

ECONOMIC OUTLOOK FOR THE STATE OF WASHINGTON

FEBRUARY 18, 2021

Welcome and Introductions



- REMI models
- Big Picture: REMI Regional Growth Matrix
- Economic outlook
 - ▣ Short-term forecast
 - ▣ Long-term forecast
- Policy simulation

Model



REMI's 40-year history of rigorous academic research and software development has led to the development of the state-of-the-art model in macroeconomic research methodology:

Input-Output

Close analysis of inter-industry relationships

Econometrics

Advanced statistical analyses underpinning the model

General Equilibrium

Estimate of long-run stability of the economy allows for analysis of policy decisions

Economic Geography

Effects of geographic concentration of labor and industry



Integrated REMI economic modelling approach



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Washington State Economy

- One of the fastest growing states in terms of population and output
- Plays a leading role in exports
- The United States' largest concentration of STEM (science, technology, engineering and math) workers reside in Washington state.
- Most of the people live in the highly urbanized area

REMI Regional Growth Matrix: Economic & Demographic Factors



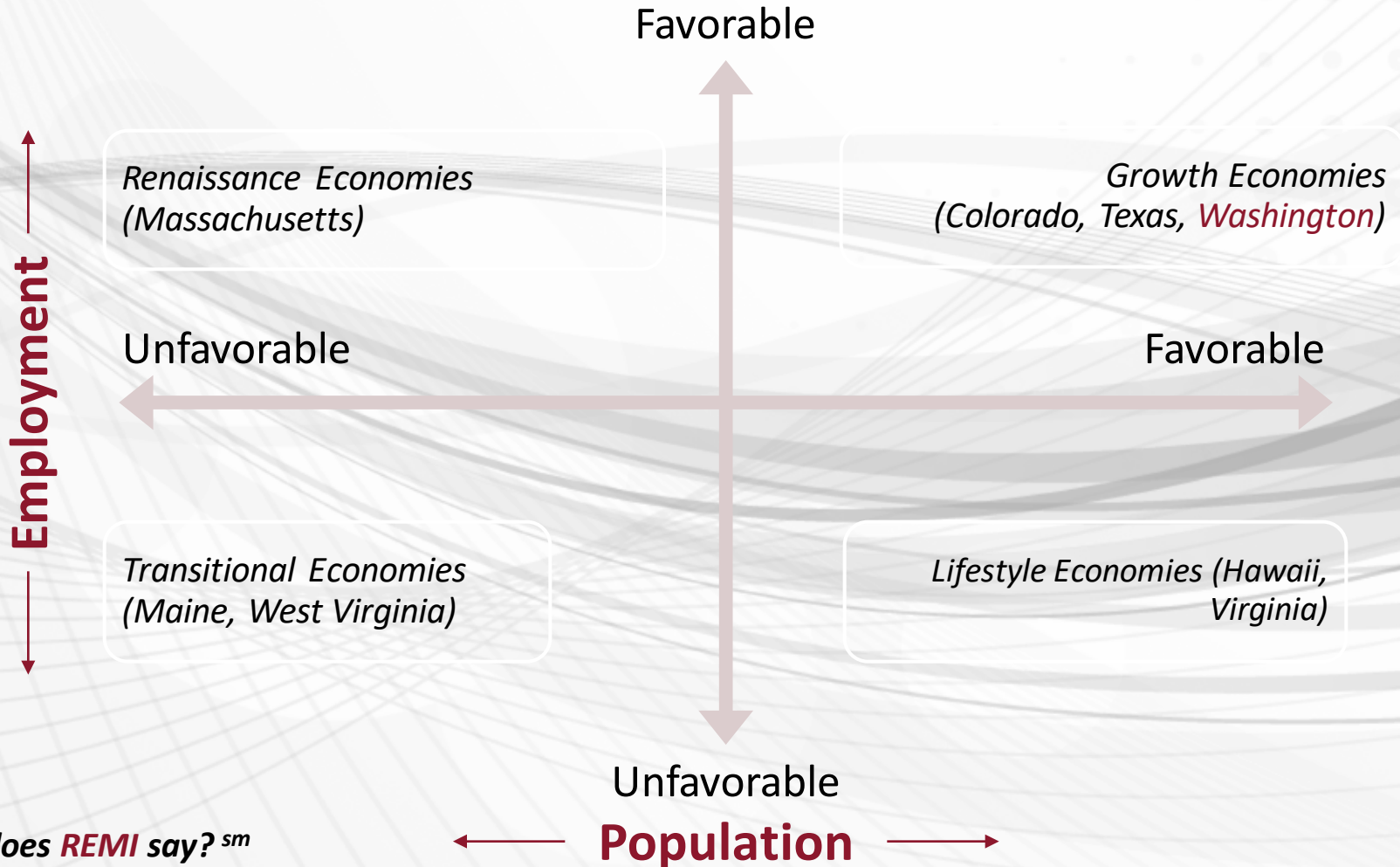
Economic Factors

	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

Regional Growth Matrix

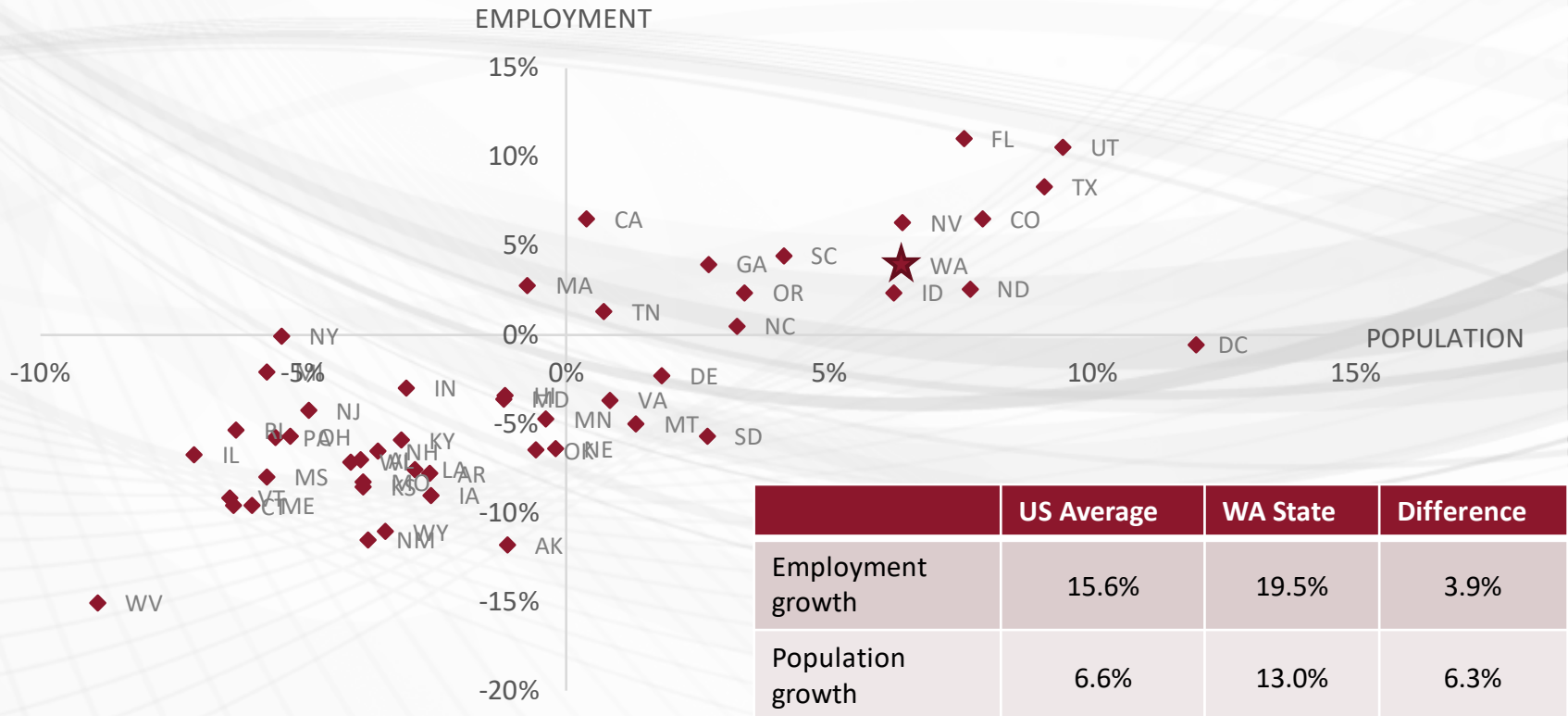


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Growth Matrix



DIFFERENCE IN GROWTH FROM US AVERAGE (2009-2018)



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Data Sources

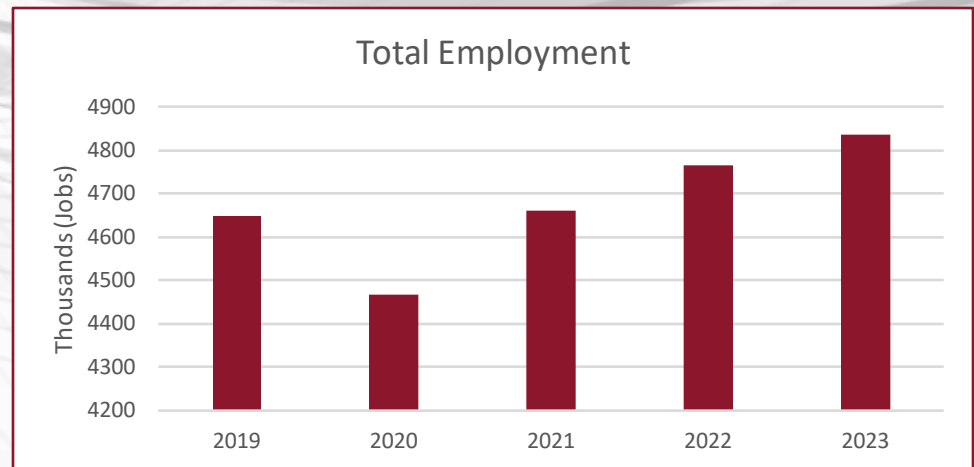
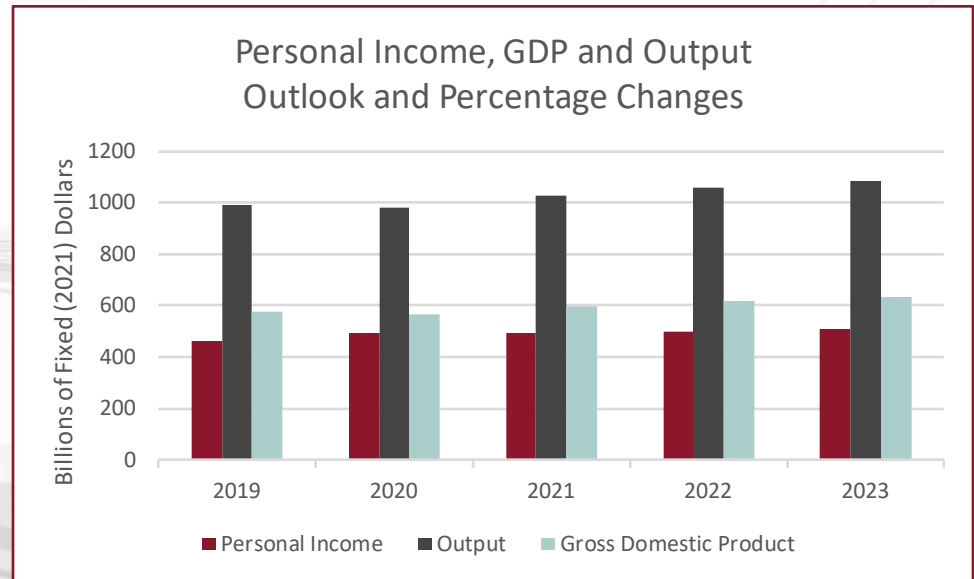


- Baseline (Standard National Control)
 - BLS Forecast Data
- RSQE November + CBO September Macroeconomic Update
 - The U.S. Economic Outlook for 2020-2022 from the University of Michigan's Research Seminar in Quantitative Economics (RSQE).
 - An update to the Economics Outlook from CBO
 - Does NOT include \$1.9 trillion stimulus getting through Congress; update next month

Short-Term Outlook in Washington



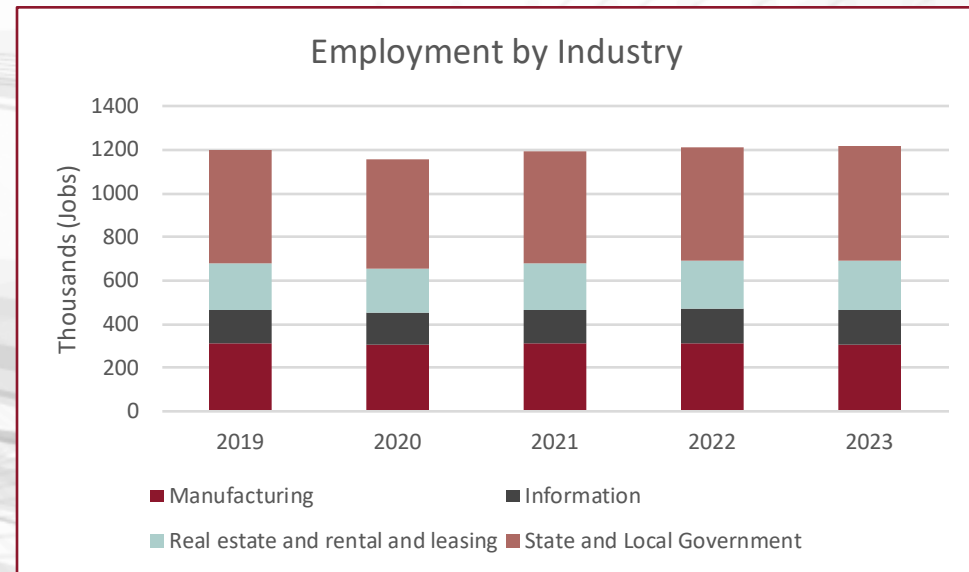
- Years 2019-2023
- Growth 2020-2021
 - ▣ Personal income: 2.4%
 - ▣ GDP: 5.2%
 - ▣ Output: 5.1%
 - ▣ Total employment: +196,000



Short-Term Outlook: Employment by Industry



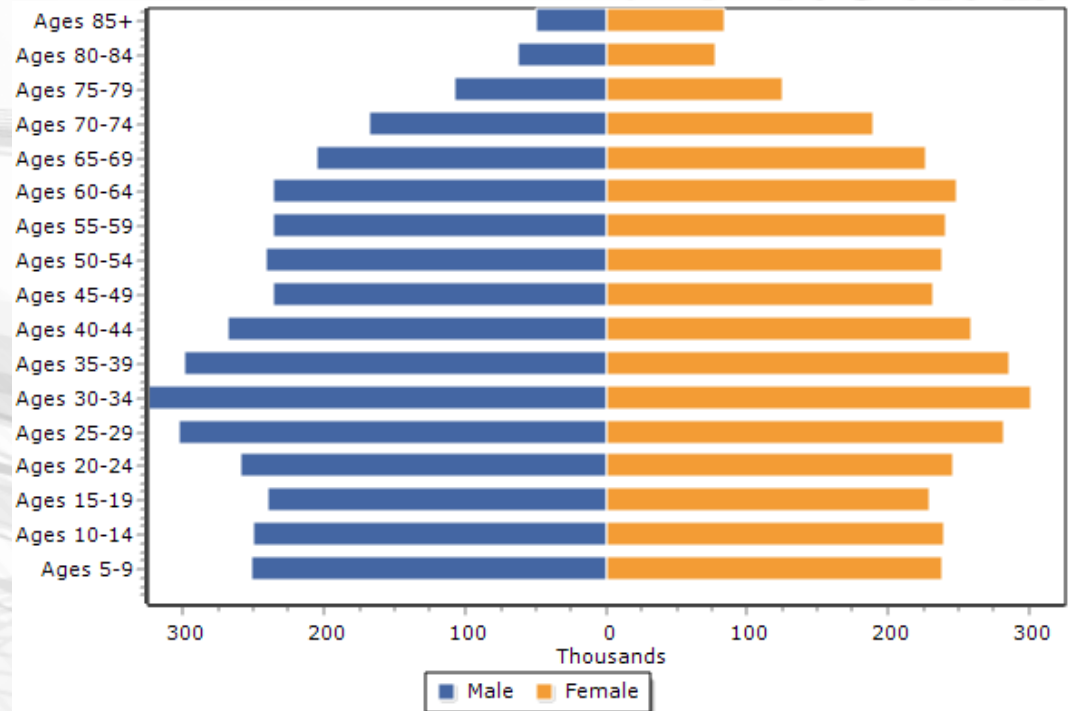
- Leading economic sectors: government, real estate and rental leasing, and information; manufacturing.
- 2021: employment of the 4 key industries increased by 35 thousand jobs.



Short-Term Outlook: Population Pyramid



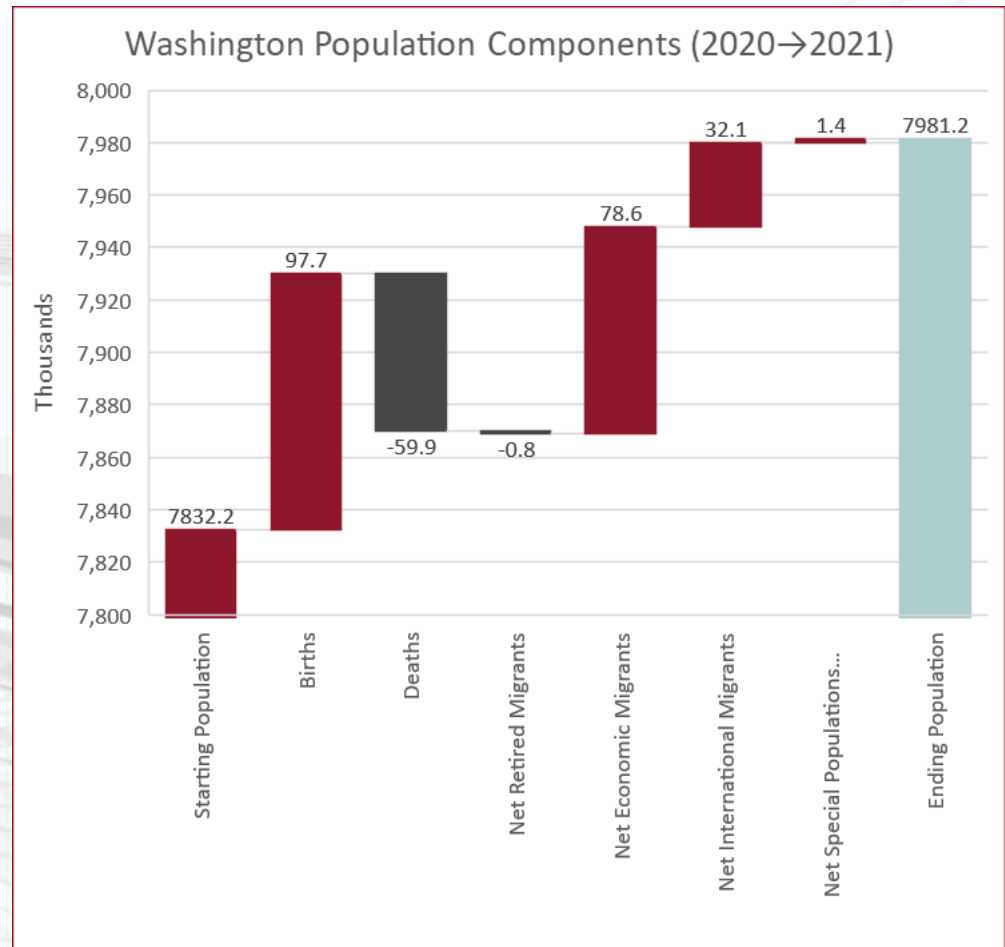
- Year 2021
- Near stationary
 - Low birth rates
 - High overall quality of life



Population Components



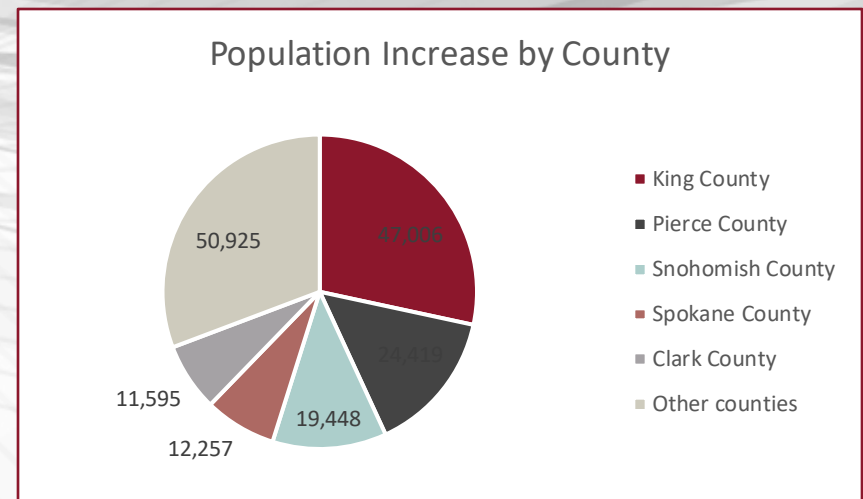
□ Year 2020 to 2021



Short-Term Outlook: Population by Region



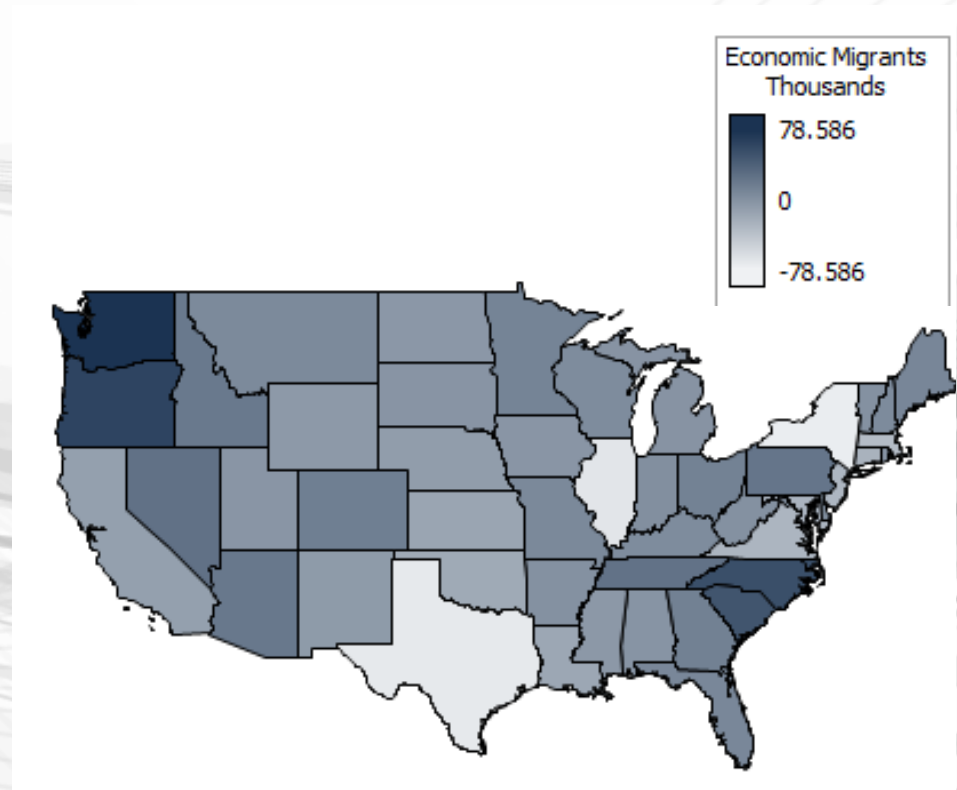
- County level map of population in 2021
- Population increase by region:
 - Top 5 counties:
King County, Pierce County, Snohomish County, Spokane County, Clark County
 - Other counties



Economic Migrants Profile



- Year 2021
- 78,586 economic migrants into Washington

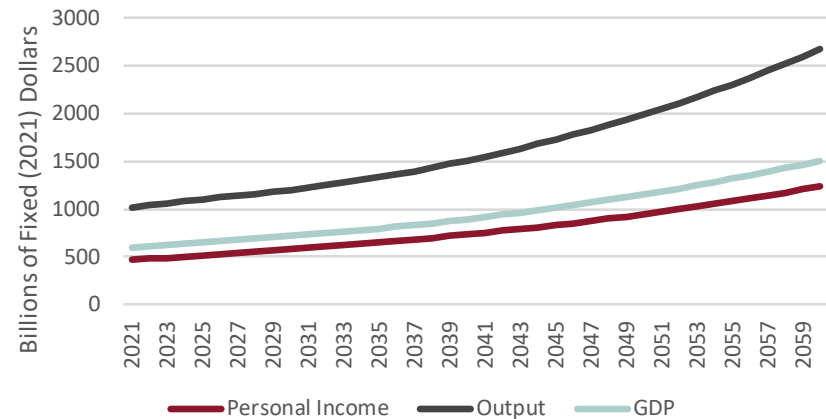


Long-Term Outlook in Washington

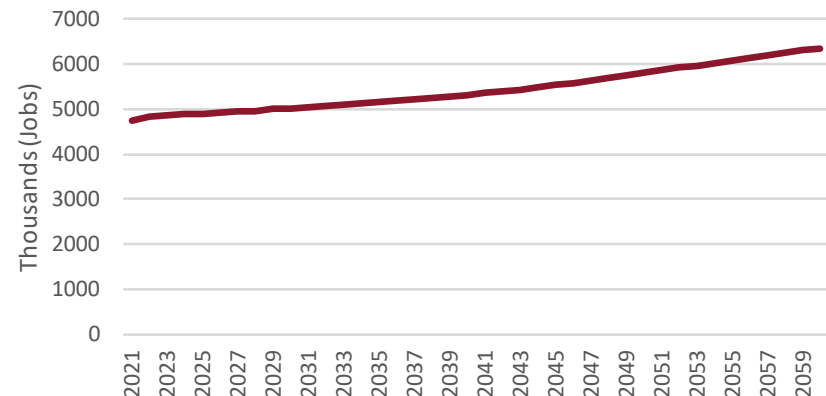


- Years 2021-2060
- Average growth / year
 - Personal income: 2.3%
 - GDP: 2.3%
 - Output: 2.4%
 - Total employment: 38 thousand jobs

Personal Income, GDP and Output Outlook



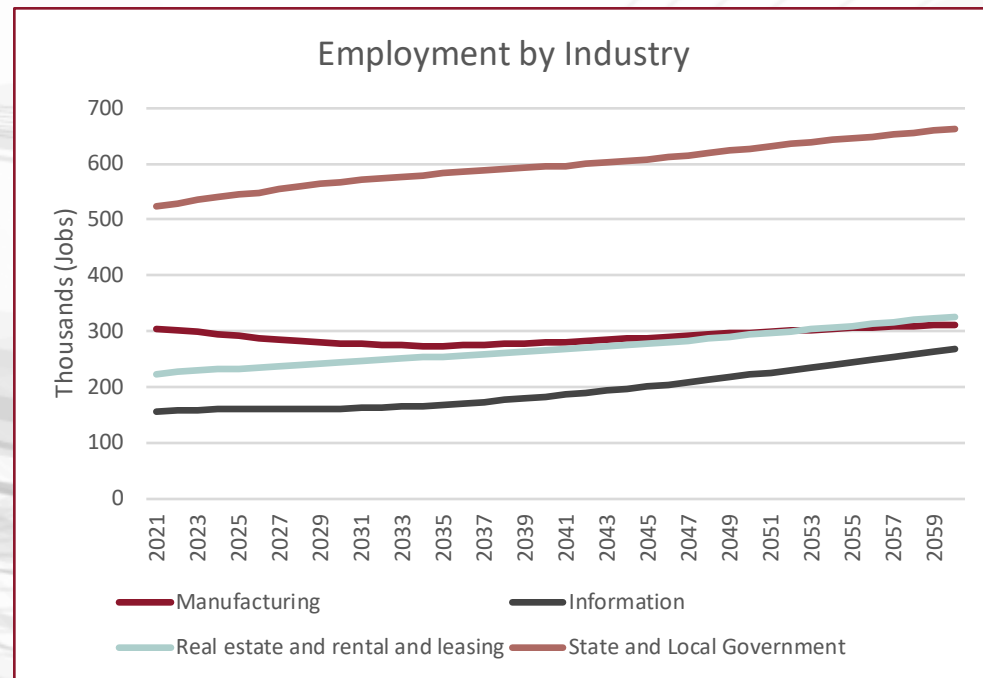
Total Employment



Long-Term Outlook: Employment by Industry



- Leading economic sectors: government, real estate and rental leasing, and information; manufacturing.



Long-Term Outlook: Population Pyramid



□ Years 2021-2060

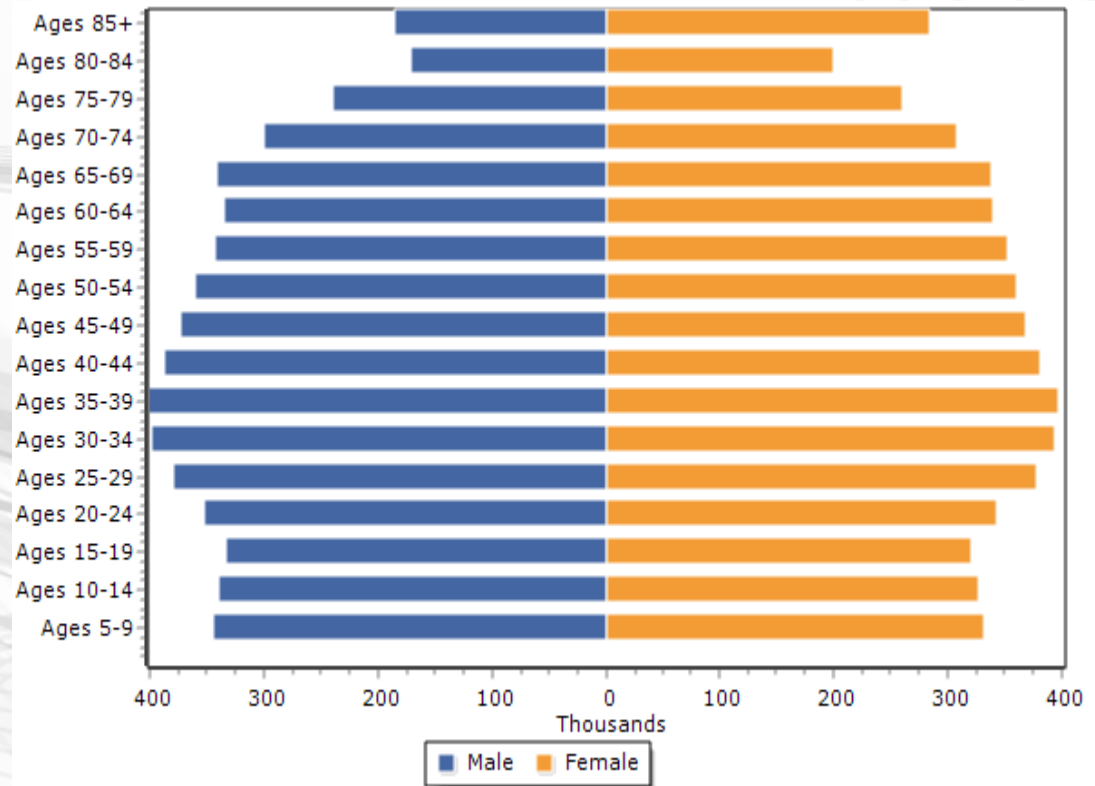


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Long-Term Outlook: Population Pyramid



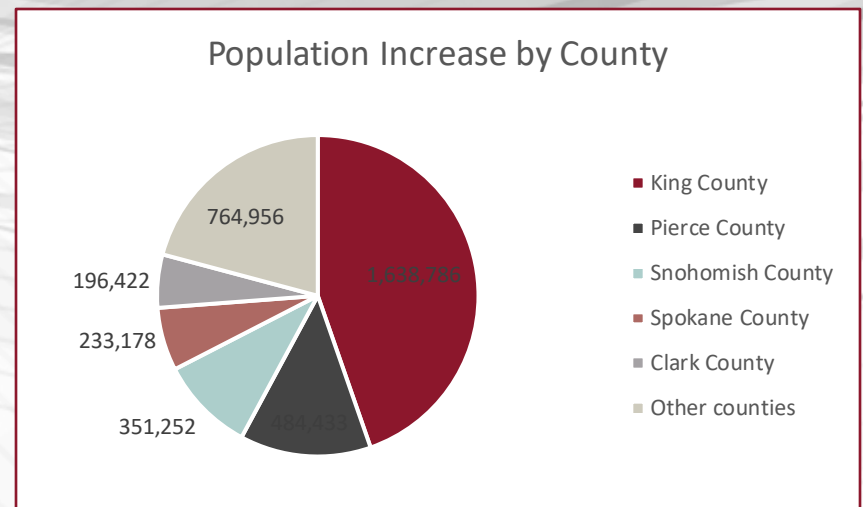
- Year 2060
- Near stationary
 - Low birth rates
 - High overall quality of life
- Aging population



Long-Term Outlook: Population by Region



- County level map of population in 2060
- Population increase since 2020 by region:
 - Top 5 counties:
King County, Pierce County, Snohomish County, Spokane County, Clark County
 - Other counties



Policy Simulation

The Economic Impact of the Boeing Company

Policy Simulation: Boeing's Woes



- Boeing
 - ▣ Pandemic has reduced travel demand, incomes
 - ▣ Cutting global workforce from 160,000 to 130,000
 - ▣ Bulk of employees in Washington
- Policy: 10,000 decrease in employment in aviation sector
- Why model?
 - ▣ Know how to invest in your regional economy
 - ▣ Know your regional economic impact
 - ▣ Analyze and increase efficacy of economic development efforts
 - ▣ Make data-driven project proposals
 - ▣ Make data-driven arguments to defend projects and spending

Model Demonstration

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Conclusion



- For Washington:
 - Good fundamentals, but some tumult
- 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



- Koenig, David. “Boeing Makes Deeper Job Cuts as Pandemic Throttles Air Travel.” *King5*, KING 5 Media Group, 28 Oct. 2020, www.king5.com/article/tech/science/aerospace/boeing/boeing-job-cuts-third-quarter-report/281-ec827ab0-8c64-4d56-ba15-896d9b72d448.

Q&A

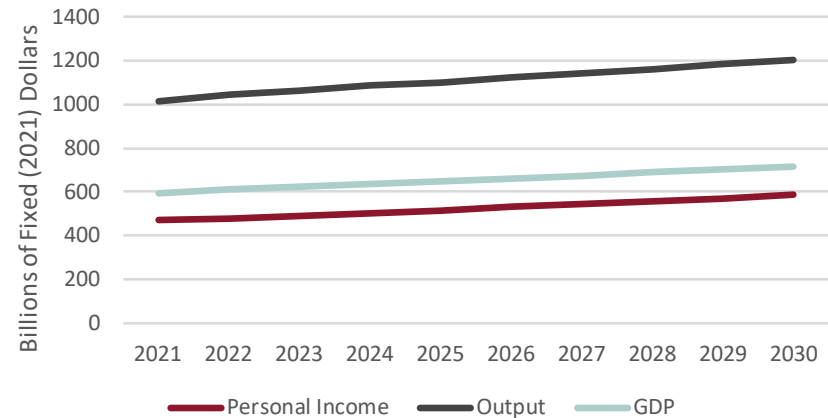
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Medium-Term Outlook in Washington

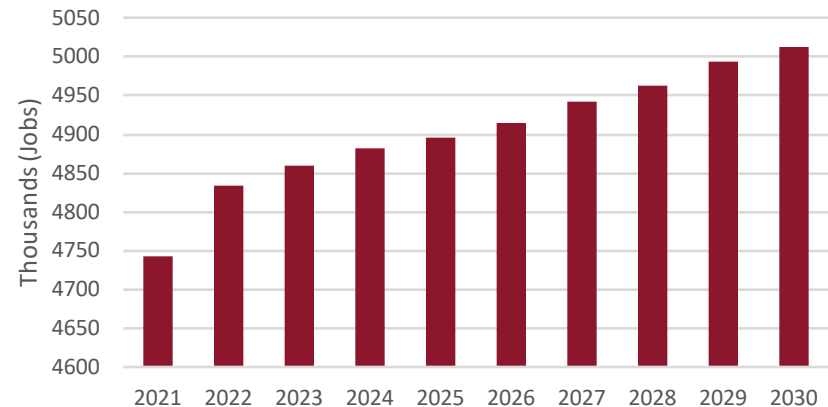


- Years 2021-2030
- Average growth / year
 - Personal income: 2.1%
 - GDP: 2.3%
 - Output: 2.1%
 - Total employment: 31 thousand jobs

Personal Income, GDP and Output Outlook



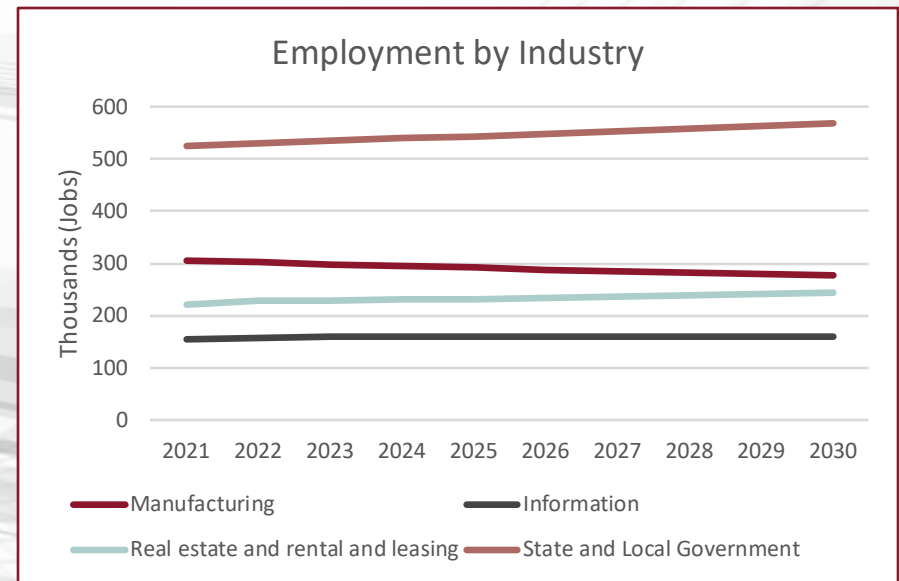
Total Employment



Medium-Term Outlook: Employment by Industry



- Leading economic sectors: government, real estate and rental leasing, and information; manufacturing.
- 2020-2030: employment of the 4 key industries increased by 30 thousand jobs.



Medium-Term Outlook: Population Pyramid



□ Years 2021-2030

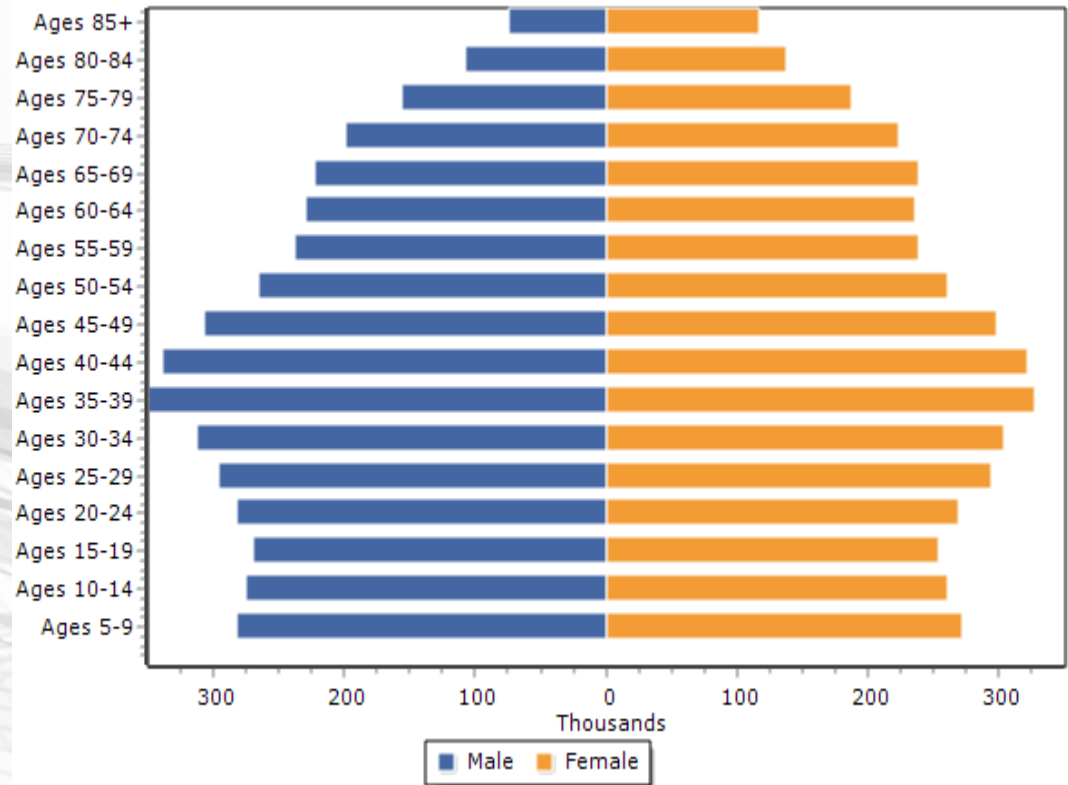


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Medium-Term Outlook: Population Pyramid



- Year 2030
- Near stationary
 - Low birth rates
 - High overall quality of life



Medium-Term Outlook: Population by Region



- County level map of population in 2030
- Population increase by region:
 - Top 5 counties:
King County, Pierce County, Snohomish County, Spokane County, Clark County
 - Other counties

