

Macroeconomic and Socioeconomic Dynamics of Fiscal Policy

Regional Economic Models, Inc.

Agenda



Introduction

About Us

Topic Overview

A Change in Surpluses and Deficits

Tax Modeling with Socioeconomic Indicators

Q&A

About Us

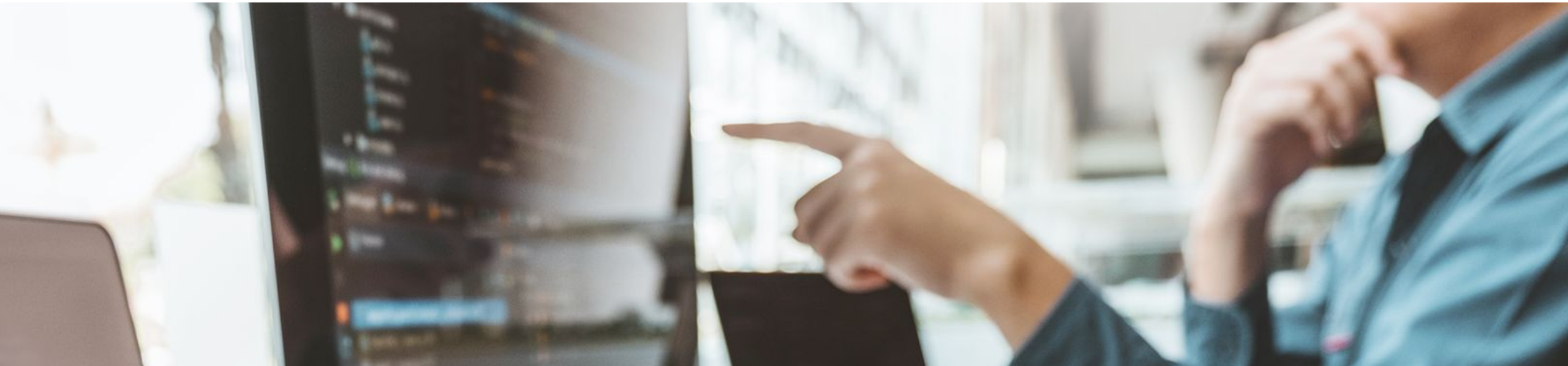


We are the nation's leader in dynamic local, state and national policy modeling.

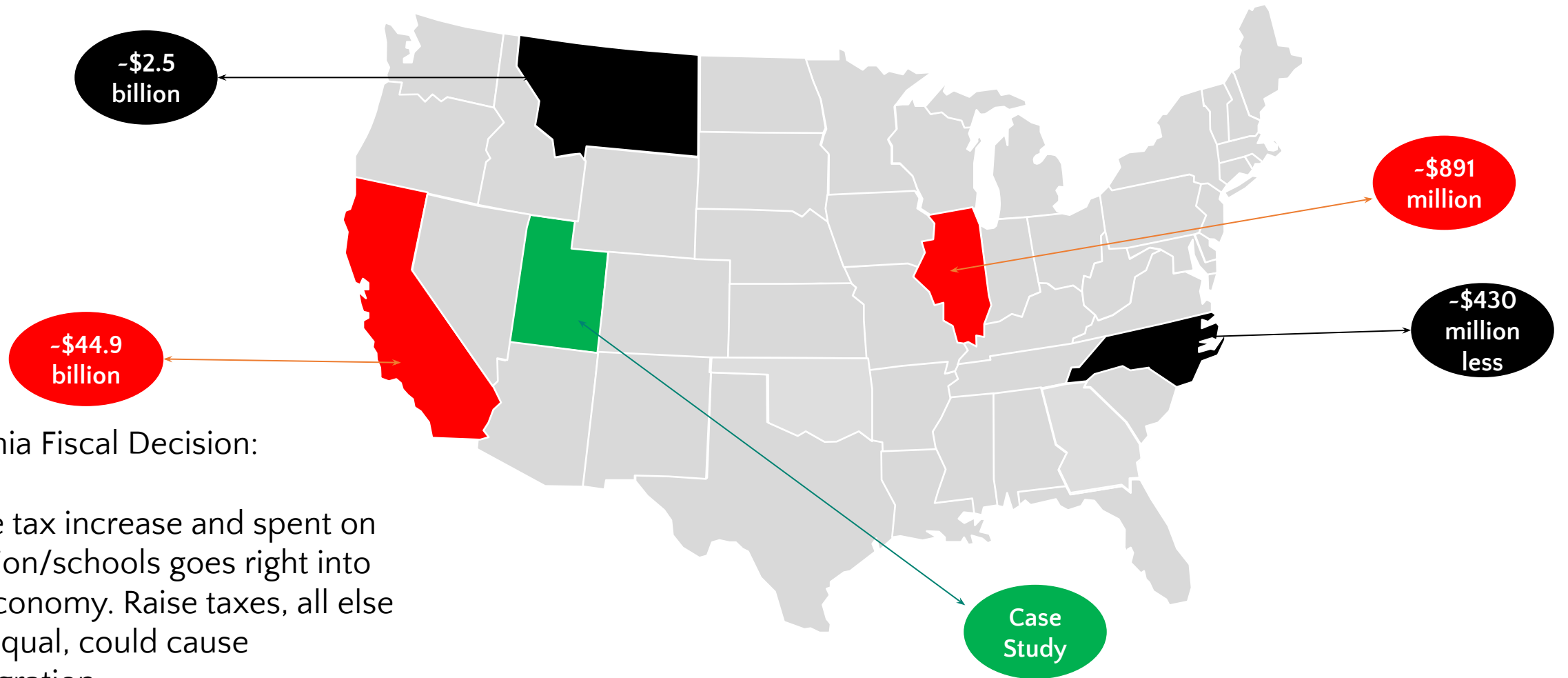
From the start, REMI has sought to improve public policy through economic modeling software that informs policies impacting our day-to-day lives.

We were founded in 1980 on a transformative idea: government decision-makers should test the economic effects of their policies before they're implemented.

At REMI, we're inspired by a single goal: *improving public policies.*



State Cooffers: Surpluses and Deficits



California Fiscal Decision:

Income tax increase and spent on education/schools goes right into state economy. Raise taxes, all else being equal, could cause out-migration.

Key Components



Revenues

- Employment and Wage Growth
- Consumer Spending
- Business Activity
- Housing and Financial Market Conditions



Expenditures

- Unemployment rates
- Healthcare Costs
- Education Funding Needs
- Infrastructure Needs
- Resilience & Disaster Response



Demographic Shifts

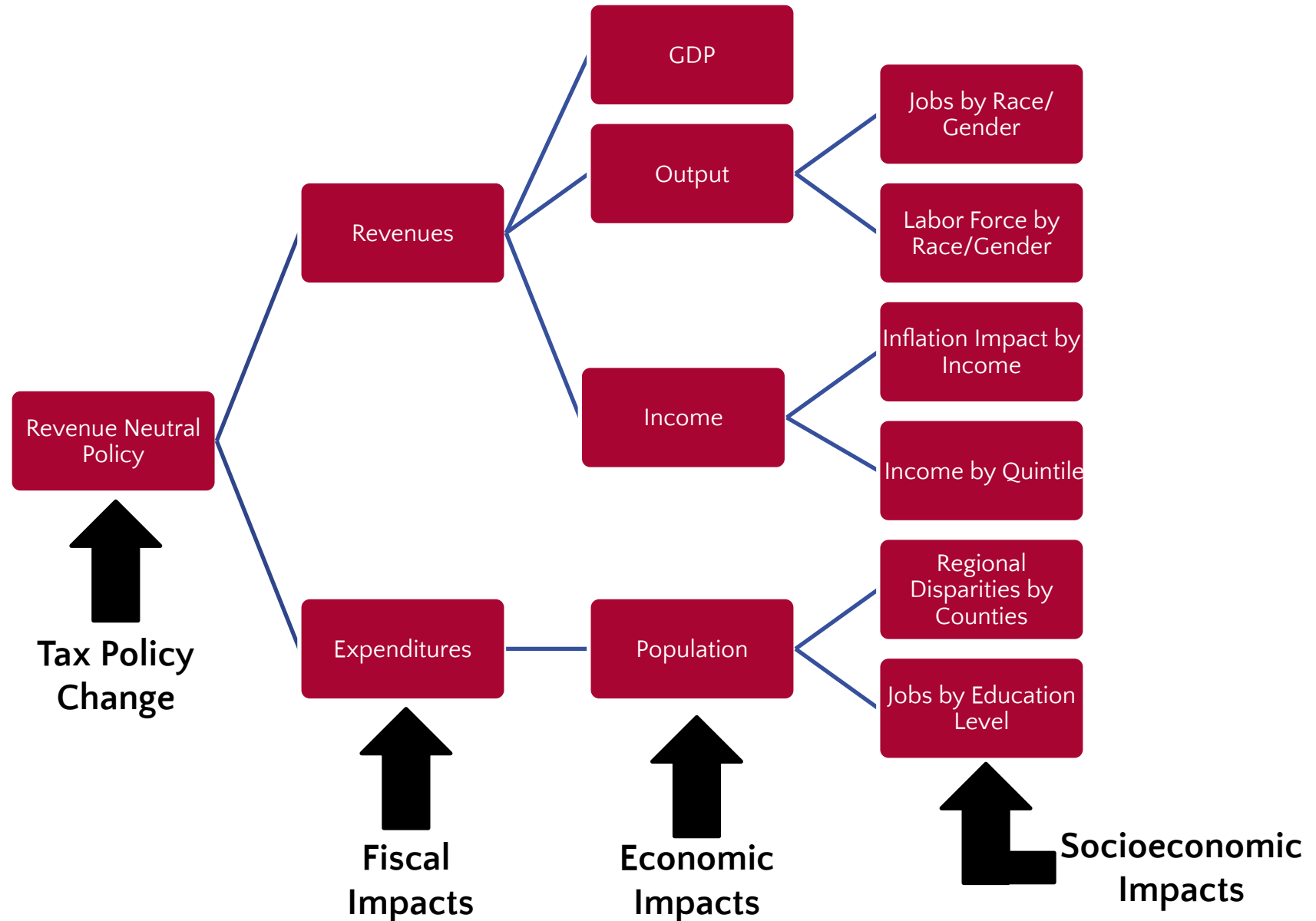
- Population components:
 - Age
 - Race/Gender
 - Education
 - Occupation



Fiscal Decisions

- Adjustment of tax structures
 - Tax rates, incentives, credits, targeted industries
- Investment spending
 - Infrastructure, workforce
- Diversify revenue sources
 - Reduce volatility

Tax, Economics, and SEI



Example Scenario Analysis



Revenue Neutral Scenario	
Revenue	Expenditure
<ul style="list-style-type: none">• State of Utah• Economic Shock tied to Budget:<ul style="list-style-type: none">• Increase of 100m for 10 years• Individual Income Tax	<ul style="list-style-type: none">• State of Utah• Economic Shock tied to Budget:<ul style="list-style-type: none">• Increase of 100m for 10 years• Elementary and Secondary Education

REMI Tax-PI State of Utah, 70-Sector

Model Simulation: Variables and Inputs



Revenue Neutral Scenario

- Fiscal Policy can be modeled through REMI Tax-PI using the Custom Budget and the Revenues/Expenditures inputs.
- **Assumption:** Increase of 100m in Revenues via Individual Income Taxes for 10 years and Increase of 100m in Expenditures via Elementary & Secondary Education for 10 years.

Policy Variable Inputs

Active	Edit	Group													
<input checked="" type="checkbox"/>				New Revenues											
Active	View	Category	Detail	Region	Units	2021	2022	2023	2024	2025	2026	2027	2028	2	
<input checked="" type="checkbox"/>		Custom Revenues	Individual Income Tax	Utah	Nominal \$ (M)	0	0	0	100	100	100	100	100	100	
<input checked="" type="checkbox"/>				New Expenditures											
Active	View	Category	Detail	Region	Units	2021	2022	2023	2024	2025	2026	2027	2028	2	
<input checked="" type="checkbox"/>		Custom Expenditures	Elementary & Secondary Education	Utah	Nominal \$ (M)	0	0	0	100	100	100	100	100	100	

Economic Summary

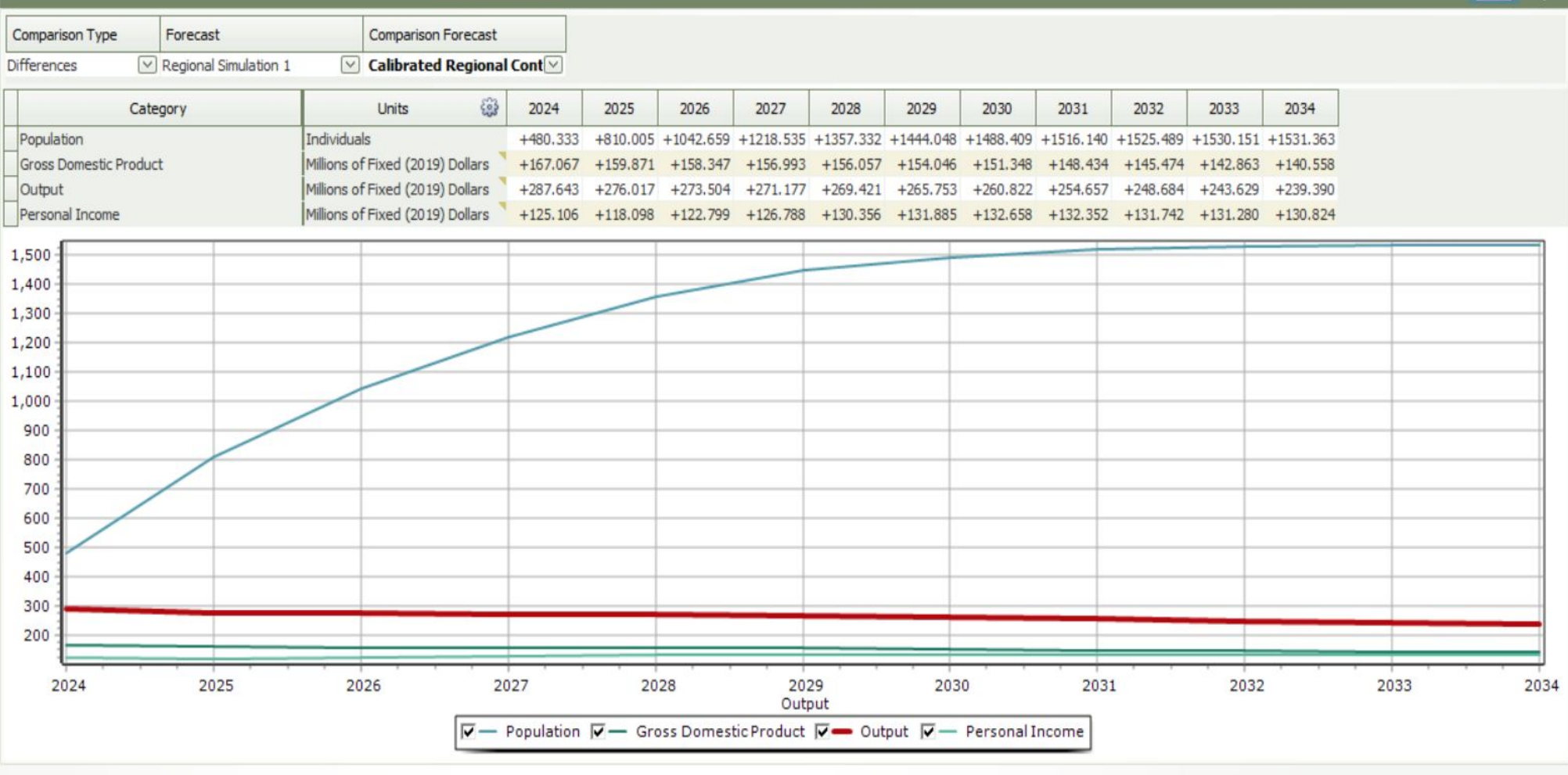


Economic Summary

Comparison Type	Forecast	Comparison Forecast											
Differences	<input checked="" type="checkbox"/> Regional Simulation 1	<input checked="" type="checkbox"/> Calibrated Regional Cont											
Category	Units	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
Total Employment	Individuals (Jobs)	+2122.195	+2035.684	+2002.338	+1971.355	+1946.329	+1909.826	+1866.309	+1815.140	+1764.221	+1717.237	+1673.603	
Private Non-Farm Employment	Individuals (Jobs)	+615.008	+546.703	+539.031	+535.458	+538.211	+531.407	+519.154	+497.464	+476.928	+460.470	+447.171	
Residence Adjusted Employment	Individuals	+2095.391	+2009.587	+1976.771	+1947.304	+1923.851	+1888.810	+1846.735	+1796.951	+1747.325	+1701.472	+1658.864	
Population	Individuals	+480.333	+810.005	+1042.659	+1218.535	+1357.332	+1444.048	+1488.409	+1516.140	+1525.489	+1530.151	+1531.363	
Labor Force	Individuals	+310.005	+514.912	+705.744	+816.625	+896.318	+974.379	+1009.760	+1047.041	+1051.229	+1036.143	+1016.645	
Gross Domestic Product	Millions of Fixed (2019) Dollars	+167.067	+159.871	+158.347	+156.993	+156.057	+154.046	+151.348	+148.434	+145.474	+142.863	+140.558	
Output	Millions of Fixed (2019) Dollars	+287.643	+276.017	+273.504	+271.177	+269.421	+265.753	+260.822	+254.657	+248.684	+243.629	+239.390	
Value-Added	Millions of Fixed (2019) Dollars	+167.067	+159.871	+158.347	+156.993	+156.057	+154.046	+151.348	+148.434	+145.474	+142.863	+140.558	
Personal Income	Millions of Fixed (2019) Dollars	+125.106	+118.098	+122.799	+126.788	+130.356	+131.885	+132.658	+132.352	+131.742	+131.280	+130.824	
Disposable Personal Income	Millions of Fixed (2019) Dollars	+22.466	+18.008	+22.564	+26.908	+31.877	+34.868	+37.205	+38.502	+39.435	+40.504	+41.552	
Real Disposable Personal Income	Millions of Fixed (2012) Dollars	+20.438	+16.383	+20.527	+24.479	+29.000	+31.720	+33.846	+35.027	+35.875	+36.848	+37.801	
Real Disposable Personal Income per Capita	Thousands of Fixed (2012) Dollars	0.000	-0.005	-0.007	-0.008	-0.008	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	
PCE-Price Index	2012=100 (Nation)	+0.003	+0.013	+0.015	+0.016	+0.016	+0.017	+0.017	+0.017	+0.017	+0.017	+0.016	

what does **REMI** say? sm

Economic Results – Population, GDP, Output, and Income



what does **REMI** say?sm

Economic Results – By Industry



By Industry

By Demand Source

Employment by Industry



Category	Comparison Type	Forecast	Comparison Forecast
Employment	Differences	Regional Simulation 1	Calibrated Regional Cont

Industry	Units	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
All Industries	Individuals (Jobs)	+2122.195	+2035.684	+2002.338	+1971.355	+1946.329	+1909.826	+1866.309	+1815.140	+1764.221	+1717.237	+1673.603
Government	Individuals (Jobs)	+1507.187	+1488.981	+1463.306	+1435.897	+1408.119	+1378.420	+1347.155	+1317.676	+1287.293	+1256.767	+1226.433
Services	Individuals (Jobs)	+266.504	+232.180	+229.167	+228.564	+231.575	+230.344	+227.124	+220.097	+213.963	+209.719	+206.670
Construction	Individuals (Jobs)	+134.927	+129.886	+127.708	+125.828	+124.125	+120.530	+115.228	+108.006	+100.452	+93.474	+87.304
Finance, Insurance & Real Estate	Individuals (Jobs)	+68.755	+57.874	+58.412	+59.201	+60.701	+60.928	+60.417	+58.746	+57.102	+55.845	+54.853
Retail and Wholesale	Individuals (Jobs)	+60.565	+52.205	+54.371	+56.956	+60.371	+61.941	+62.421	+61.165	+59.906	+59.065	+58.448
Transportation and Public Utilities	Individuals (Jobs)	+43.797	+40.681	+39.423	+38.355	+37.571	+36.489	+35.257	+33.570	+32.020	+30.712	+29.608
Manufacturing	Individuals (Jobs)	+36.297	+30.358	+26.787	+23.642	+21.137	+18.624	+16.333	+13.745	+11.566	+9.914	+8.686
Natural Resources	Individuals (Jobs)	+4.161	+3.520	+3.164	+2.912	+2.731	+2.550	+2.373	+2.135	+1.920	+1.742	+1.601
Farm	Individuals (Jobs)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

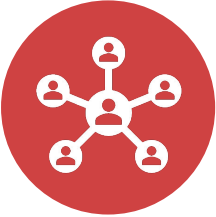
what does **REMI** say?sm

Importance of SEI factors



Gender

Women are under utilized in manufacturing/construction jobs. Eliminating barriers of entry increases labor supply to the industries leading innovation



Educational Attainment

Increased educational attainment is necessary to keep up with the technologically advancing labor needs



Demographic Shifts

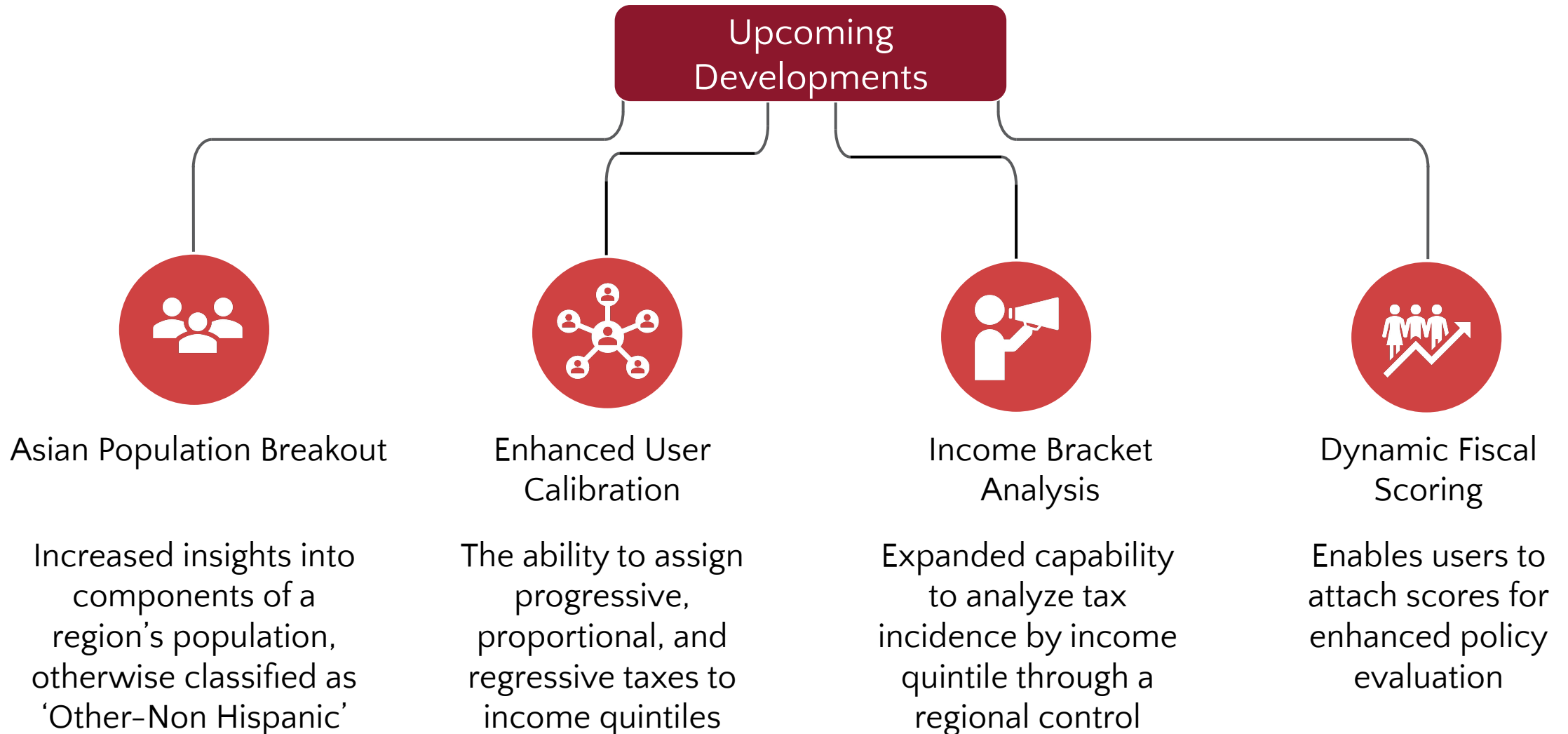
With an increasingly diverse labor force, we must utilize their talent to sustain a competitive labor force



Low/middle Income

Data on lower income neighborhoods can inform policies effecting labor supply and output

Upcoming Developments for Tax-PI and SEI



Highlights



State Fiscal Health

- Surplus spending
- Deficit replacements
- Policymakers have many difficult choices to make as rising health care, education, and infrastructure costs place pressures on annual budgets.

Tax/Economics

- GDP, personal Income, and output
- The income taxes and selected sales taxes generated increase of annual increase in revenues.

Socioeconomic Indicators

- Male employment increased
- Female employment increased
- In-migration and out-migration for different population components in response

Modeling

- State-wide and regional economic modeling can inform analysis of macroeconomics and socioeconomic indicators.
- Test “what-if” scenarios.

Thank you for attending!

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