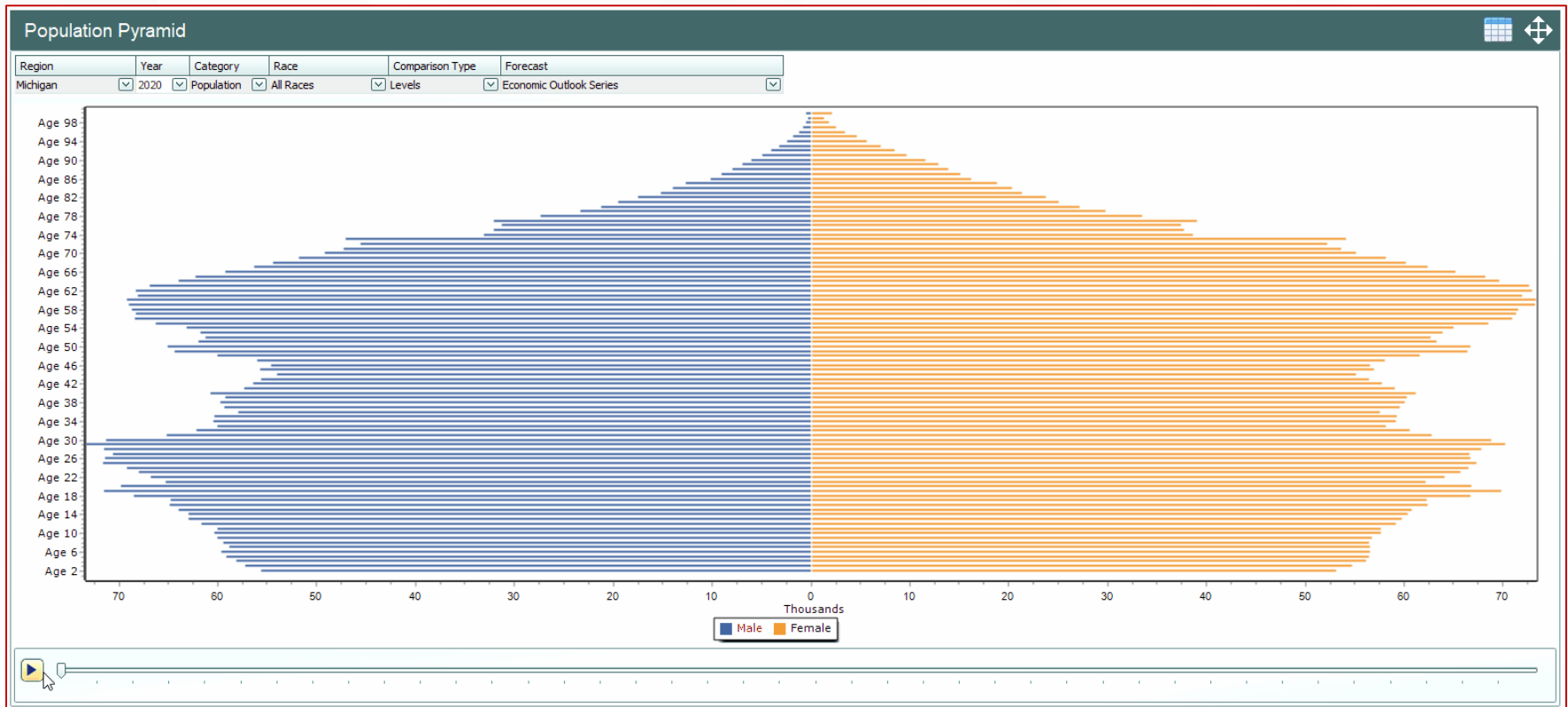
- Employment of industries with highest average annual compensation rates in 2060



# Long-Term Outlook: Population Pyramid



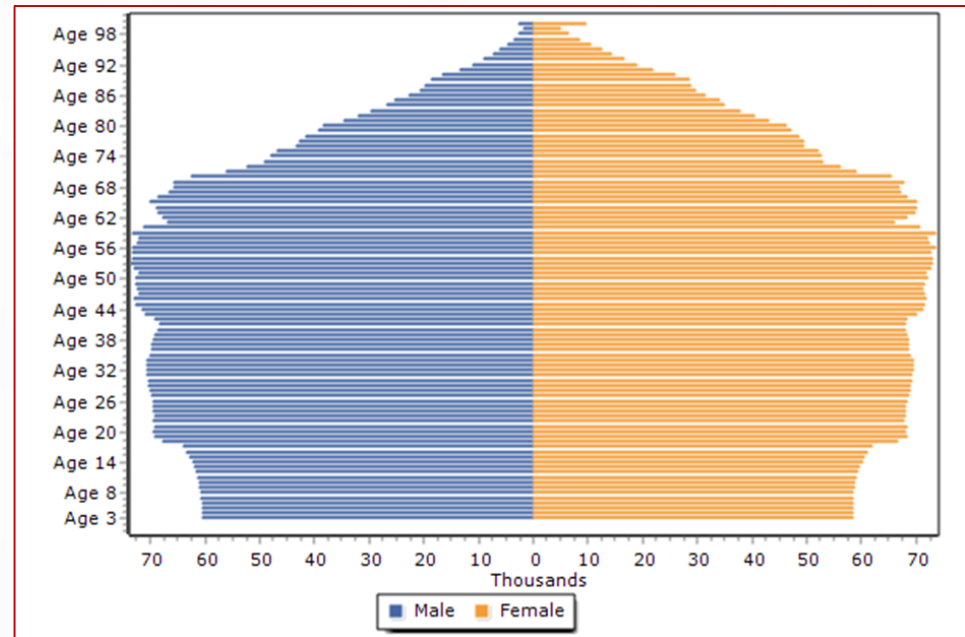
- Year 2060



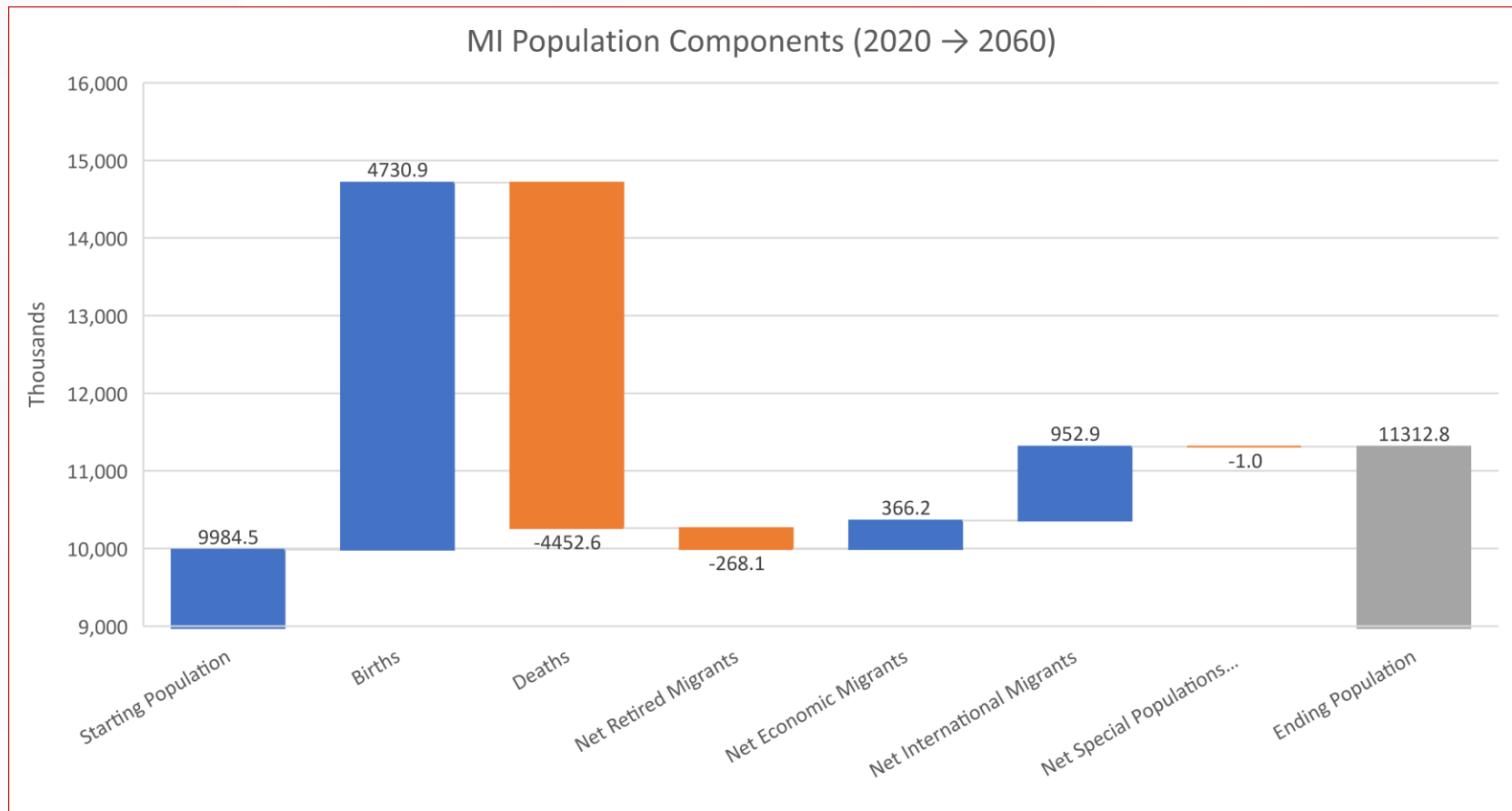
# Long-Term Outlook: Population Pyramid



- Year 2060
- Constrictive



# Population Components



# Model Demonstration



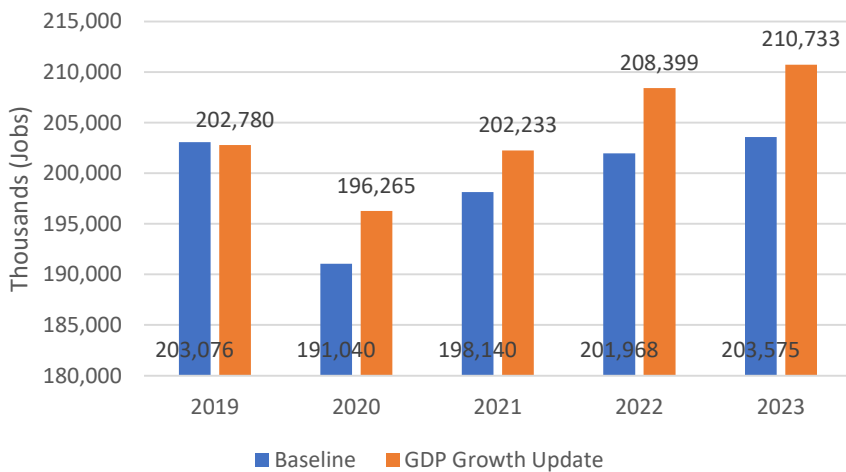
# The Scenario

- Optimistic Outlook
  - Baseline – Total employment slowly comes back accompanied by steady growth
  - Uncertainty
    - large pent-up consumer demand
    - supports of vaccine
    - stimulus checks
- Macroeconomic update
  - Increase GDP growth rate by 2%
- Total Employment
  - The US vs Michigan

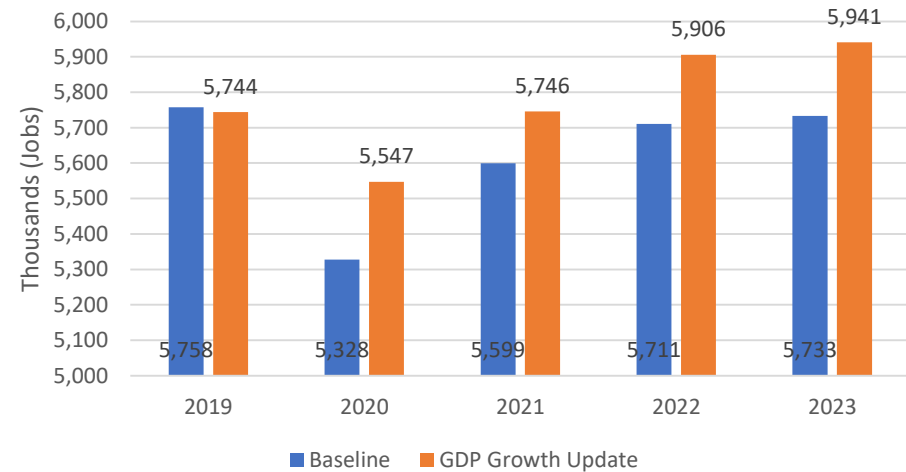
# Optimistic Outlook

- Year 2019-2023

Total Employment of the US



Total Employment of Michigan



# Conclusion

- Economic forecasts can be difficult
  - The outbreak of COVID-19
  - The election of a new president
  - General uncertainty about the economy
- REMI can help
  - Forecasts: Macro modeling used to clarify, calculate, and communicate
  - Simulations: What-if scenarios
  - Dynamic results

# Q & A

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# Citations

1. Ehrlich, Gabriel M. "The U.S. Economic Outlook for 2021-2022 -- Executive Summary: February 2021." *College of Literature, Science, and the Arts, University of Michigan*, Research Seminar of Quantitative Economics, University of Michigan, 19 Feb. 2021, [lsa.umich.edu/content/dam/econ-assets/Econdocs/RSQE%20PDFs/Exec\\_Sum\\_Feb\\_2021.pdf](https://lsa.umich.edu/content/dam/econ-assets/Econdocs/RSQE%20PDFs/Exec_Sum_Feb_2021.pdf).