

REMI IQ+ MODEL WEBINAR

*what does **REMI** say?*

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Agenda



- Understanding Economic Forecasting Needs
- About REMI
- About the IQ+ Model
- Model Demonstration
- Questions

Unprecedented Economic Uncertainty



- City planners, economic development agents need to forecast for shorter timeframes amid unclear future
- Businesses vulnerable to lockdown restrictions and reduced capacities
 - ▣ Lack of travel
- Historically high unemployment levels
- Potential school closures, impact on tax revenue

Understanding Forecasting Needs



Accurate, flexible, and quantitative forecasting of economic activity in specific regions, related directly to the unpredictable impacts of COVID-19:

Short-Term Dynamic Planning

Customizable, Data-Driven Projections

Informed Public Policy

About REMI



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

Input-Output

Close analysis of inter-industry relationships

Econometrics

Advanced statistical analyses underpinning the model

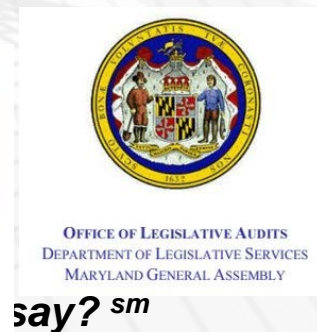
General Equilibrium

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 modeling approach



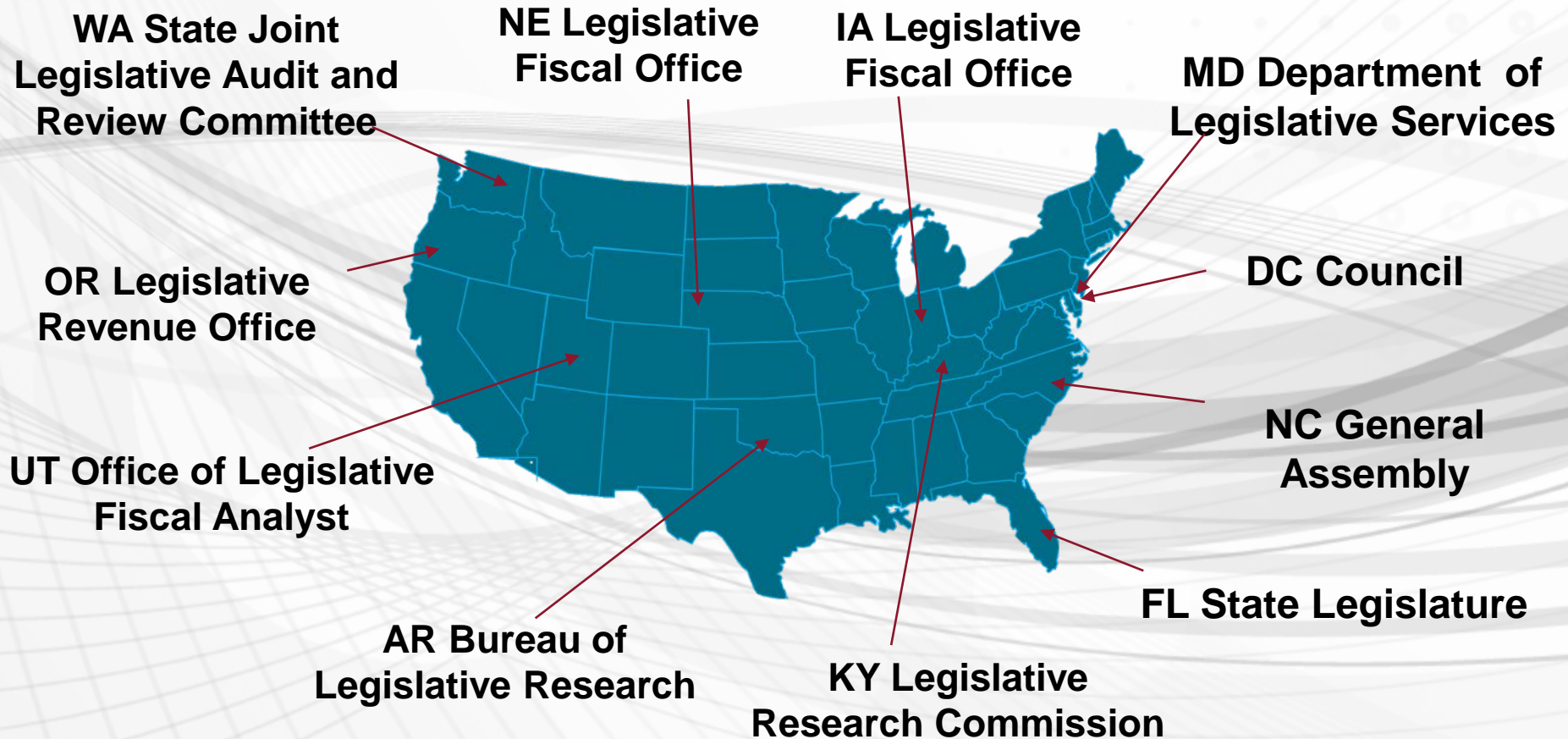
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Empire State Development



Legislative Offices using REMI



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Legislative Successes

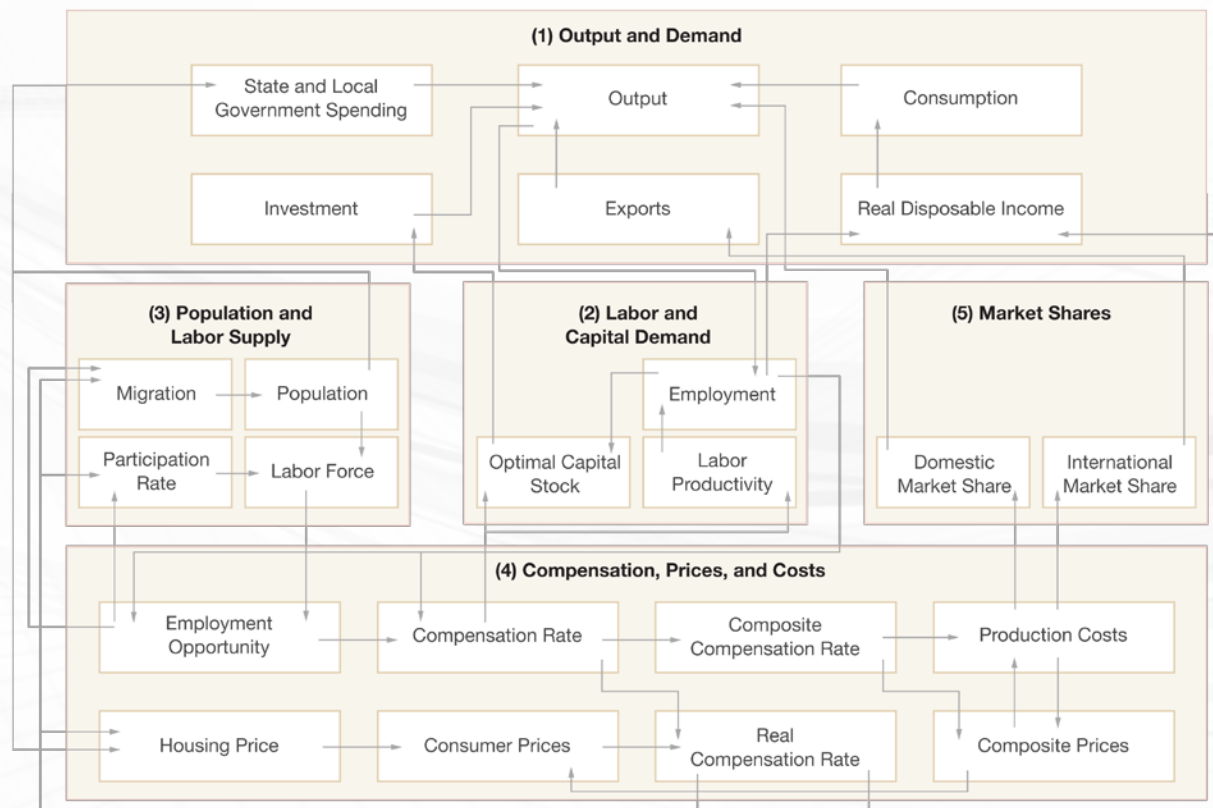


- Minimum Wage Increase
 - ▣ The Maryland Department of Legislative Services used the REMI model to conduct impartial analysis of a minimum wage increase to inform policy makers and gather key votes
- Sales Tax Extension
 - ▣ Louisiana was able to avoid a fiscal cliff by keeping the sales tax raised so as to fund crucial government programs
- Fiscal Notes
 - ▣ REMI worked with the Arkansas Bureau of Legislative Research to produce fiscal notes and successfully push forth personal and corporate income tax proposals
- Tax Incentives
 - ▣ In Florida, lawmakers were able to successfully oppose tax incentive proposals by displaying REMI analysis and on the legislature floor

Model Structure



REMI Model Linkages (Excluding Economic Geography Linkages)



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What is the IQ+ Model?



Quarterly forecasting model, with a more relevant timeframe to the unpredictability of COVID-19

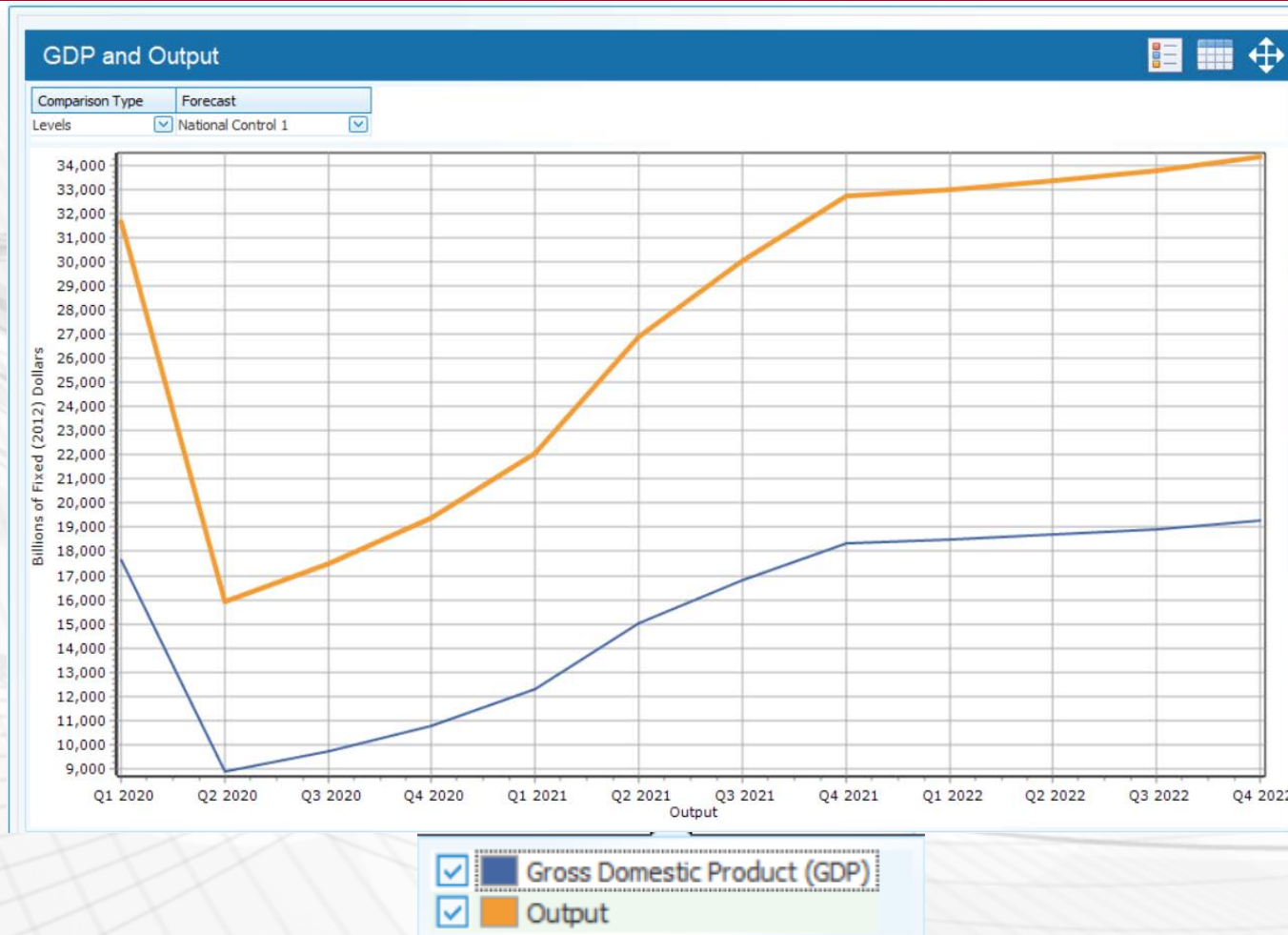
- Built off the base PI+ model
- “Top Down, Bottom Up”
 - ▣ Can simulate regional impact of exogenous shocks to national GDP, or evaluate national impact of isolated regional shock

The IQ+ Model Advantages



- Quarterly projections for your specific region
- Forecasts economic activity out to 2023 (12 quarters total)
- Addresses difficult “what if...” policy interventions
 - ▣ Partial shutdowns, partial re-openings
 - ▣ School closures, and effect on tax revenue

U-shaped national recovery



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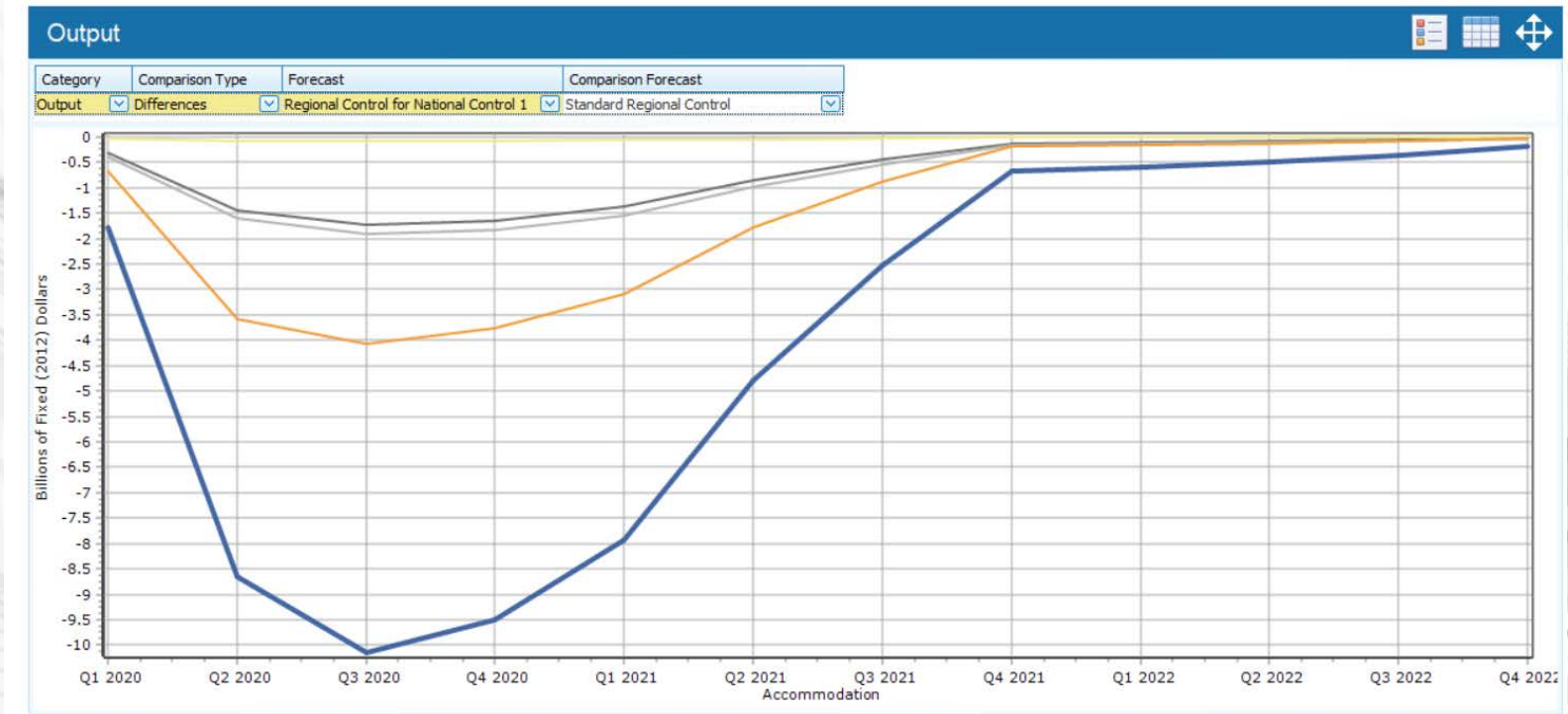
Adding in output loss from specific industries in Nevada



Ac	View	Category	Detail	Region	Units	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021
<input checked="" type="checkbox"/>		Industry Sales (Exogenous Production)	Performing arts, spectator sports, and related industries	Nevada	2012 Fixed National \$ (B)	-0.06	-0.08	-0.08	-0.08	-0.04	-0.04	-0.02	-0.02
<input checked="" type="checkbox"/>		Industry Sales (Exogenous Production)	Museums, historical sites, and similar institutions	Nevada	2012 Fixed National \$ (B)	-0.06	-0.08	-0.08	-0.08	-0.04	-0.04	-0.02	-0.02
<input checked="" type="checkbox"/>		Industry Sales (Exogenous Production)	Amusement, gambling, and recreation industries	Nevada	2012 Fixed National \$ (B)	-0.1	-0.2	-0.1	-0.08	-0.05	-0.02	-0.01	-0.01
<input checked="" type="checkbox"/>		Industry Sales (Exogenous Production)	Accommodation	Nevada	2012 Fixed National \$ (B)	-0.06	-0.1	-0.1	-0.1	-0.05	-0.05	-0.01	-0.01
<input checked="" type="checkbox"/>		Industry Sales (Exogenous Production)	Food services and drinking places	Nevada	2012 Fixed National \$ (B)	-0.06	-0.1	-0.1	-0.1	-0.05	-0.05	-0.01	-0.01

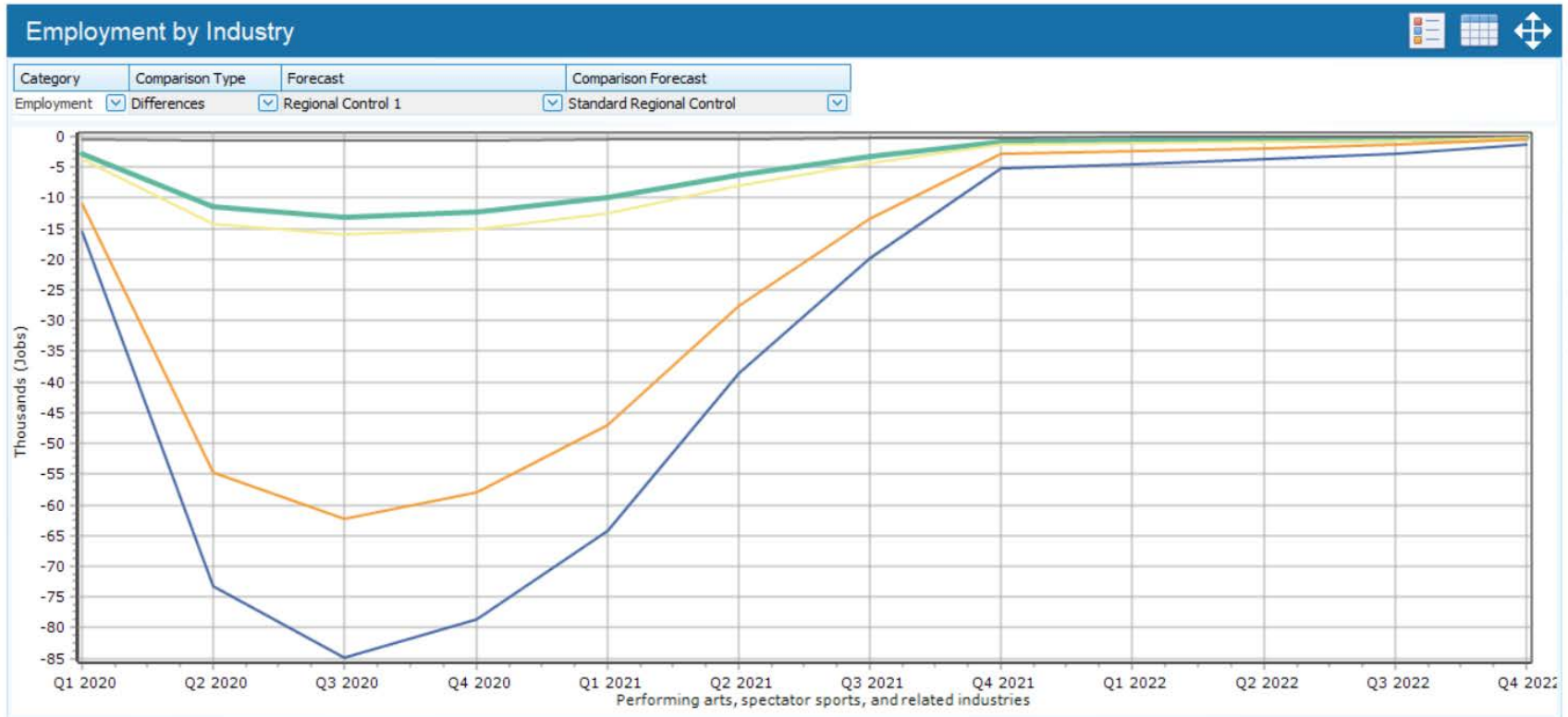
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Output loss, Nevada, cont.



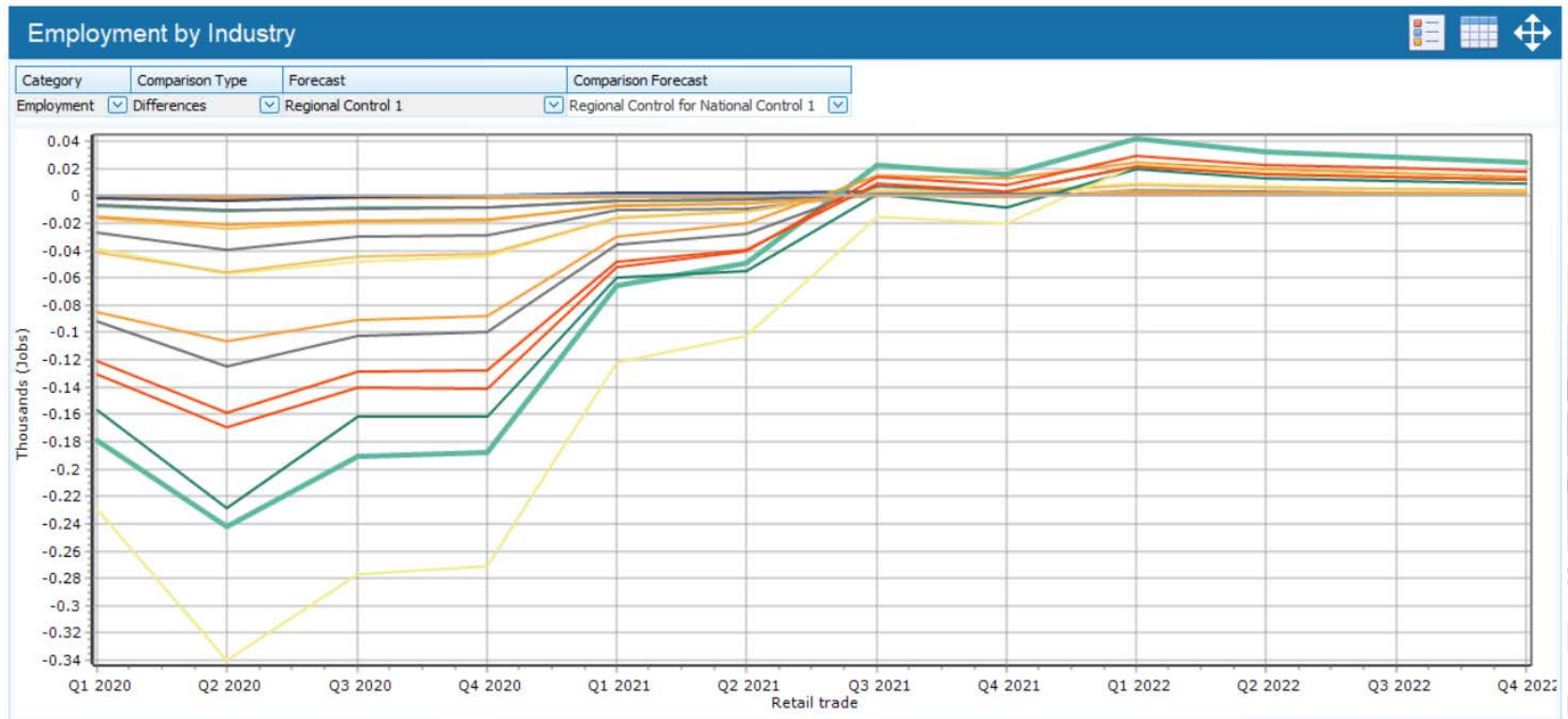
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Regional employment effect from earlier selected industries



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Regional job loss from all industries



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Example: North Florida



- “Forecasting the Economic Impacts of COVID-19 in Northeast Florida”
 - ▣ Northeast Florida Regional Council, 6/2/2020
- PI+ Model, Annual Projections
- Metropolitan Area Scale

Dynamic Analysis Results:

1. North Florida-focused, assists planners in understanding regional-specific needs
2. Quantitative forecast of GDP, industry-specific employment levels, income per capita

North Florida PI+ Results



- Due to COVID-19:
 - ▣ Northeast Florida 15% more vulnerable
 - ▣ Estimated loss of 41,000 local jobs
 - Concentrated in certain industries

Table 1

2019 - 2020 Economic Indicator Changes (Regional vs. National Comparison)

Category	Result	Regional Change 2019 - 2020	National Change 2019 - 2020
Total Employment (Thousands)	-41,451	-4.2%	-4.1%
Gross Domestic Product (Billions)	-\$2.70	-3.1%	-2.7%
Population (Thousands)	30,193	1.7%	0.7%
Labor Force (Thousands)	4,408	0.5%	0.6%
Real Disposable Personal Income per Capita (Thousands)	-\$2,198	-5.2%	-4.6%

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Model Demonstration

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Contact Us



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For more information on REMI, including upcoming events, presentation archives and model documentation, go to remi.com.

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