

# Economic Outlook for the State of Texas

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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  
South Coast Air Quality Management District • Florida Legislature  
North Carolina Department of Commerce • Wyoming Department of Administration & Information  
California Environmental Protection Agency • U.S. Army Corps of Engineers

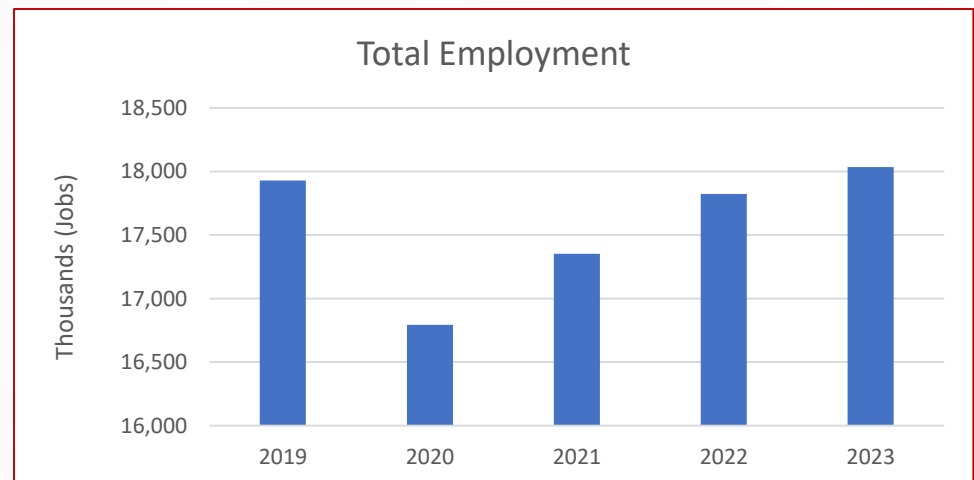
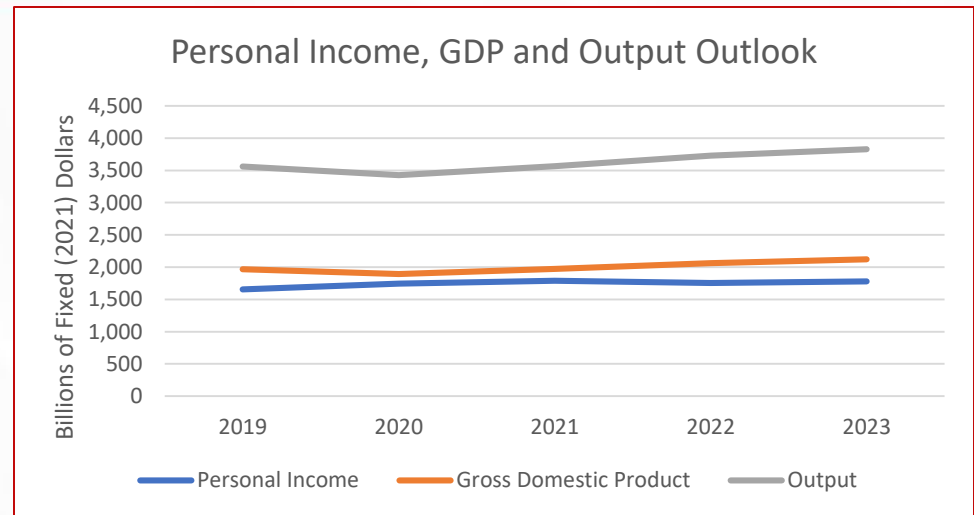
# Texas State Economy

- The second largest U.S. state by both area and population
- Has led the U.S. in state export revenue since 2002 and has the second-highest gross state product
- Leads in many industries
  - Tourism,
  - Agriculture,
  - Petrochemicals
  - Energy
  - Computers and electronics
  - Aerospace, and biomedical sciences

# Short-Term Outlook: Texas



- Years 2019-2023
- Growth 2020-2021
  - Personal income: 2.7%
  - GDP: 4.2%
  - Output: 4.1%
  - Employment: +559 thousand jobs
- Uncertainty



# REMI Regional Growth Matrix: Economic & Demographic Factors



## Economic Factors

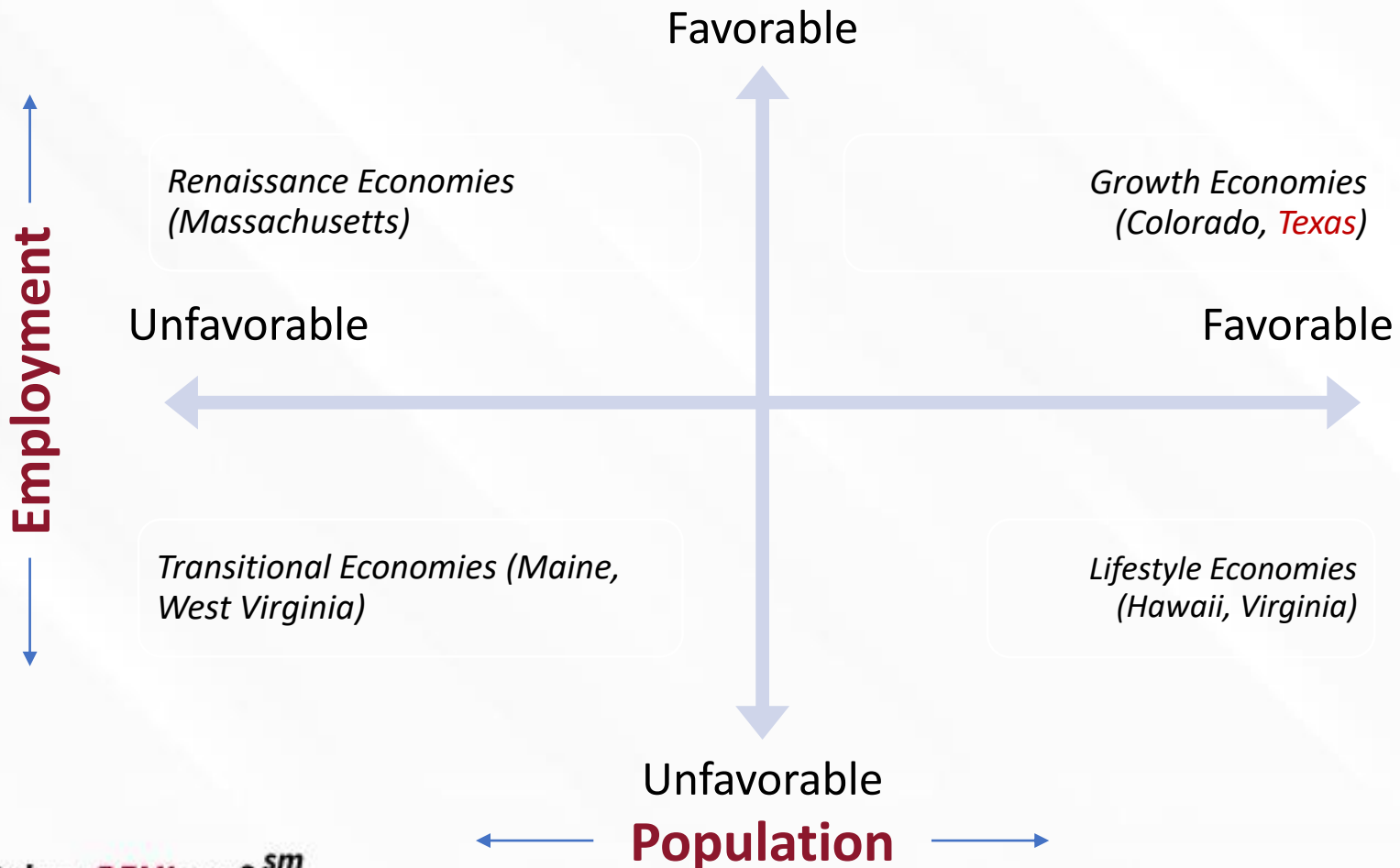
|             | Industry Growth | Industry Clusters | Pay                  | Productivity | Business Cost |
|-------------|-----------------|-------------------|----------------------|--------------|---------------|
| Favorable   | Growing         | Strong            | High-paid industries | High         | 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         |

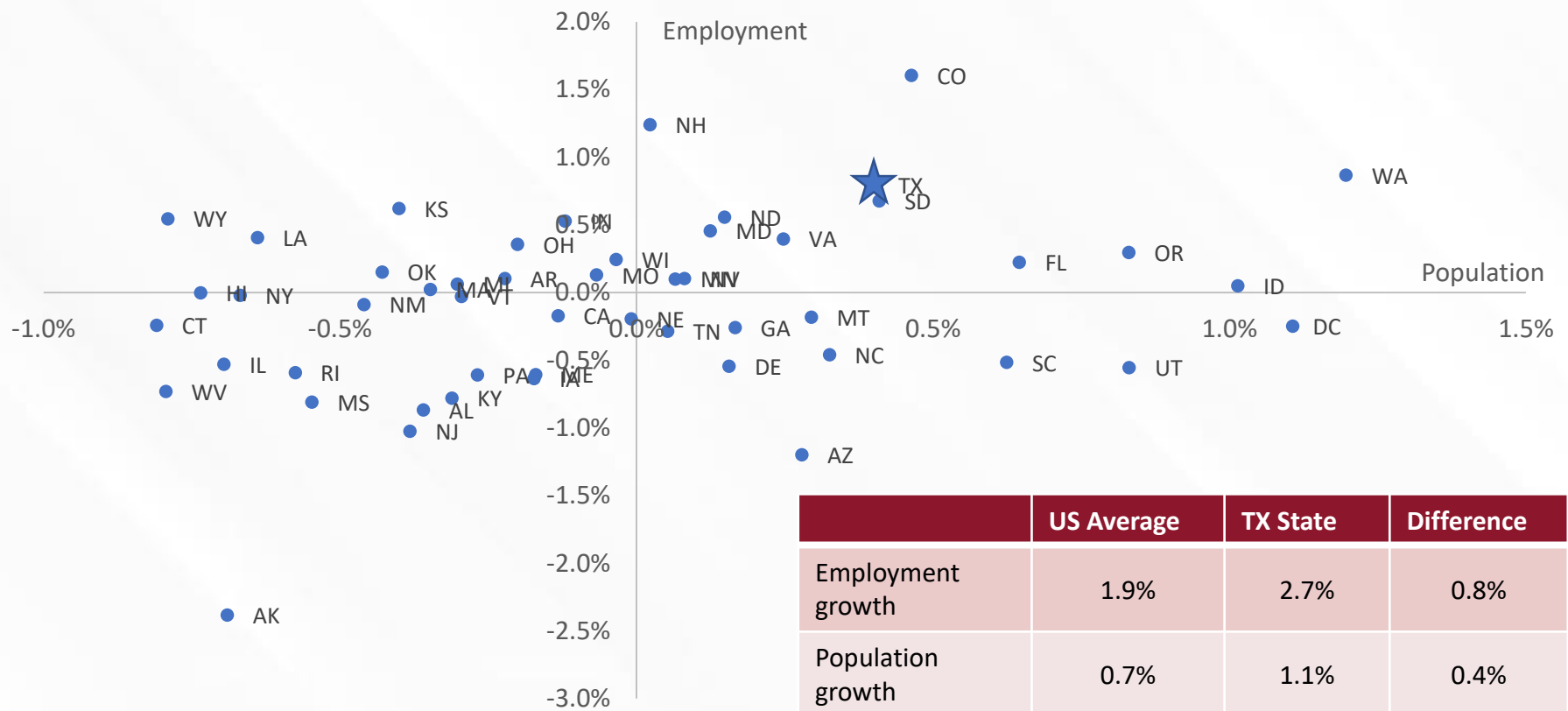
what does **REMI** say? <sup>sm</sup>

# Regional Growth Matrix



# Growth Matrix

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





# Data Sources

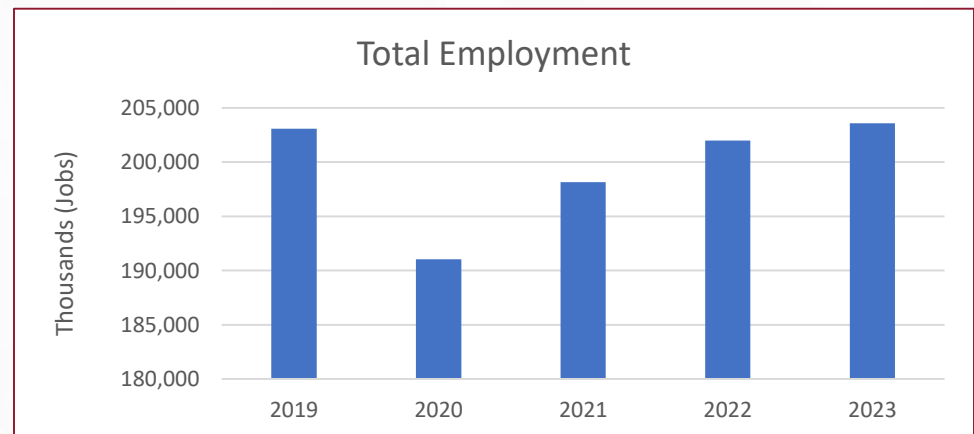
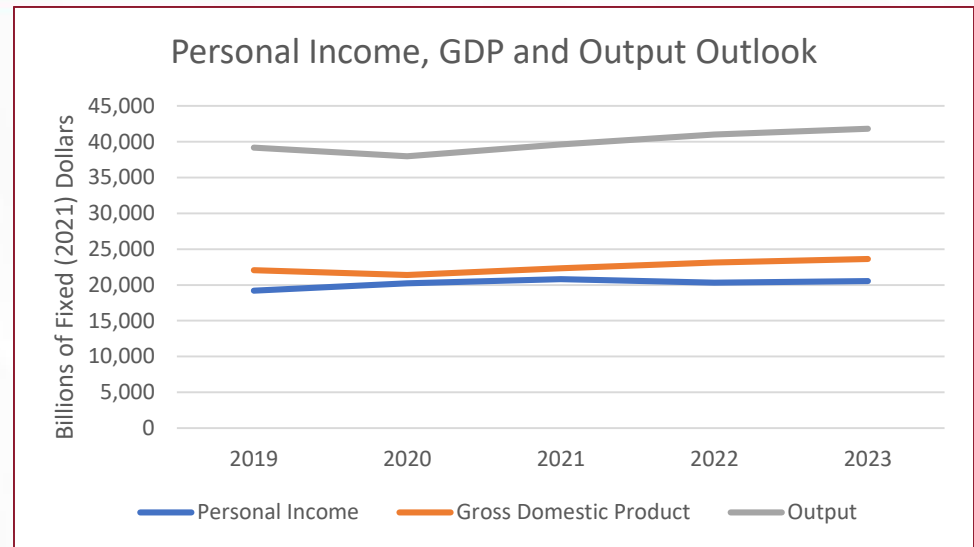
- Baseline (Standard National Control)
  - BLS Forecast Data
- Economic Forecast Update March 2021
  - 2019-2020 historical data from BEA
  - The U.S. Economic Outlook for 2020-2022 from the University of Michigan's Research Seminar in Quantitative Economics (RSQE)
  - An update to the Economics Outlook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

# National Outlook

# Short-Term Outlook: the U.S.



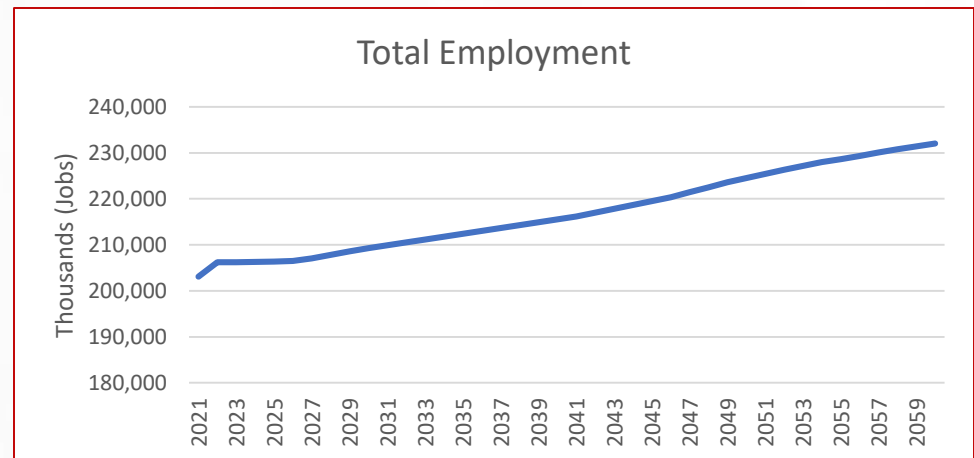
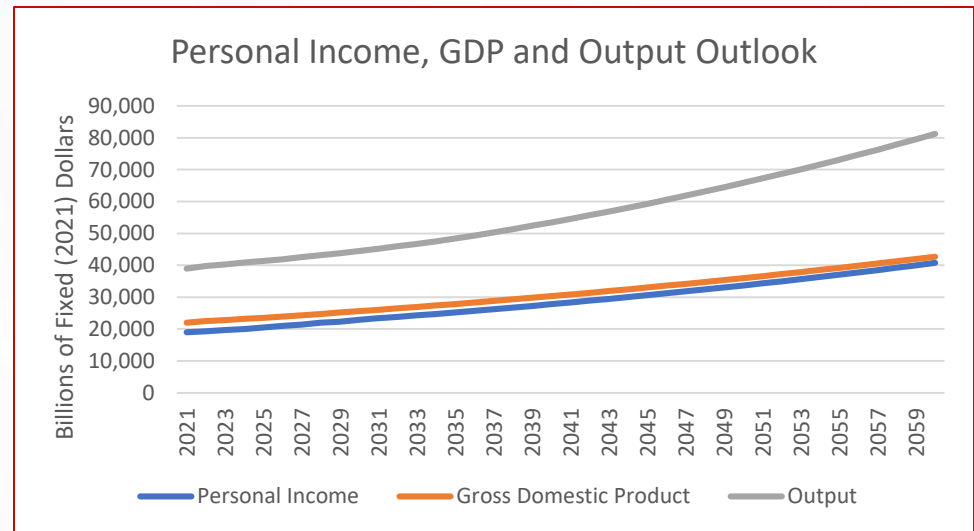
- Years 2019-2023
- Growth 2020-2021
  - Personal income (nominal dollars): 2.9%
  - GDP: 4.4%
  - Output: 4.4%
  - Employment: +7,099 thousand jobs



# Long-Term Outlook: The U.S.



- Years 2021-2060
- Average growth / year
  - Personal income: 1.9%
  - GDP: 1.8%
  - Output: 1.9%
- Total employment:  
+741 thousand jobs



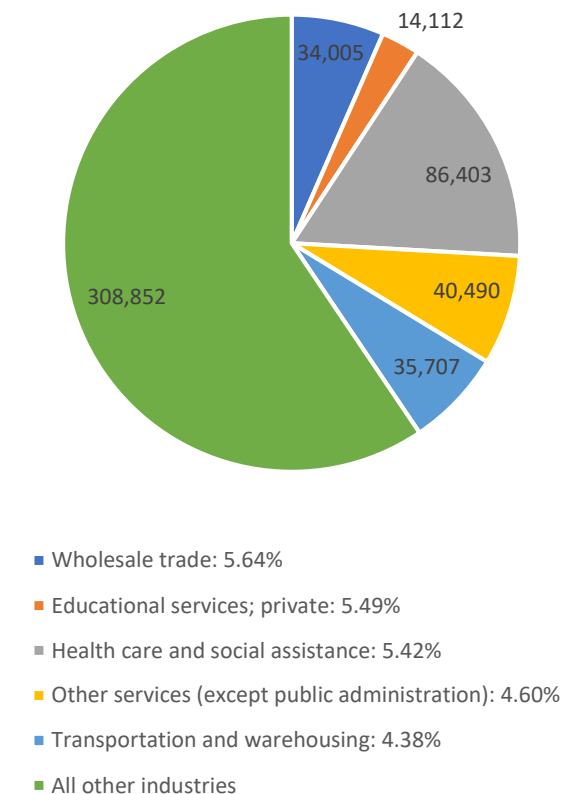
# Regional Outlook: Texas

# Short-Term Outlook: Employment by Industry



- Industries with largest employment growth rates in 2021
- 2020 -  
2021: 210,717 jobs increasing in the top 5 fast growing industries

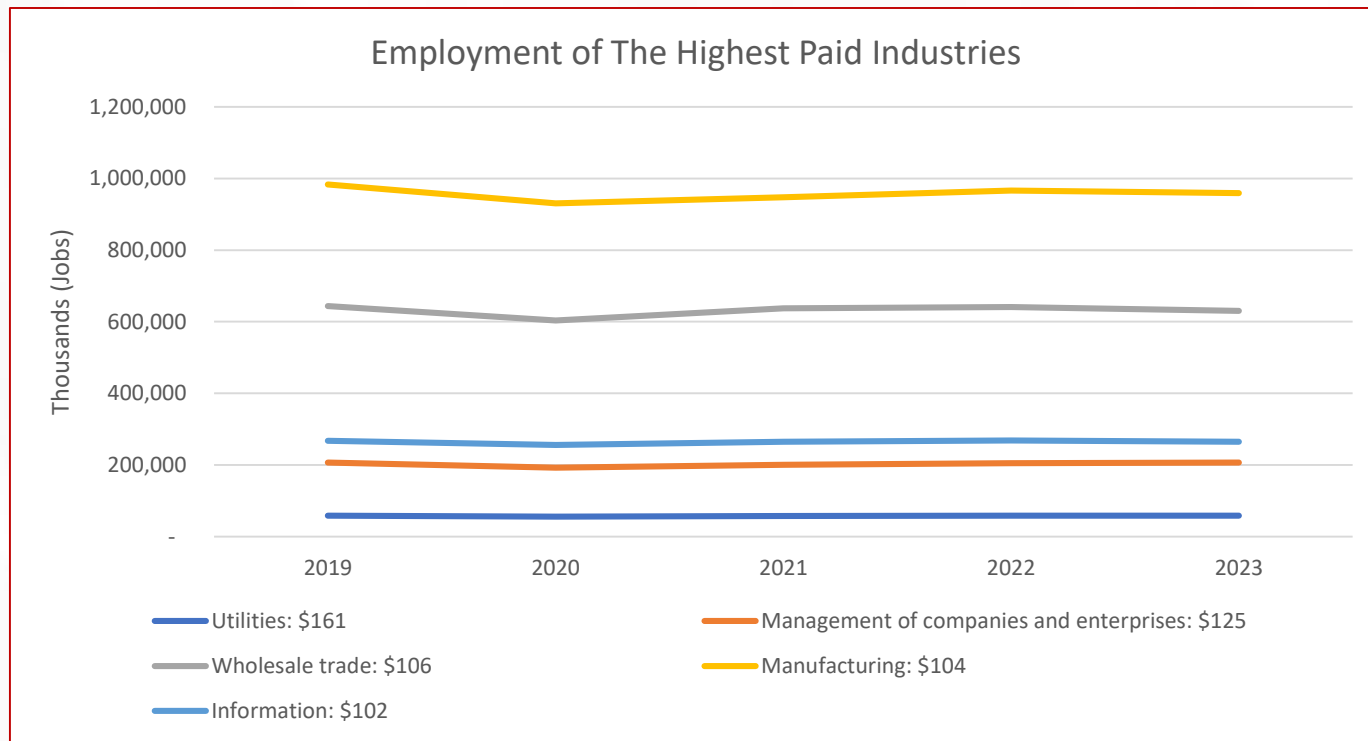
Job Increase in The Fastest Growing Industries in 2021



# Short-Term Outlook: Employment by Industry



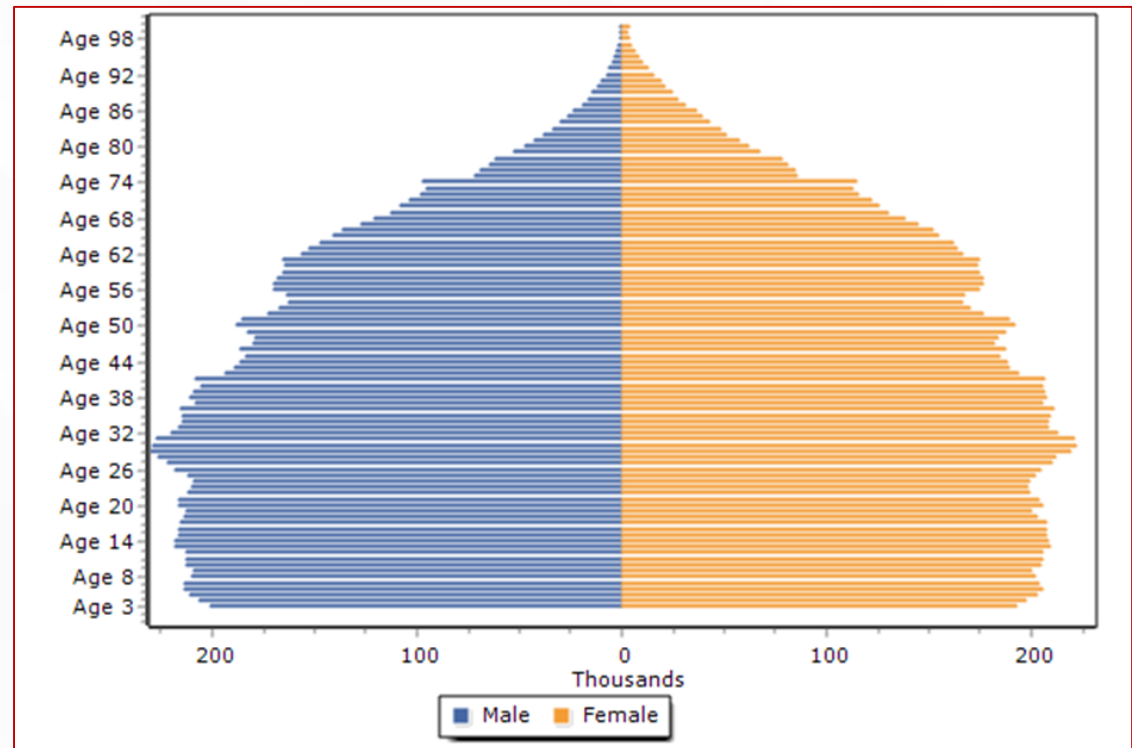
- Industries with highest average annual compensation rates in 2021



# Short-Term Outlook: Population Pyramid (2021)

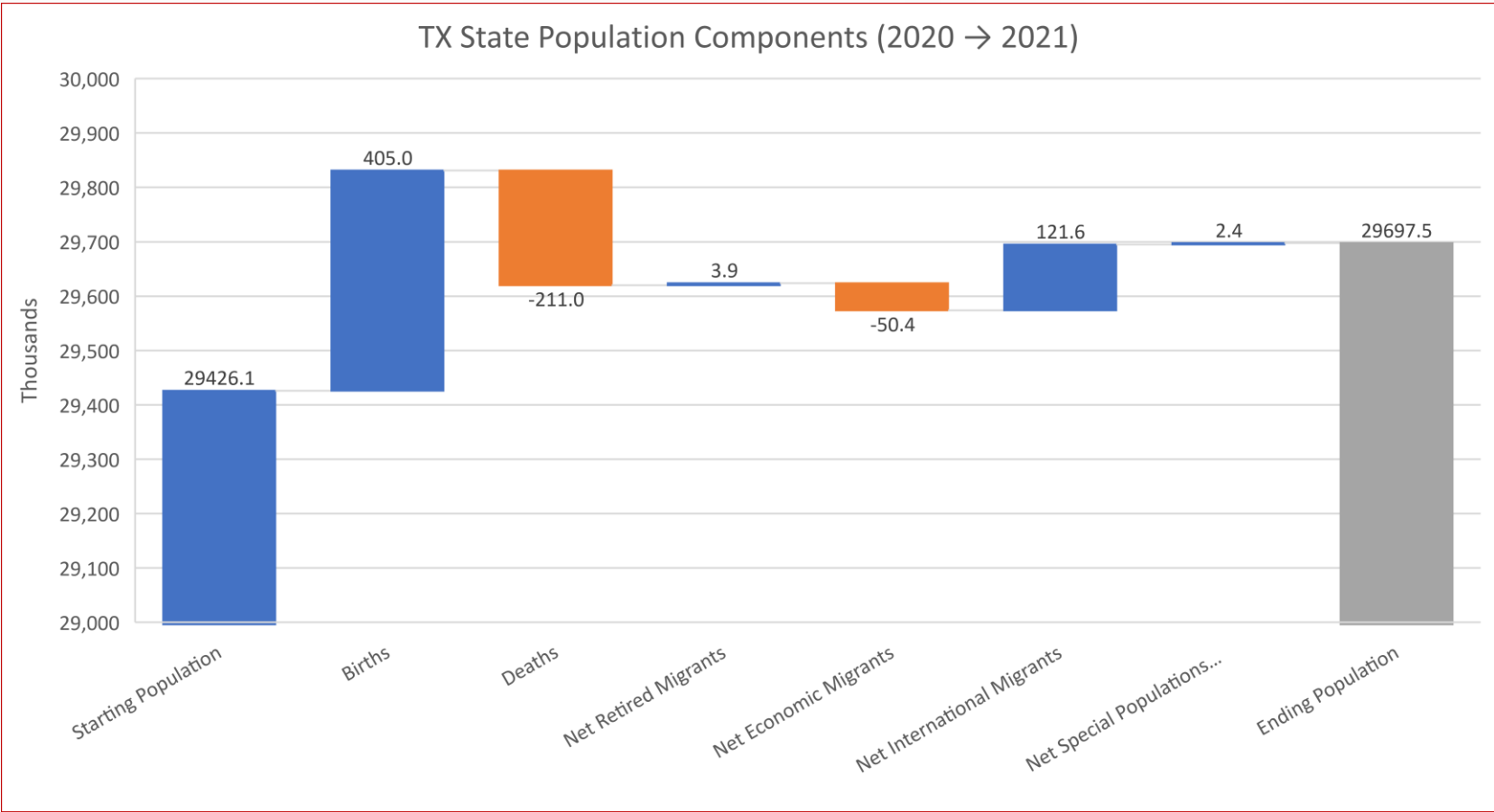


- Year 2021
- Expansive
  - Young and growing population



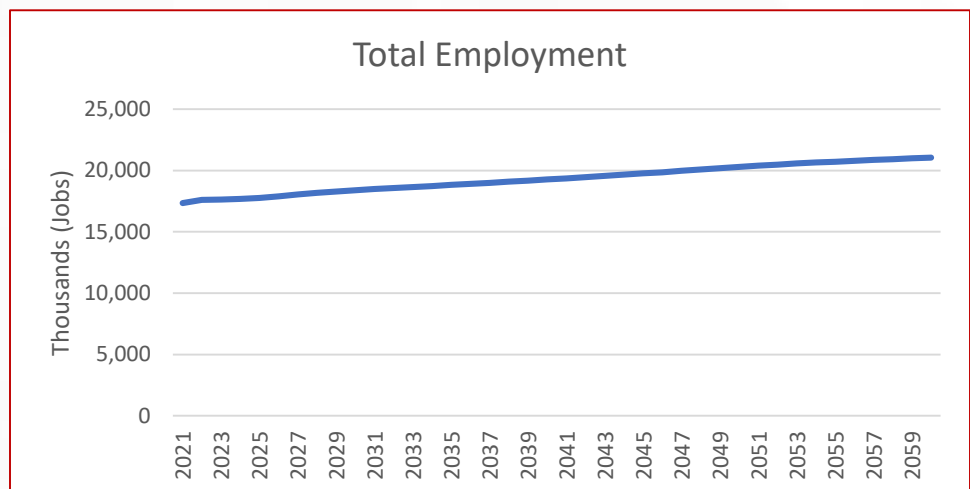
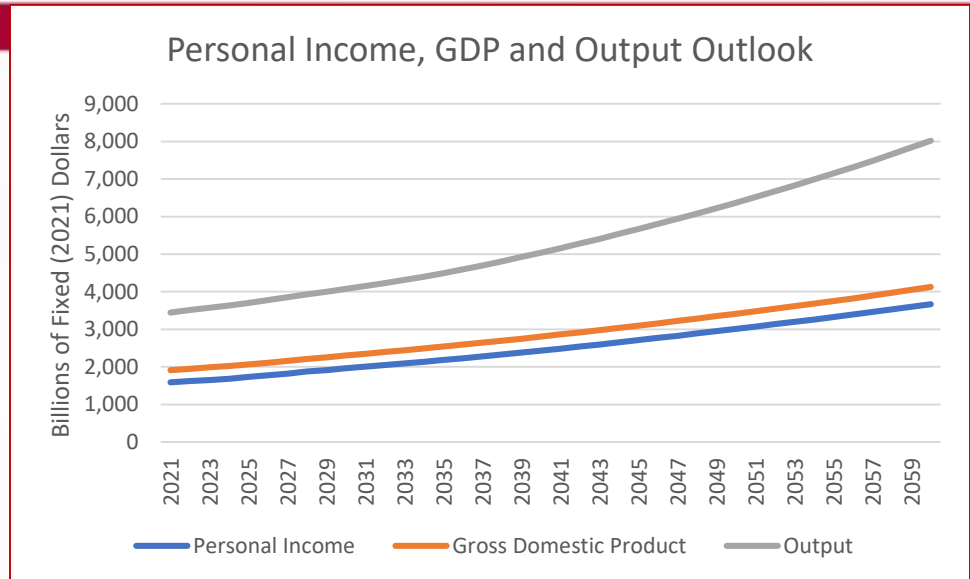


# Short-Term Outlook: Population Components



# Long-Term Outlook: Texas

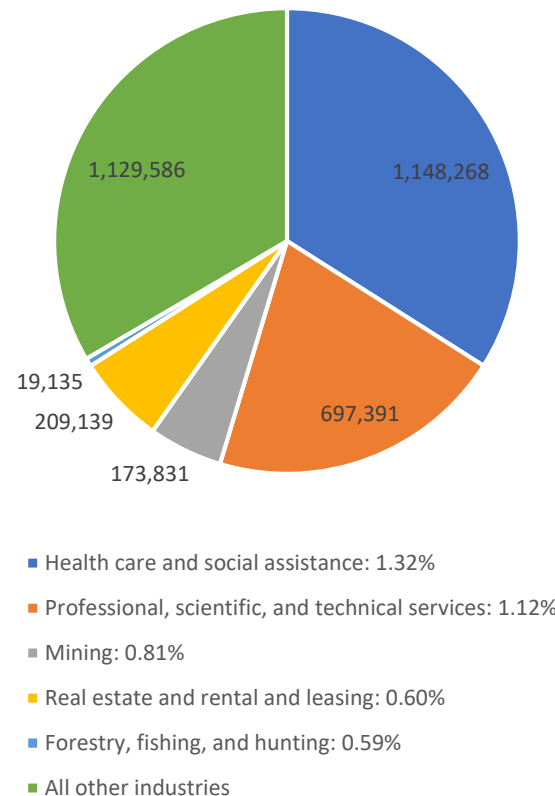
- Years 2021-2060
- Average growth / year
  - Personal income: 2.0%
  - GDP: 2.0%
  - Output: 2.2%
- Total employment: +86 thousand jobs



# Long-Term Outlook: Employment by Industry

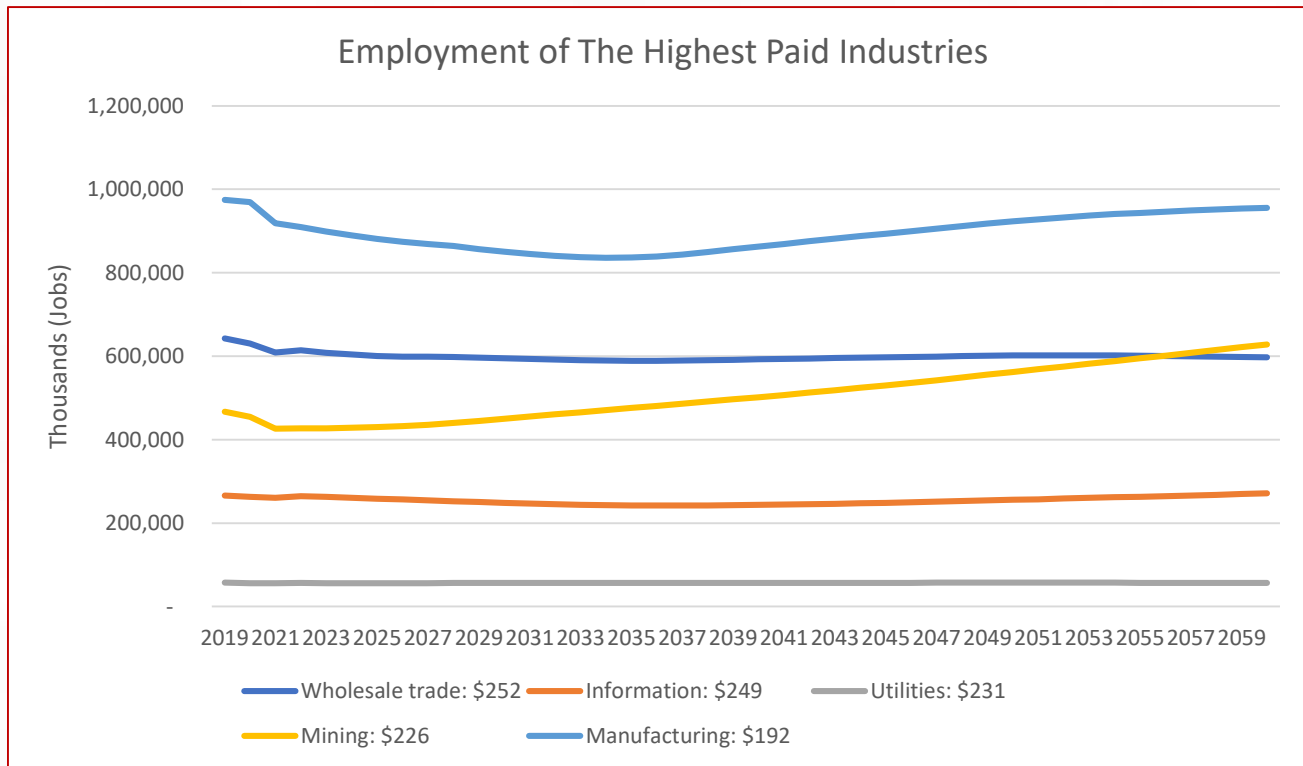
- Industries with fastest employment increasing
- 2020 - 2060: 2.2 million jobs increasing in the top 5 fast growing industries

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



# Long-Term Outlook: Employment by Industry

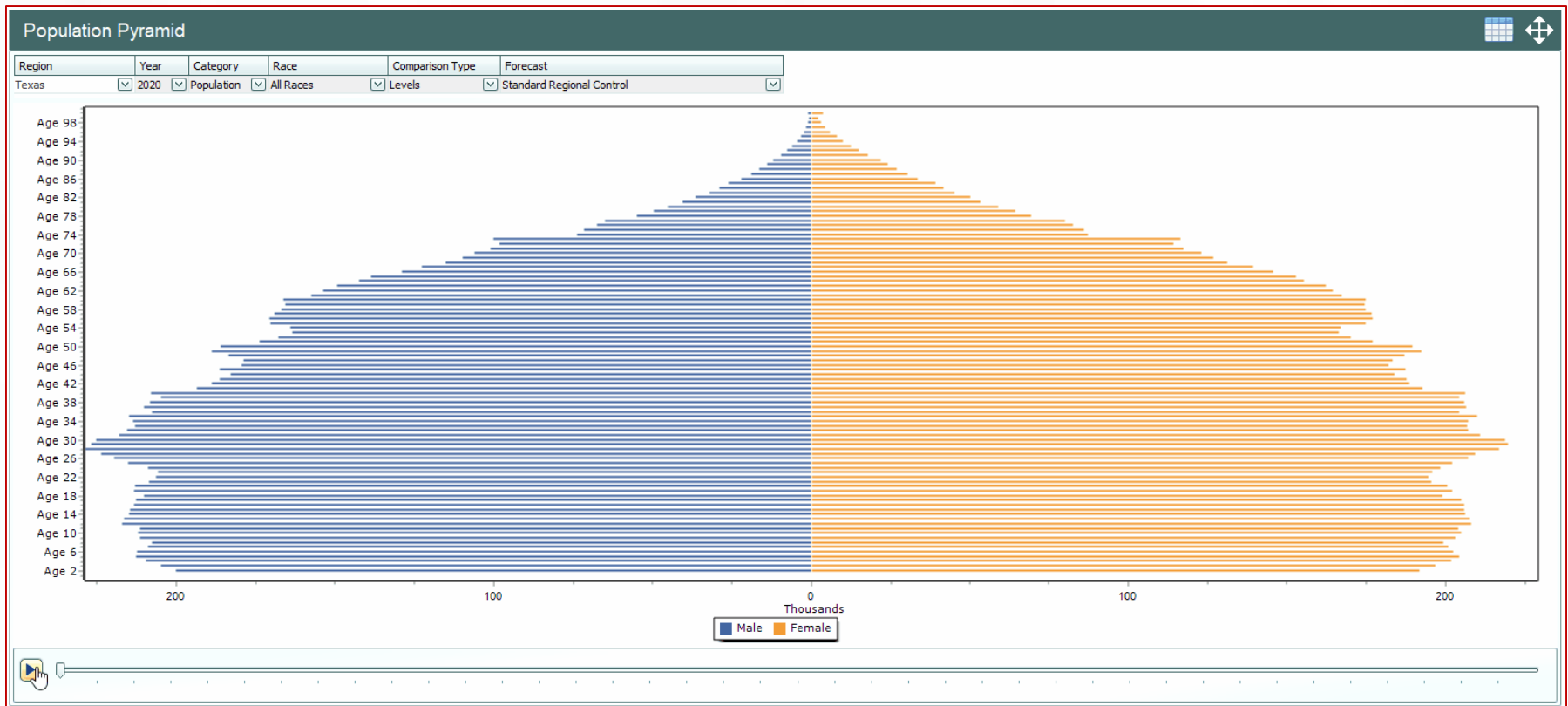
- Employment of industries with highest average annual compensation rates in 2060



# Long-Term Outlook: Population Pyramid



- Year 2060

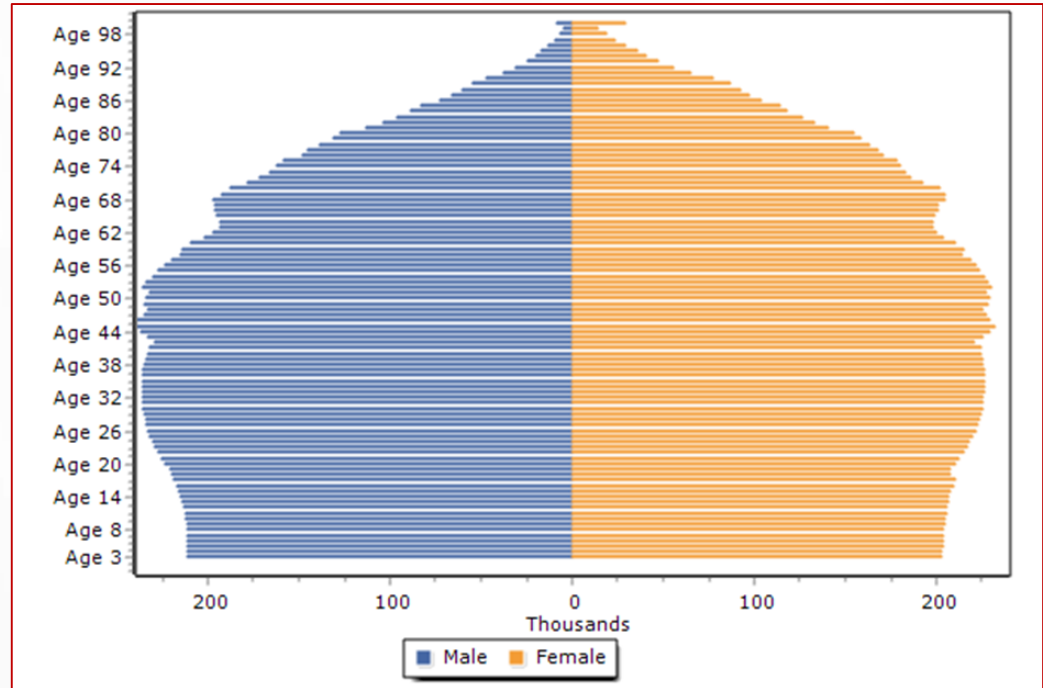


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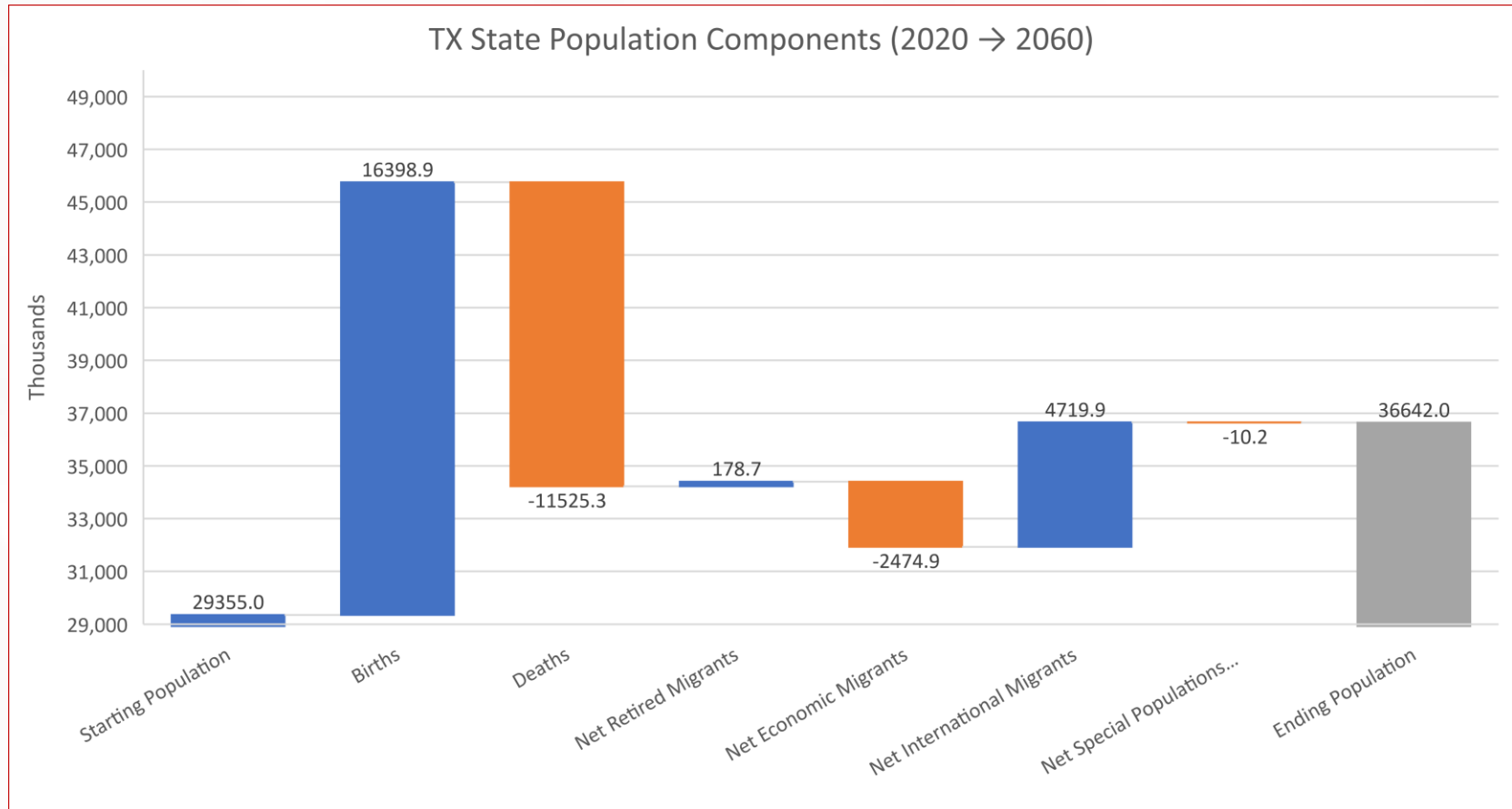
# Long-Term Outlook: Population Pyramid



- Year 2060
- More constrictive



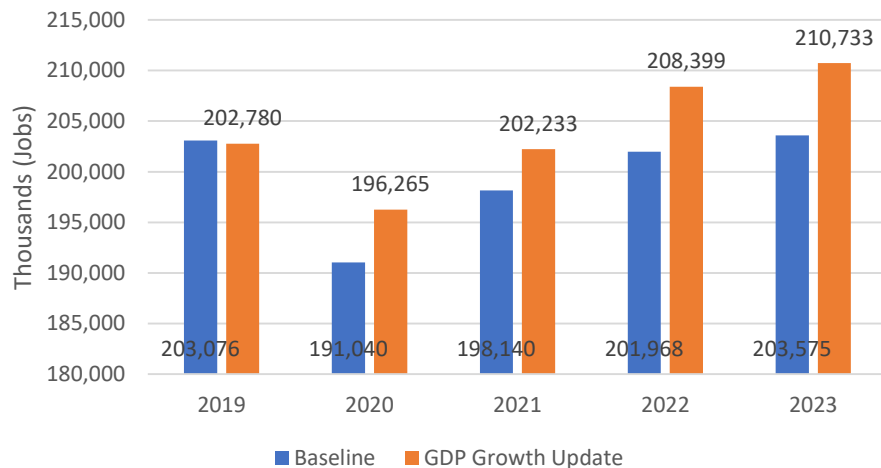
# Population Components



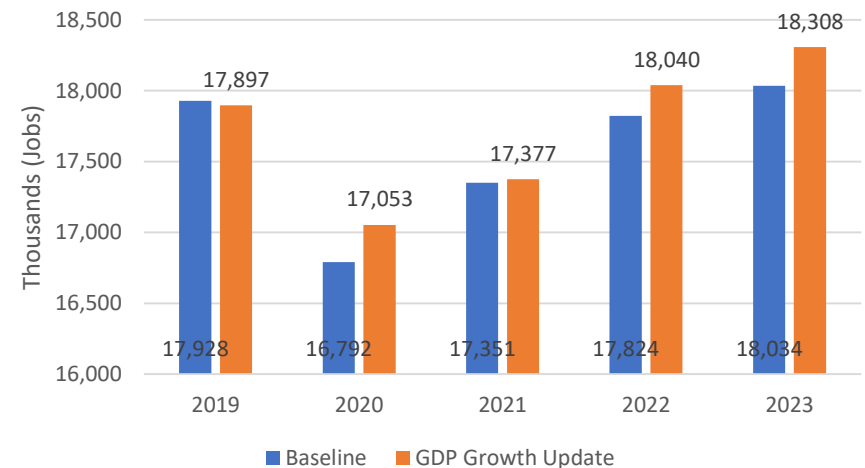
# Optimistic Outlook

- Years 2019-2023

Total Employment of the US



Total Employment of Texas





# Policy Simulation: Tesla

# The Scenario, Assumptions, & Methodology



- High cost of living encouraging companies to leave California for Texas
  - Hewlett-Packard, Palantir
- Our example: Tesla and the Giga-Factory
- <https://www.kvue.com/article/money/consumer/tesla-texas-austin-del-valle-isd-incentives-package-approved/269-953c9d6f-7555-4bb4-94ab-099a5726c65c>
  - \$1.1 billion plant
  - 5000 employees
  - Wage adjustment: reported average annual wage of \$47,000 vs. \$73,000 in REMI
  - \$46.4 million in tax breaks over 10 years

# Conclusion

- Points to consider
  - Infrastructure concerns
  - Working from home cuts both ways
- 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](https://lsa.umich.edu/content/dam/econ-assets/Econdocs/RSQE%20PDFs/Exec_Sum_Feb_2021.pdf).
2. "[California Gross domestic product \(GDP\) \(millions of current dollars\)](#)". U.S. Department of Commerce, Bureau of Economic Analysis. Retrieved December 23, 2020-- new statistics for 2020:Q3.

# Q & A

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