

Economic Outlook for the State of Arizona

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Welcome and Outline

- 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:

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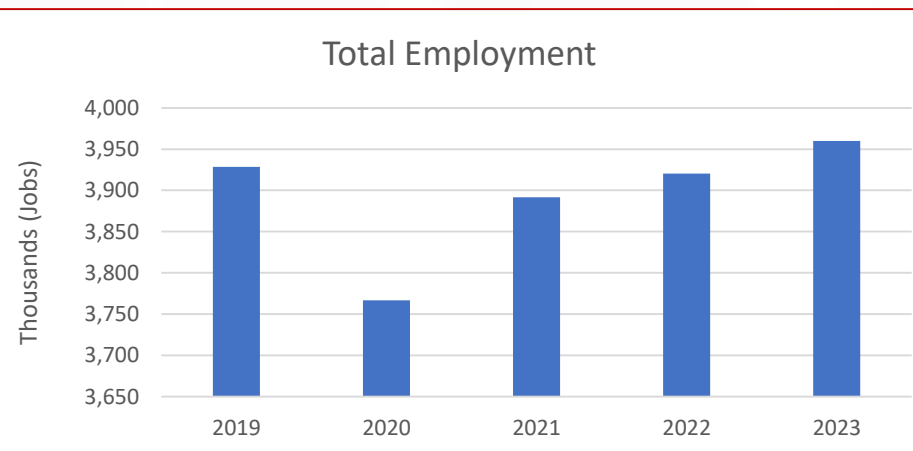
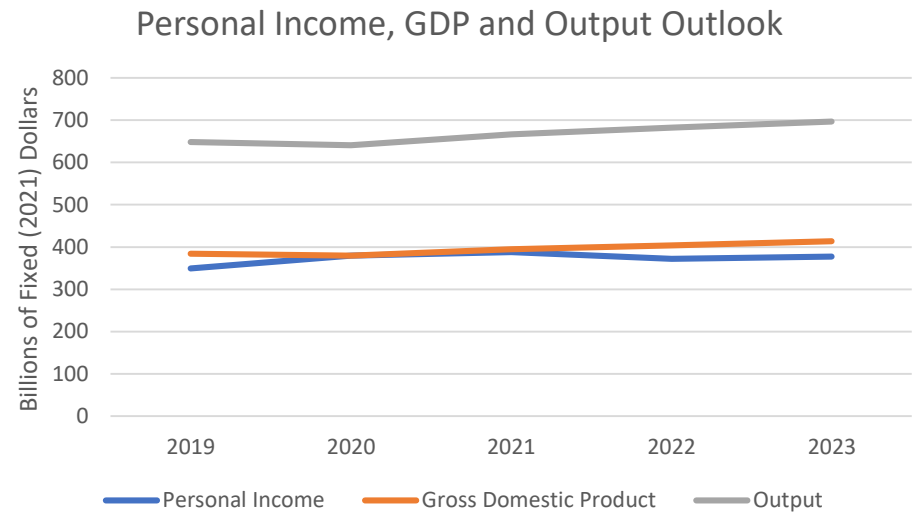
Arizona State Economy

- Top **copper** mining state in the U.S., plus some **zinc** & **uranium**.
- **Winter tourism** (especially among **retirees**) drives the Arizona economy, as we'll see later today.
- An even distribution of livestock & crops among AZ farming, namely **lettuce**, **cotton**, & **beef cattle**.
 - Increasing products include citrus fruits & wine grapes.
 - 80% of the state's water usage goes towards farming.
- **Ponderosa pines** are popular for lumber & pulp.
- Most common manufacturing products include computer **microchips**, electronic **communications systems**, transportation equipment.

Short-Term Outlook: Arizona



- Years 2019-2023
- Growth 2020-2021
 - Personal income : 2.1%
 - GDP: 4.0%
 - Output: 4.0%
 - Employment: 125 thousand jobs
- Uncertainty



REMI Regional Growth Matrix: Economic & Demographic Factors



Economic Factors

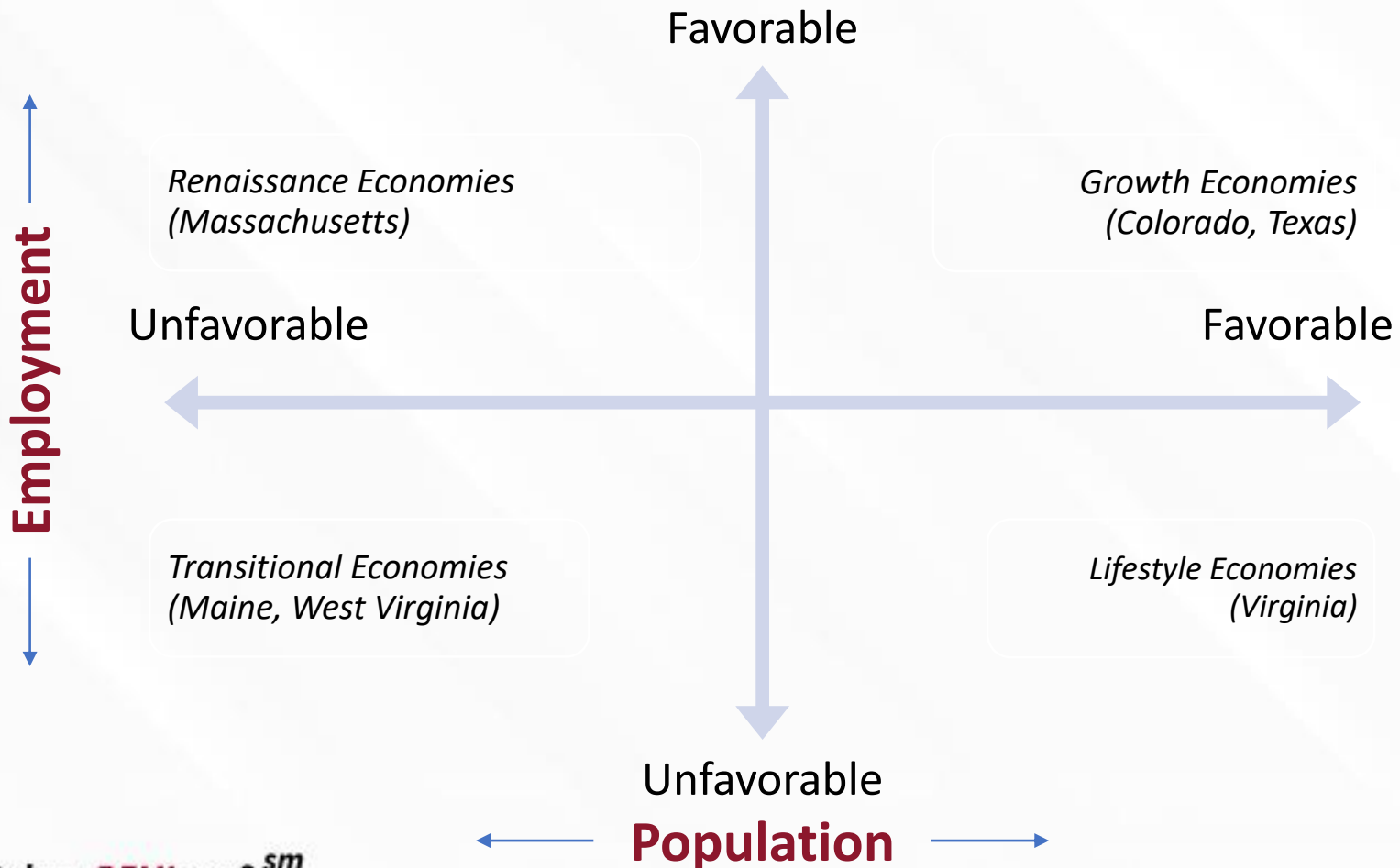
	Industry Growth	Industry Clusters	Pay	Productivity	Business Cost
Favorable	Growing	Strong	High-paid industries	High	Low
Unfavorable	Declining	Weak	Low-paid industries	Low	High

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

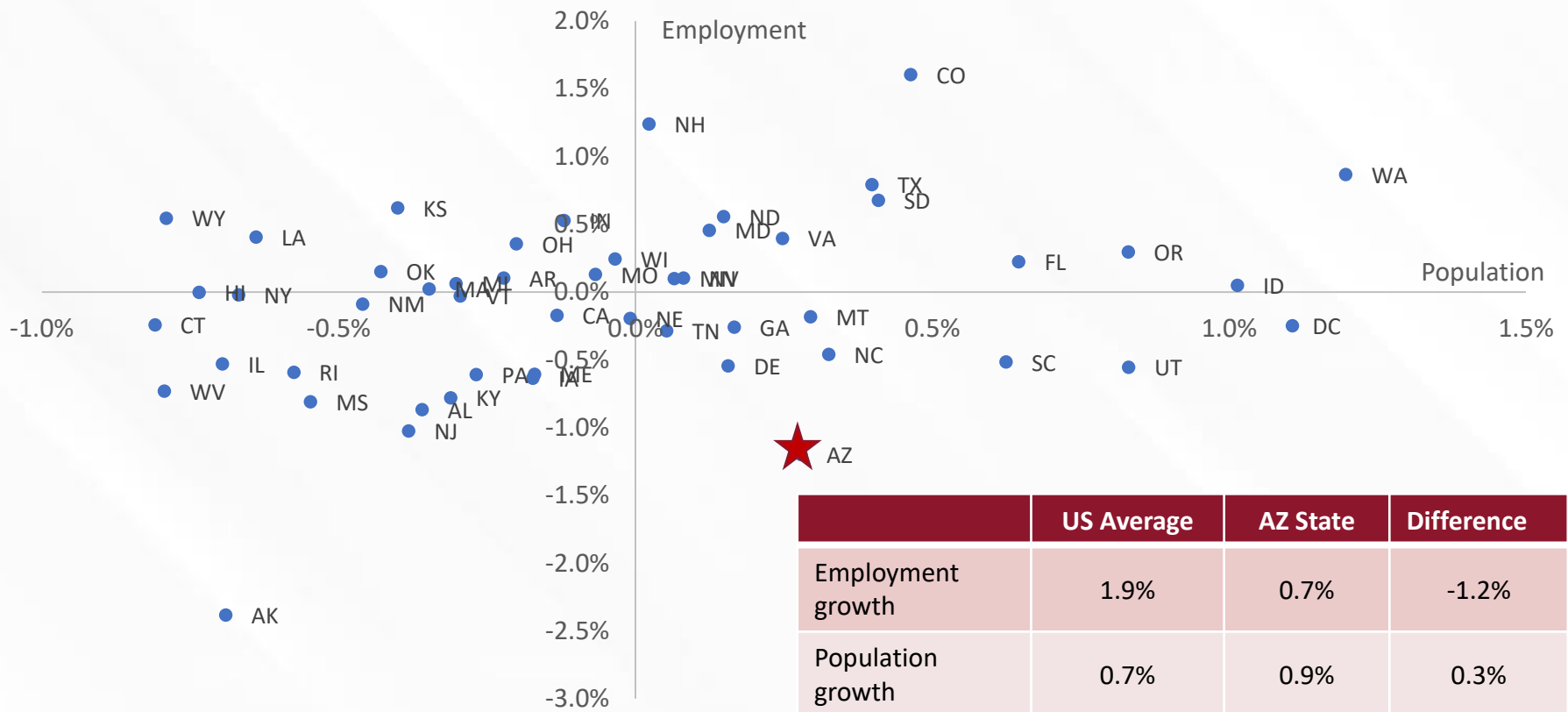
what does **REMI** say? sm

Regional Growth Matrix



Growth Matrix

Difference in Growth from US Average (2021-2022)



Data Sources

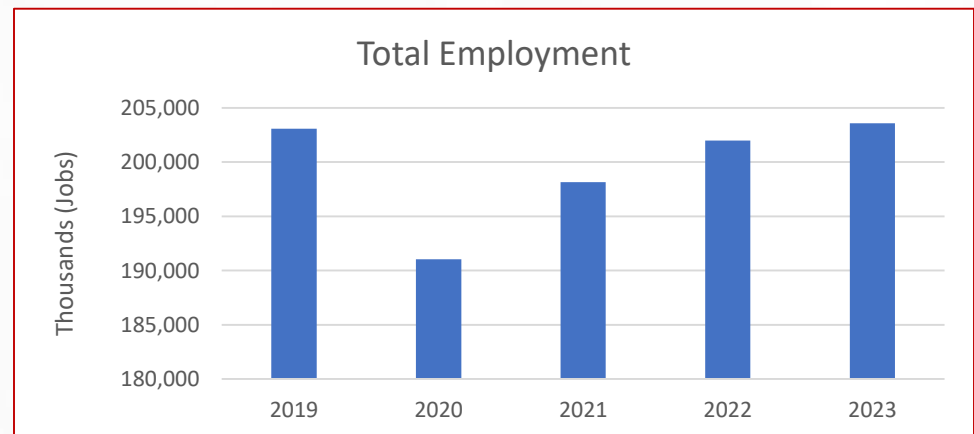
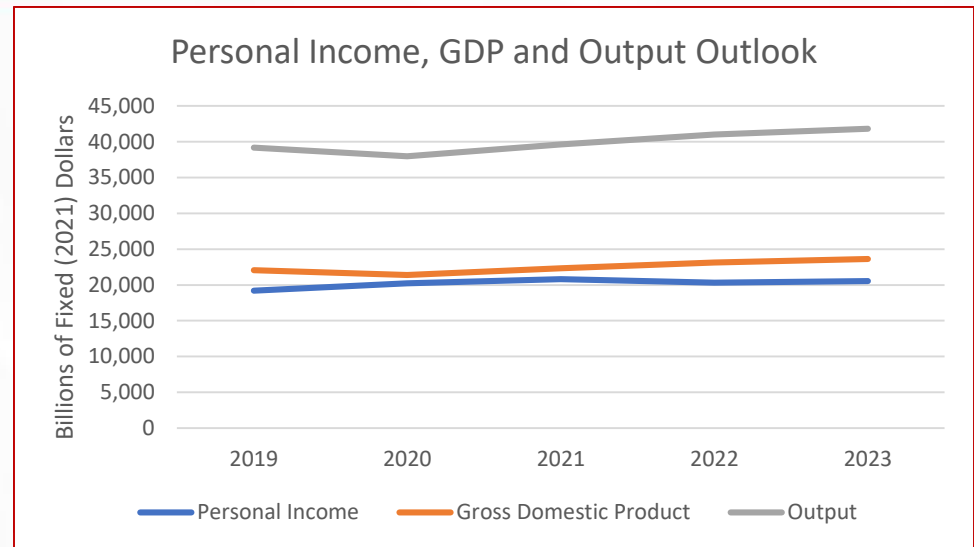
- Baseline (Standard National Control)
 - BLS Forecast Data
- Economic Forecast Update March 2021
 - 2019-2020 historical data from BEA
 - The U.S. Economic Outlook for 2020-2022 from the University of Michigan's Research Seminar in Quantitative Economics (RSQE)
 - An update to the Economics Outlook from CBO
 - Includes \$1.6 trillion stimulus, additional vaccination, and additional consumer spending¹

National Outlook

Short-Term Outlook: the U.S.

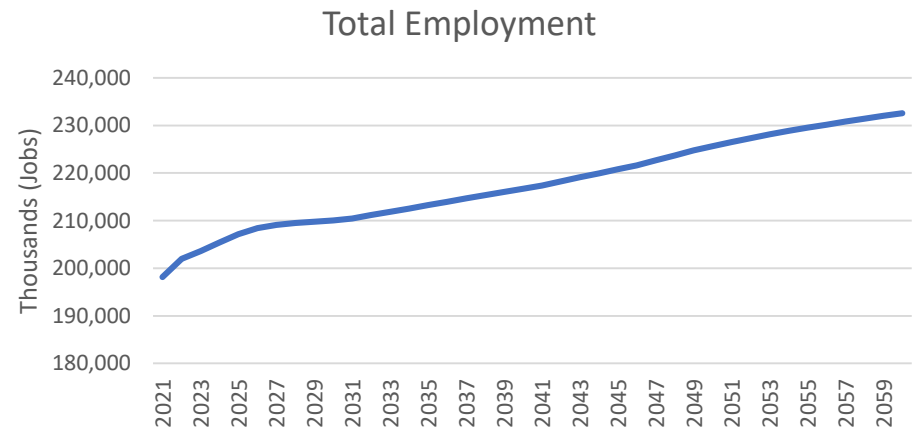
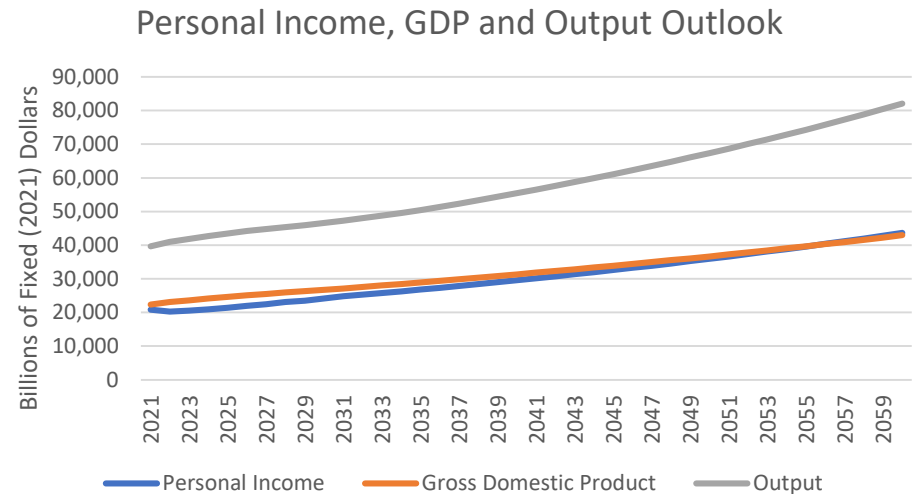


- Years 2019-2023
- Growth 2020-2021
 - Personal income: 2.9%
 - GDP: 4.4%
 - Output: 4.4%
 - Employment: +7 million jobs



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



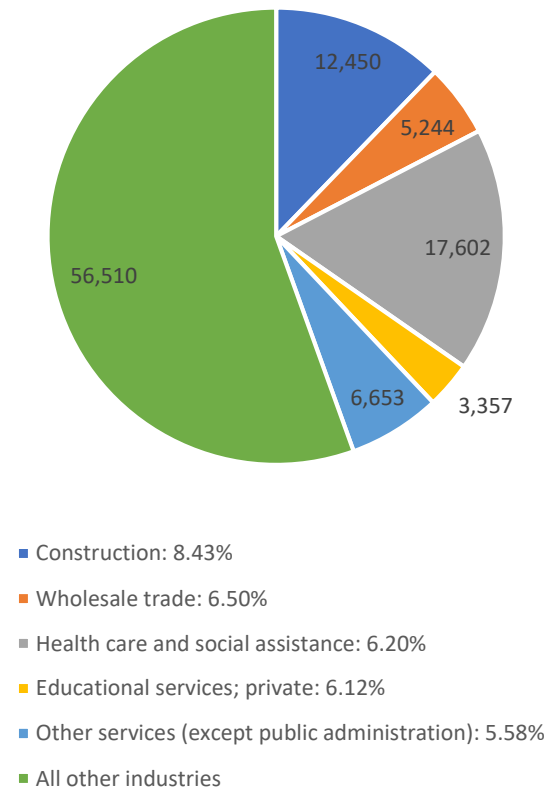
Regional Outlook: Arizona

Short-Term Outlook: Employment by Industry



- Industries with largest employment growth rates in 2021
- 2020 - 2021: 45,306 jobs increasing in the top 5 fast growing industries

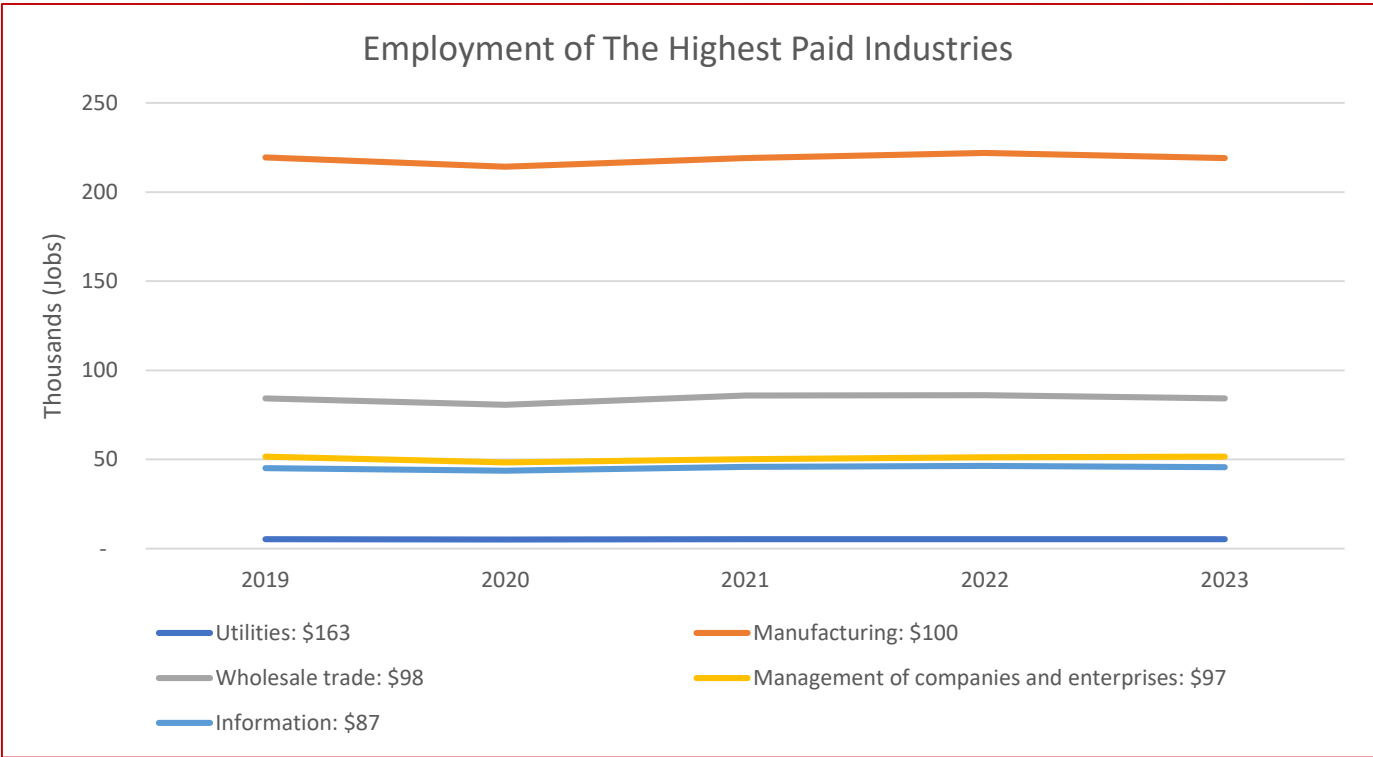
Job Increase in The Fastest Growing Industries in 2021



Short-Term Outlook: Employment by Industry



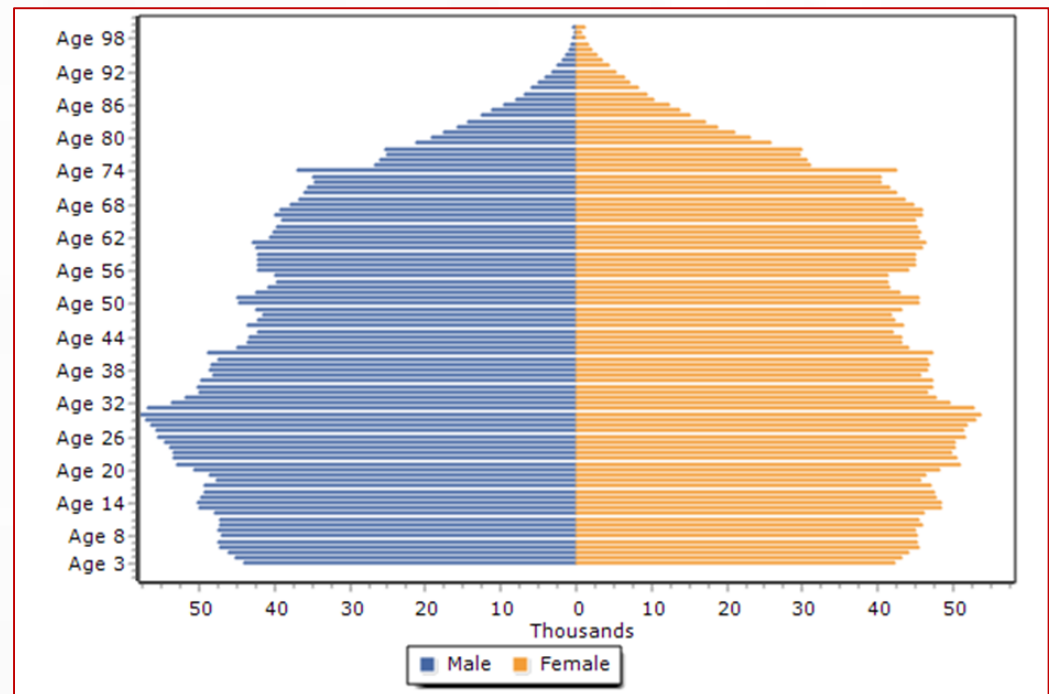
- Industries with highest average annual compensation rates in 2021



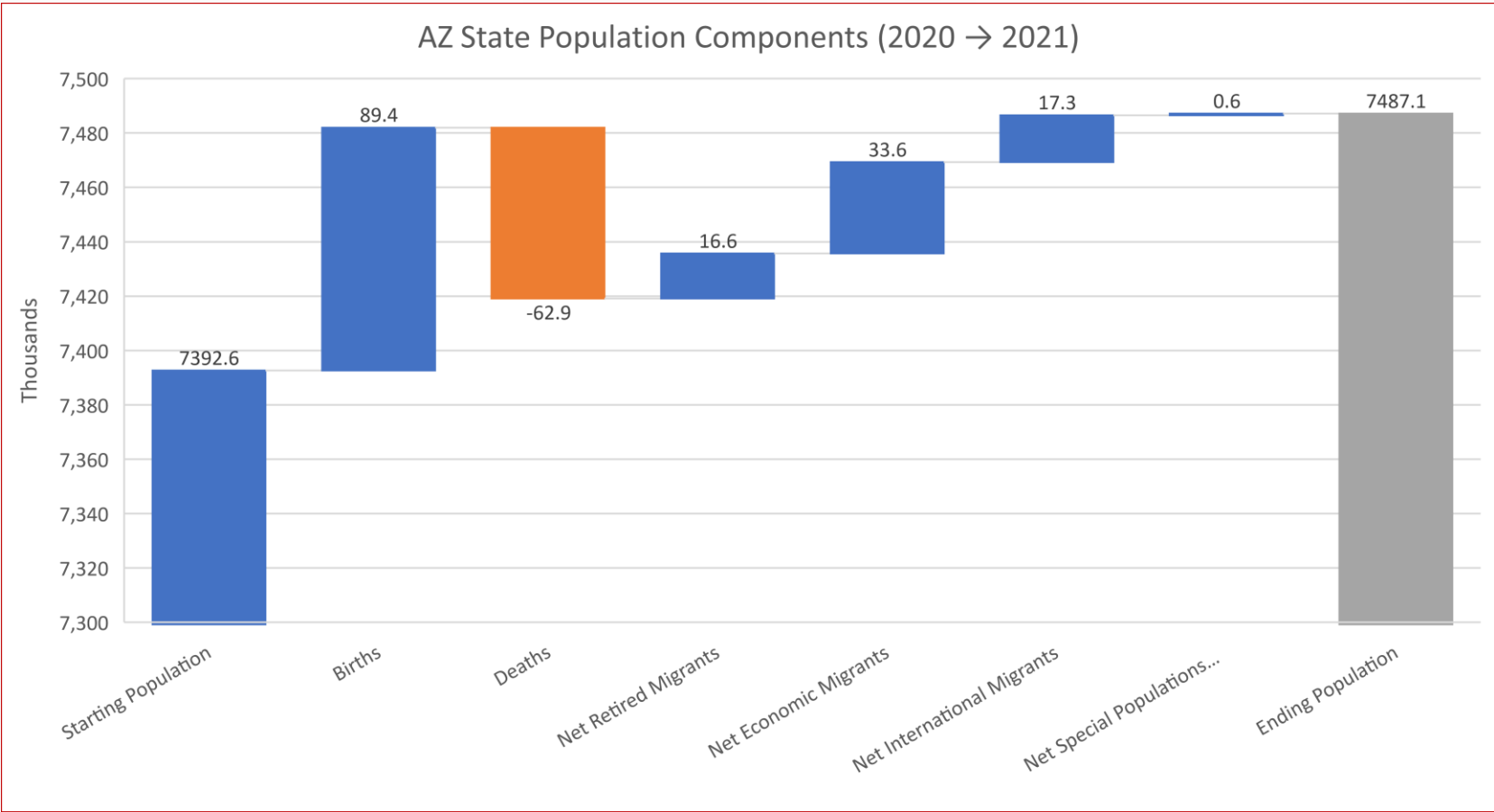
Short-Term Outlook: Population Pyramid (2021)



- Year 2021
- Near stationary

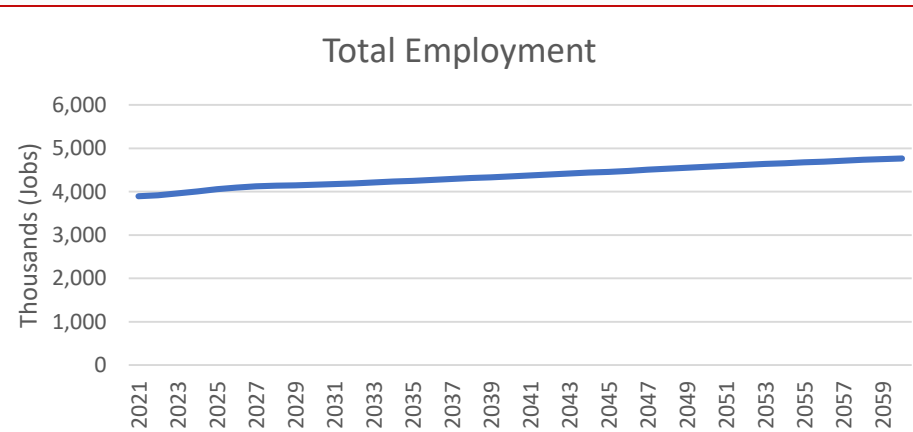
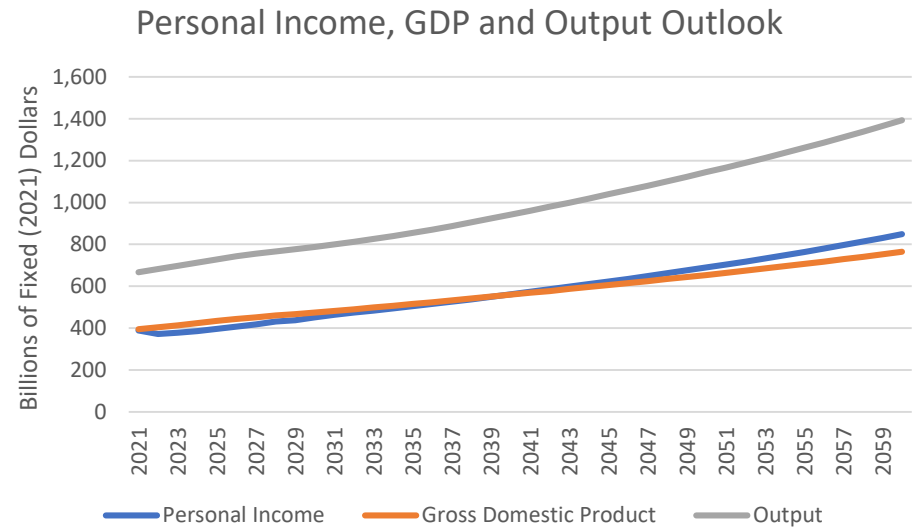


Short-Term Outlook: Population Components



Long-Term Outlook: Arizona

- Years 2021-2060
- Average growth / year
 - Personal income: 2.0%
 - GDP: 1.8%
 - Output: 2.0%
 - Total employment: 25 thousand jobs

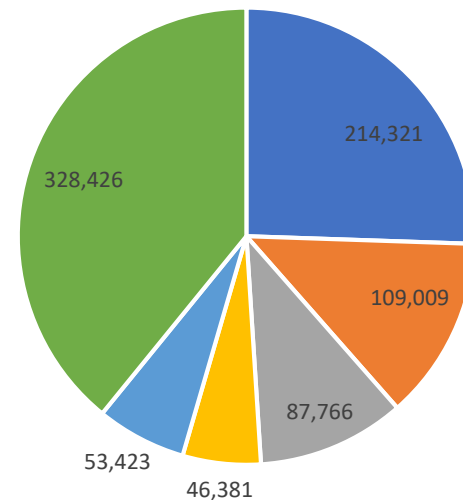


Long-Term Outlook: Employment by Industry



- Industries with fastest employment increasing
- 2020 - 2060: 510,900 jobs increasing in the top 5 fast growing industries

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

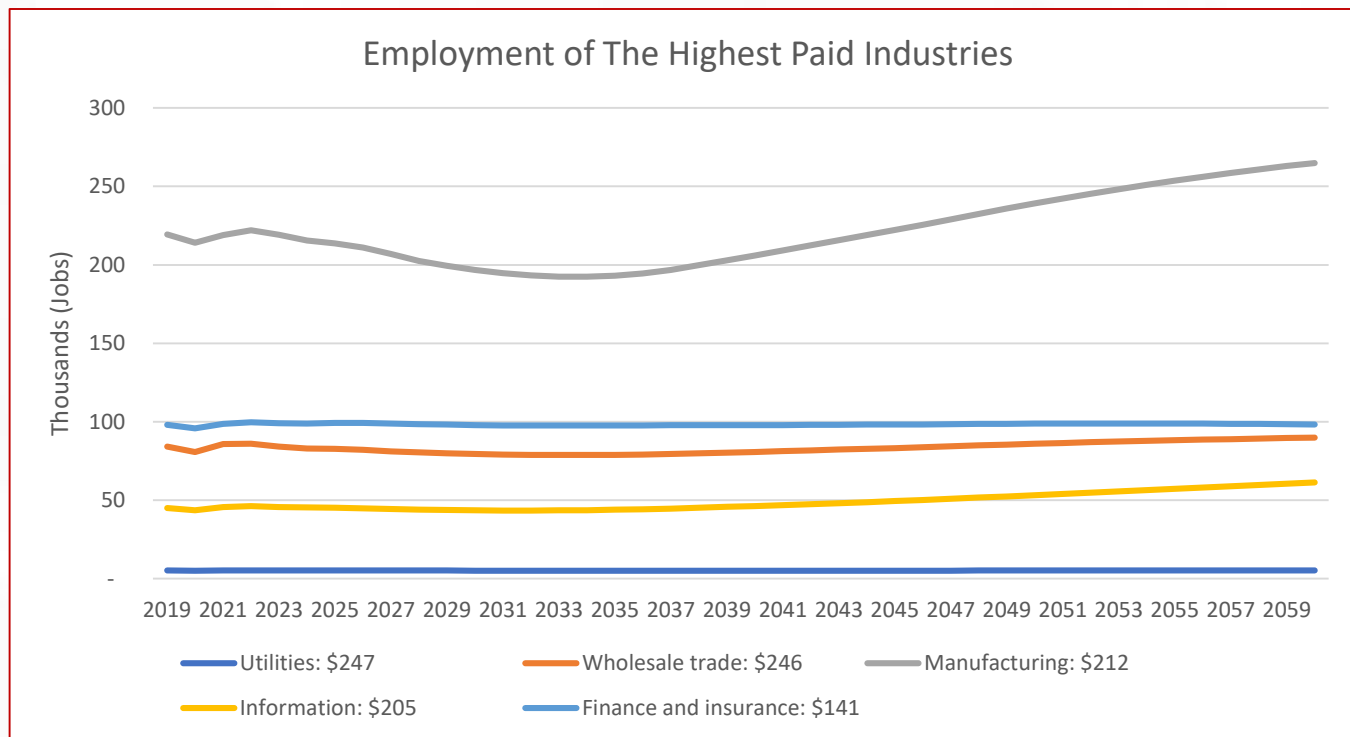


- Health care and social assistance: 1.42%
- Professional, scientific, and technical services: 1.25%
- Accommodation and food services: 1.04%
- Transportation and warehousing: 1.01%
- Administrative, support, waste management, and remediation services: 0.86%
- All other industries

Long-Term Outlook: Employment by Industry



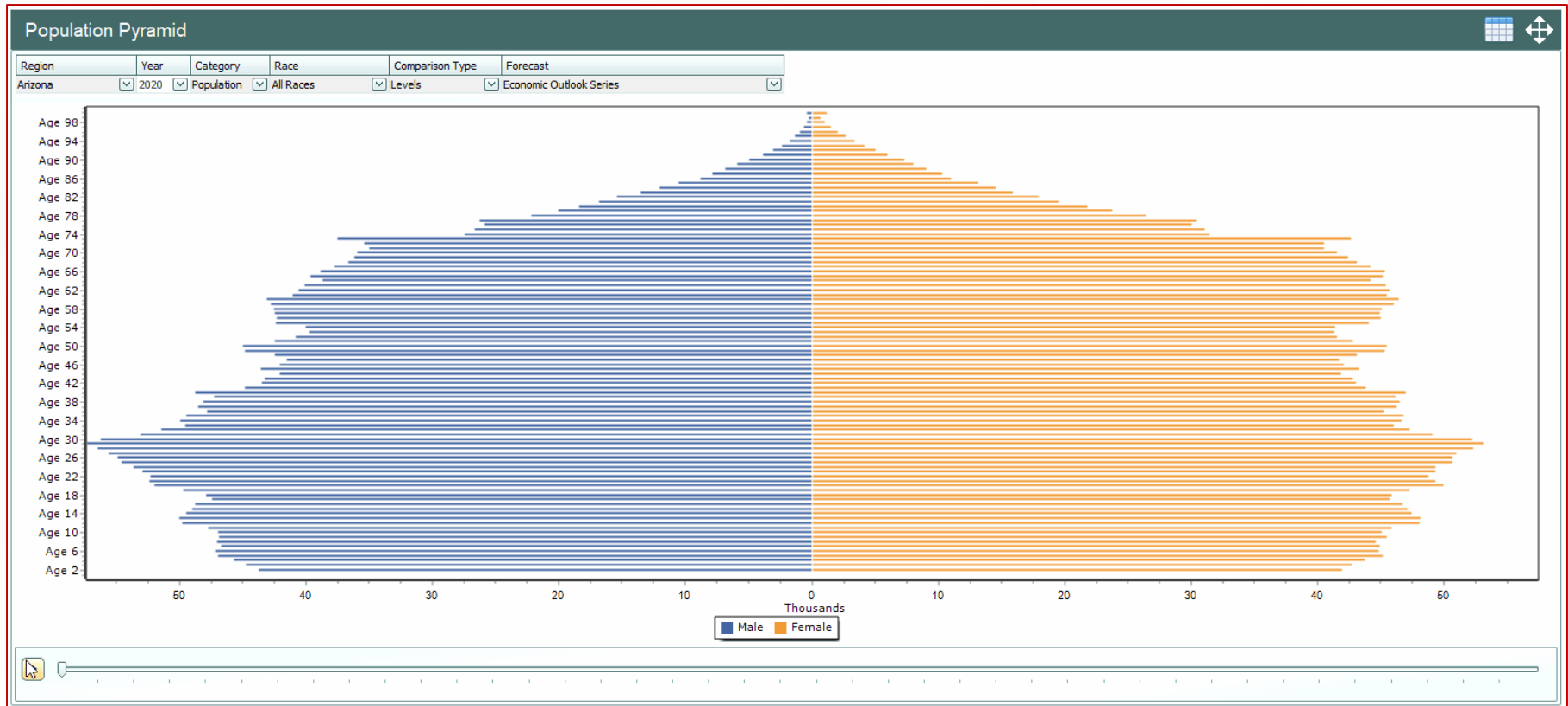
- Employment of industries with highest average annual compensation rates in 2060



Long-Term Outlook: Population Pyramid



- Year 2060

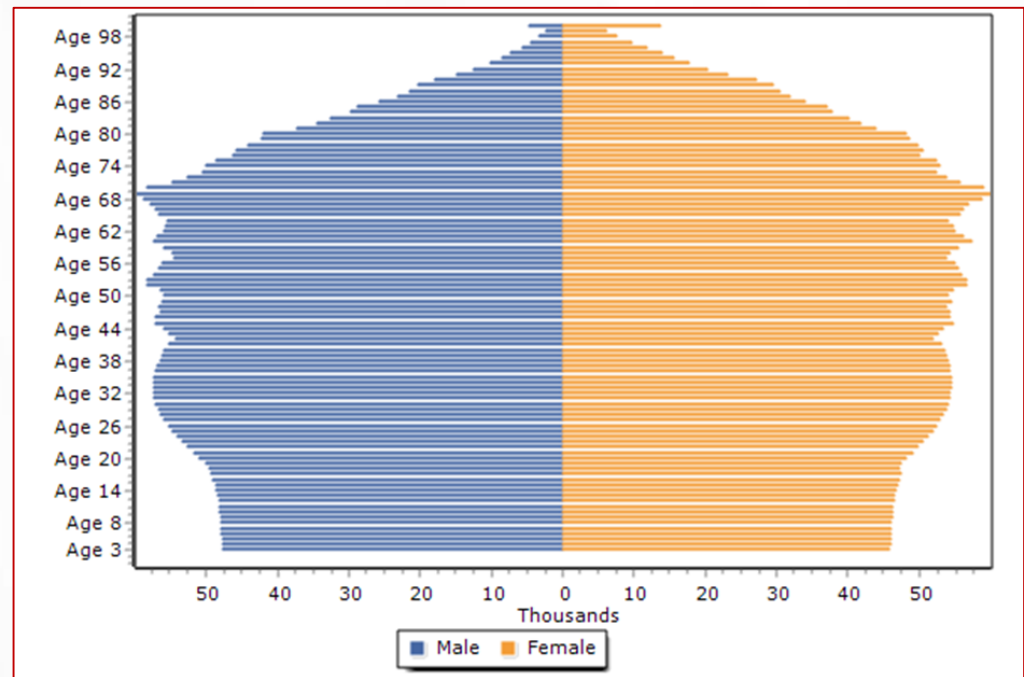


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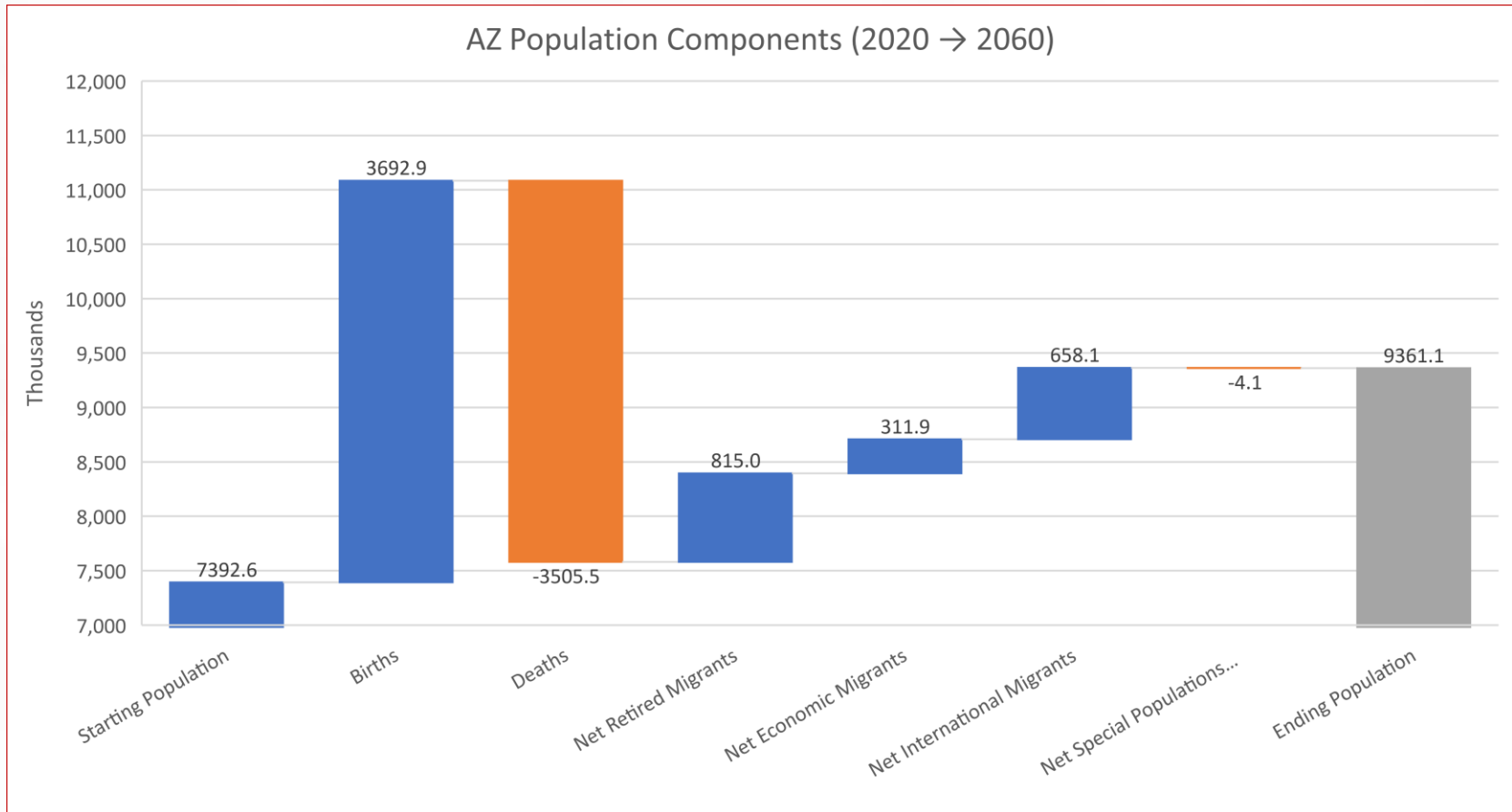
Long-Term Outlook: Population Pyramid



- Year 2060
- Constrictive
 - Elderly & shrinking



Population Components



Model Demonstration

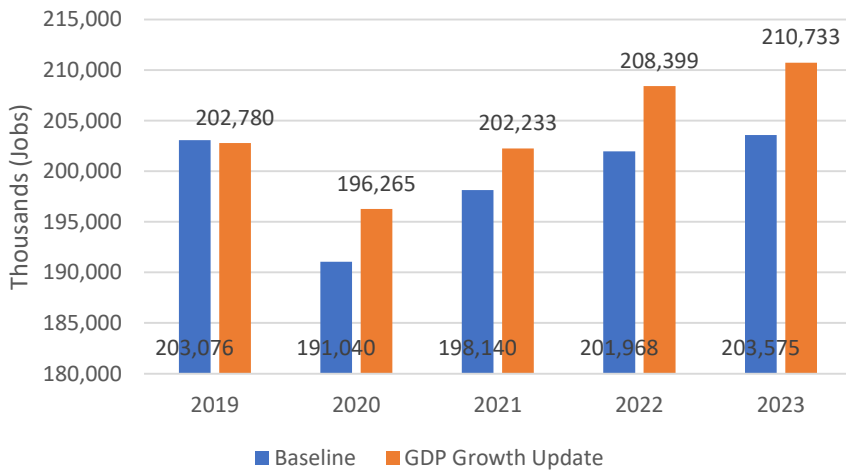
The Scenario

- 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 Arizona

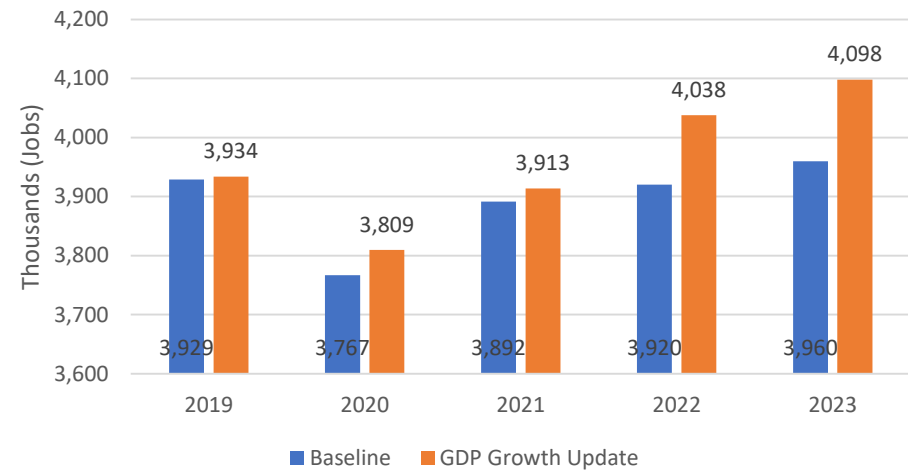
Optimistic Outlook

- Year 2019-2023

Total Employment of the US



Total Employment of Arizona



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

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.

Q & A

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