

Global Events: How Resilient the U.S. Economy is Against War

Regional Economic Models, Inc.

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Overview



Effect of the War on Global Spectrum

The Effect of De-Globalization

Supply-Chain Shocks & Rising Inflation

Global Shortage of Microprocessors

Overall Economic Impact Caused by the War

Conclusion

Q&A

- Post-Pandemic Adjustment
- Time to pay the piper for “free money”
- 2020-2022 Massive Monetary and Fiscal Expansion
- Colossal Disruption of Economic Activity from the Pandemic
- First quarter decline of GDP with 8.5% Inflation
- Ukraine-Russia War has worldwide implications compounding the risk of stagflation

- Start date: Tuesday, February 24, 2022
- Escalation: Russia halting supply of gas to Poland and Bulgaria; Increase of NATO Military Aid; Renewed Russian Bombing of Civilian Targets
- No clear exit strategy for Russia, Ukraine or NATO
- The World Order is under Severe Strain
 - For example, Iran's Supreme Leader Khameni says: "Today, the world is on the threshold of a new world order"

How the War in Ukraine Effects the Globe

Global Effect of War



Damaging Global Trade

2022 growth of merchandise trade volumes – the import and export of goods – from 4.7% to 3%



Food and Fuel Crises

The halting of grain shipments through Black Sea ports could have “potentially dire consequences” for food security in poor countries.



Inflation and Supply Chain Shocks

Severe sanctions have isolated Russia, and supply-chain shocks have roiled markets for food, energy and other commodities causing inflation to skyrocket.



De-globalizing Specific Resources

De-globalization will push inflation even higher, forcing central banks to choose between higher prices or lower economic activity. This also causes shortages of resources.

Scenario: 10% Increase in World Oil and Gas Price



Policy Variable Input

- Foreign Import Costs
 - Oil and gas extraction in 8 Major Metro Areas + Rest of U.S.
 - Increase by 10% since 2022

Save Forecast Import Export Print Tools

Select Inputs [Inputs List](#)

Policy Variable Inputs

Active	Edit	Group													
<input checked="" type="checkbox"/>	<input type="checkbox"/>		New Search Results - Foreign Import Costs												
Active	View	Category	Detail	Region	Units	2020	2021	2022	2023	2024	2025	2026	2027	2028	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Foreign Import Costs	Oil and gas extraction	Regions (9)	Percent	0	0	10	10	10	10	10	10	10	

what does **REMI** say?sm

Scenario: 10% Increase in World Oil and Gas Price



Employment by Region

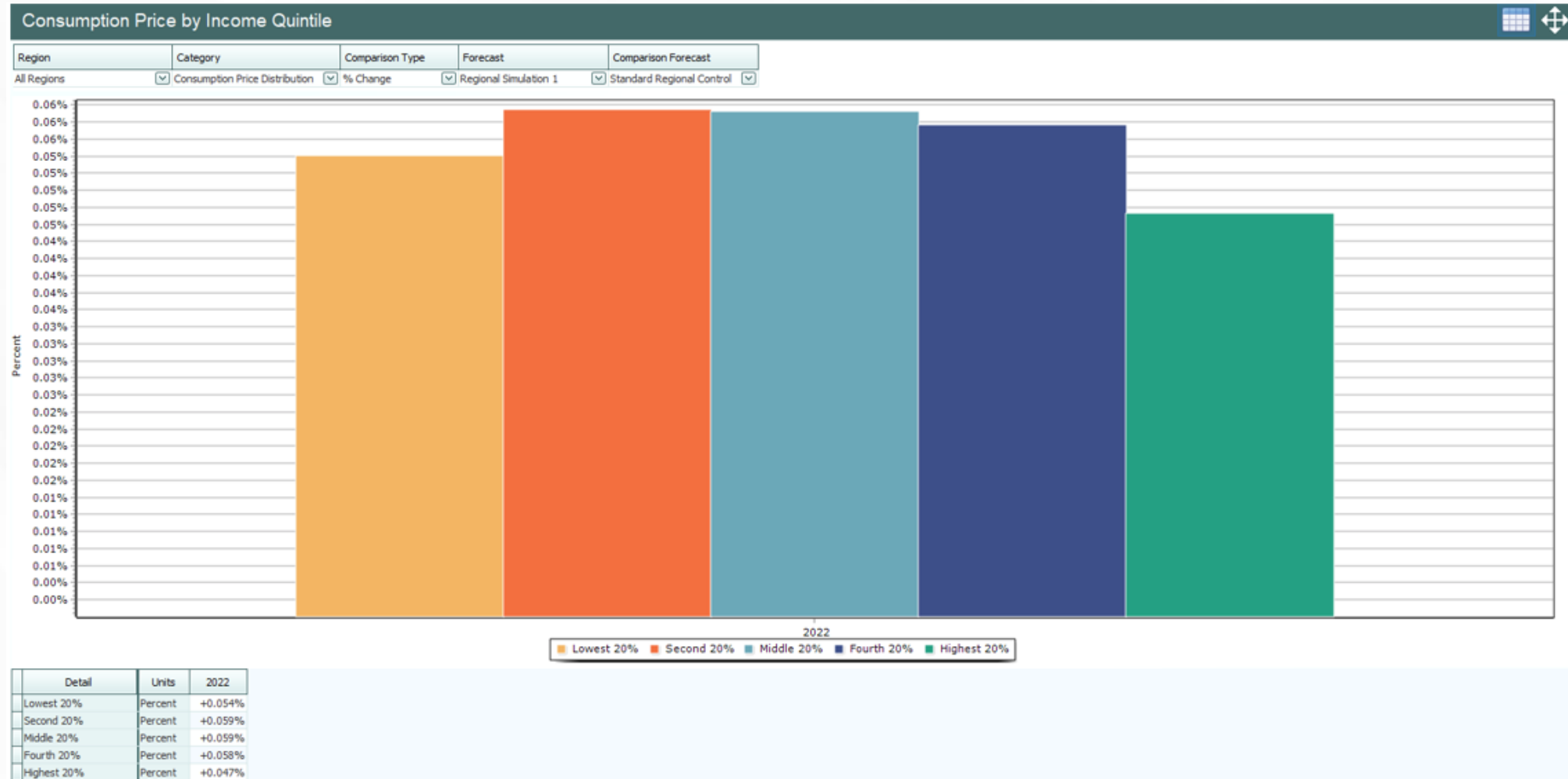
Economic Summary									
Category	Comparison Type	Forecast	Comparison Forecast						
Total Employment	<input type="checkbox"/> Differences	<input type="checkbox"/> Regional Simulation 1	<input type="checkbox"/> Standard Regional Control						
Region	Units	2020	2021	2022	2023	2024	2025	2026	2027
New York City Area	Thousands (Jobs)	0.000	0.000	-0.631	-0.582	-0.470	-0.317	-0.160	-0.021
Fulton County, GA (Atlanta)	Thousands (Jobs)	0.000	0.000	-0.134	-0.133	-0.124	-0.108	-0.089	-0.071
Cook, IL (Chicago)	Thousands (Jobs)	0.000	0.000	-0.779	-0.833	-0.832	-0.774	-0.693	-0.609
Harris County, TX (Houston)	Thousands (Jobs)	0.000	0.000	+9.329	+11.646	+12.810	+12.935	+12.536	+11.877
King County, WA (Seattle)	Thousands (Jobs)	0.000	0.000	-0.441	-0.435	-0.382	-0.296	-0.203	-0.117
San Francisco County, CA	Thousands (Jobs)	0.000	0.000	-0.079	-0.074	-0.064	-0.045	-0.025	-0.008
Los Angeles County, CA	Thousands (Jobs)	0.000	0.000	-1.646	-1.550	-1.491	-1.336	-1.153	-0.974
Miami-Dade County, FL	Thousands (Jobs)	0.000	0.000	-0.491	-0.499	-0.478	-0.425	-0.360	-0.298
Rest of U.S.	Thousands (Jobs)	0.000	0.000	-5.120	-7.539	-8.972	-9.640	-9.860	-9.787

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Scenario: 10% Increase in World Oil and Gas Price



Consumer Price by Compensation Quintile



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Pro Globalization VS Anti-Globalization

Pro Globalization

- Each Country produces what they are best at (comparative advantage)
- GDP increases for all
- When Countries interconnect trades there is a lower chance of war and conflict

Anti-Globalization

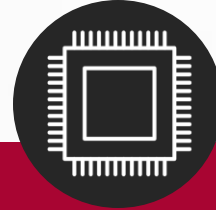
- Hallowed-out manufacturing in the U.S.
- Leaves Countries vulnerable to political decisions made by other Countries
- Widening income inequality

The Overall Effect of De-Globalization in the U.S.



Inflation

- Focus on Inflation Impacts on Middle- and Lower-Income People
- Gas, Oil, Food, Materials all increased price dramatically



Specific Supply Shortages

- There is a global shortage of microprocessors used in phones and cars. Intel has invested \$20 billion in a new computer chip facility in Ohio.



Simulations

- Foreign Import Cost Increase for Manufacturing
- Unexpected Event/Disruption

Scenario 1: Foreign Import Cost Increase for Manufacturing



Motivation: Deglobalization is represented by increase in cost of imports. (trade friction; move away from U.S. dollar as global reserve currency; imposition of trade barriers)

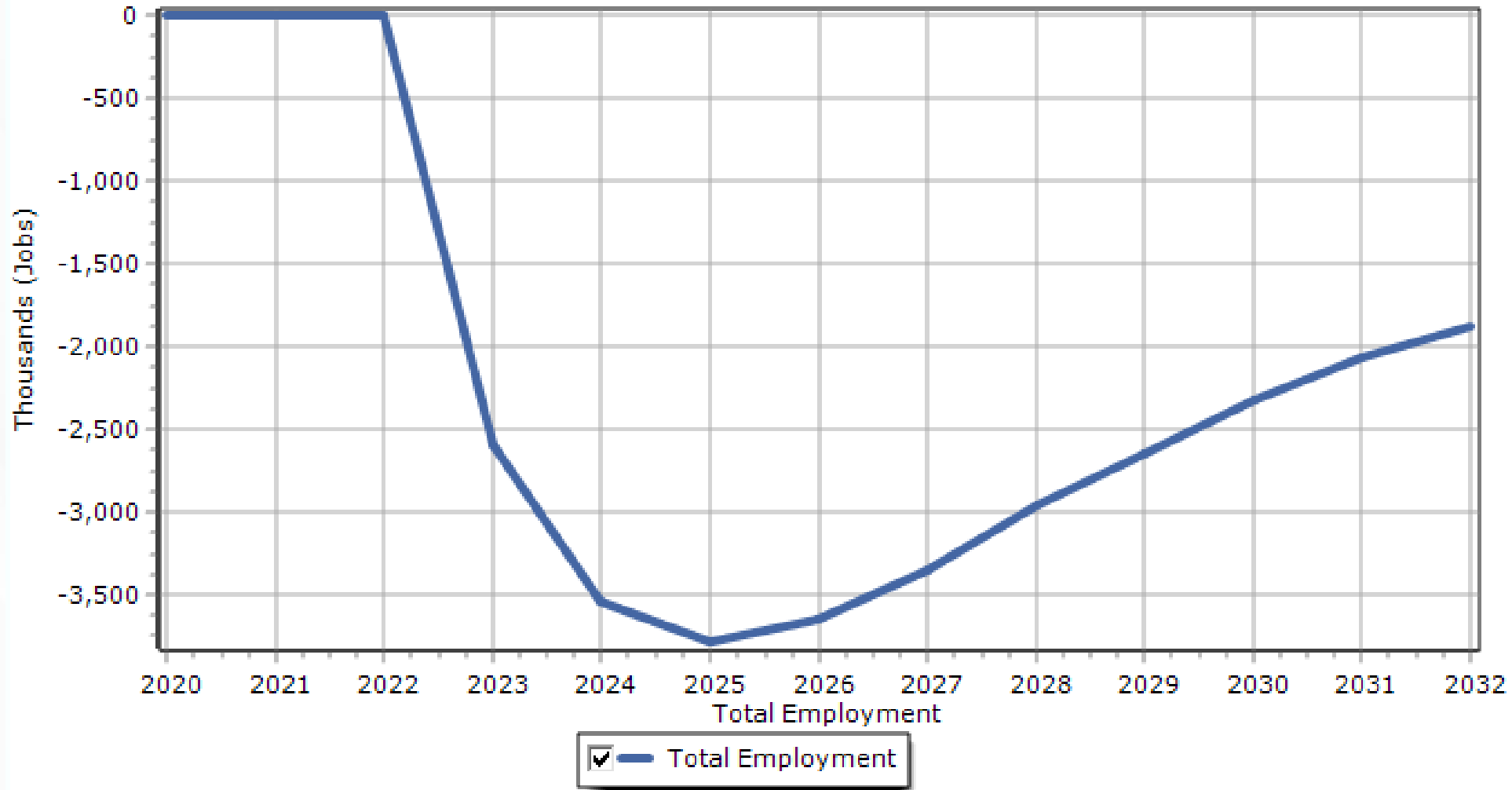
In simple scenario (no Fed reaction;

- Lowers Employment in U.S.
- Lowers GDP

Explanation

- Higher consumer prices
- Higher production costs for inputs
- Higher consumer prices lead to lower consumption (final demand)
- Reduced output for industries that have higher input costs
- Increase in output and employment for U.S. Industries that compete against imports

Scenario 1: Lowers Employment in U.S.

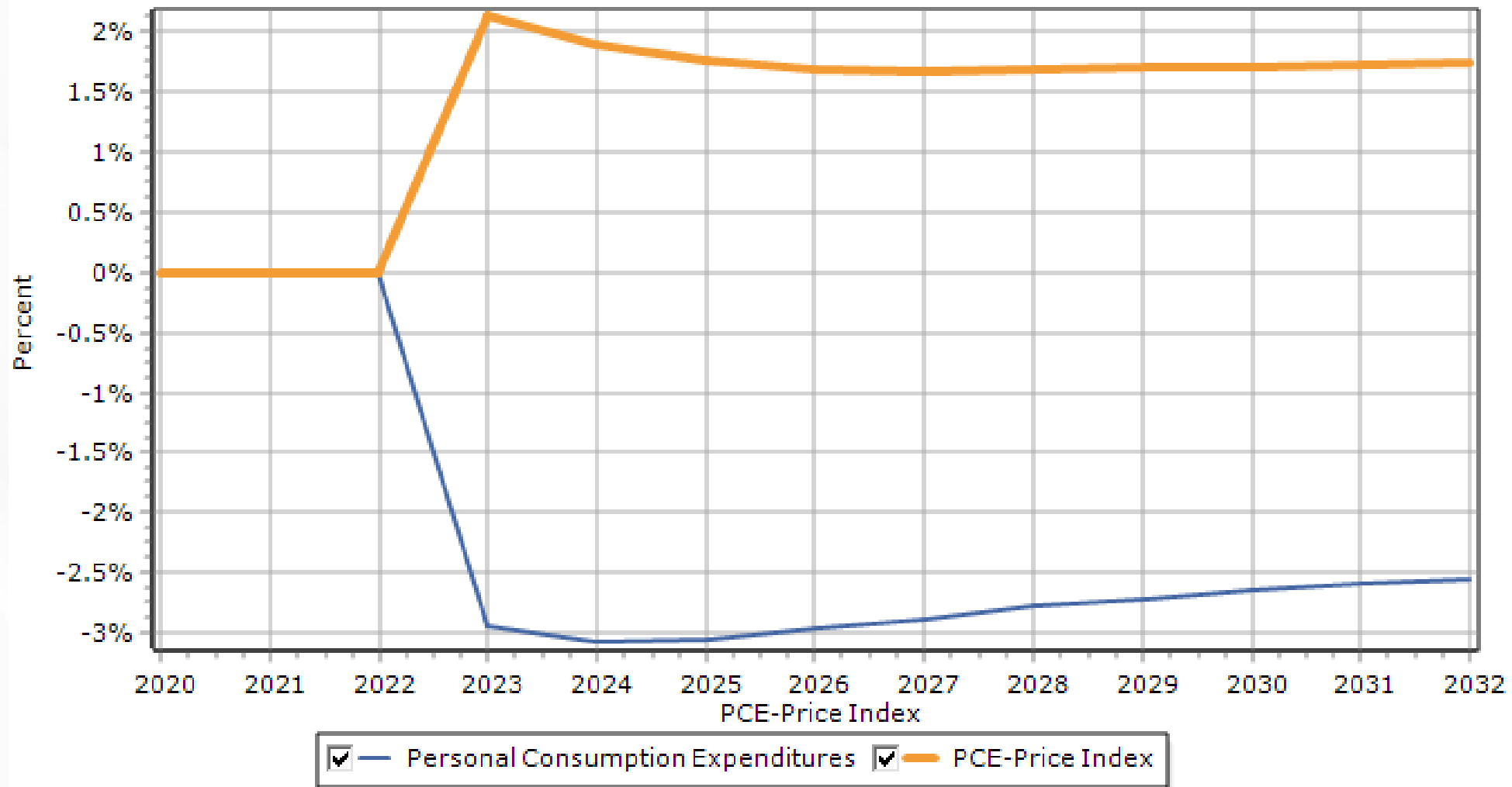


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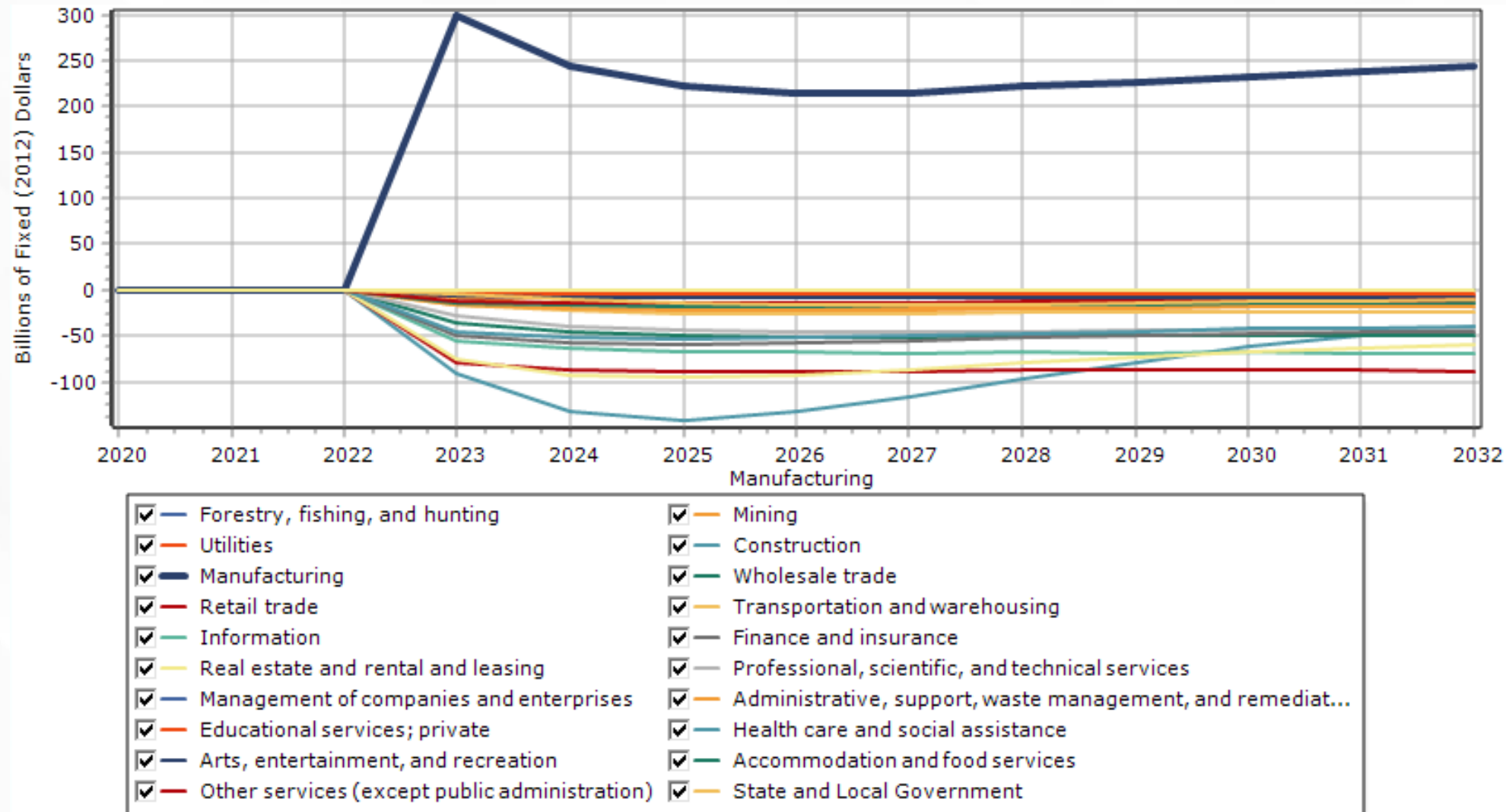
Scenario 1: Lowers GDP



Scenario 1: Higher Consumer Prices Lead to Lower Consumption

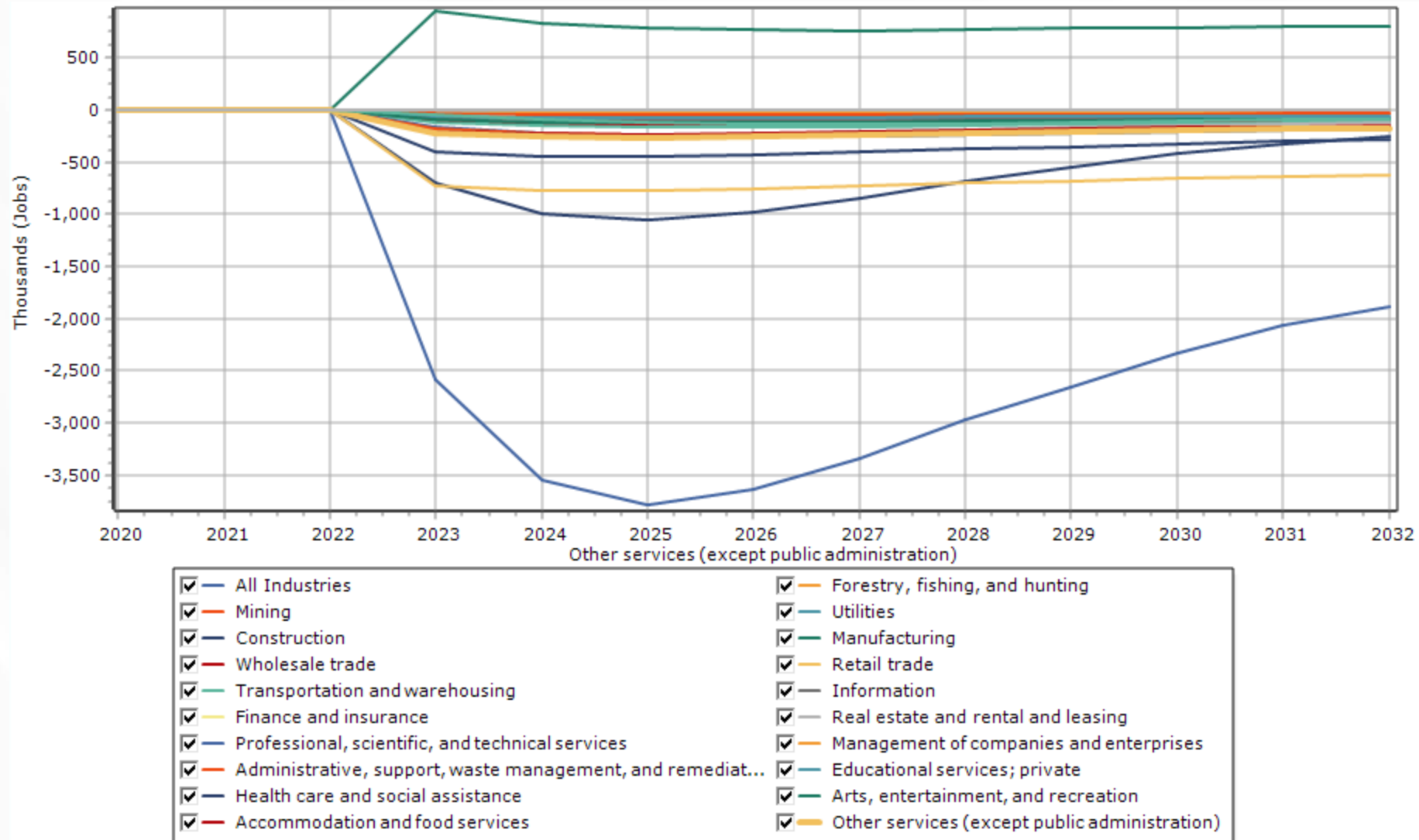


Scenario 1: Increase in Output for U.S. Industries that Compete against Imports



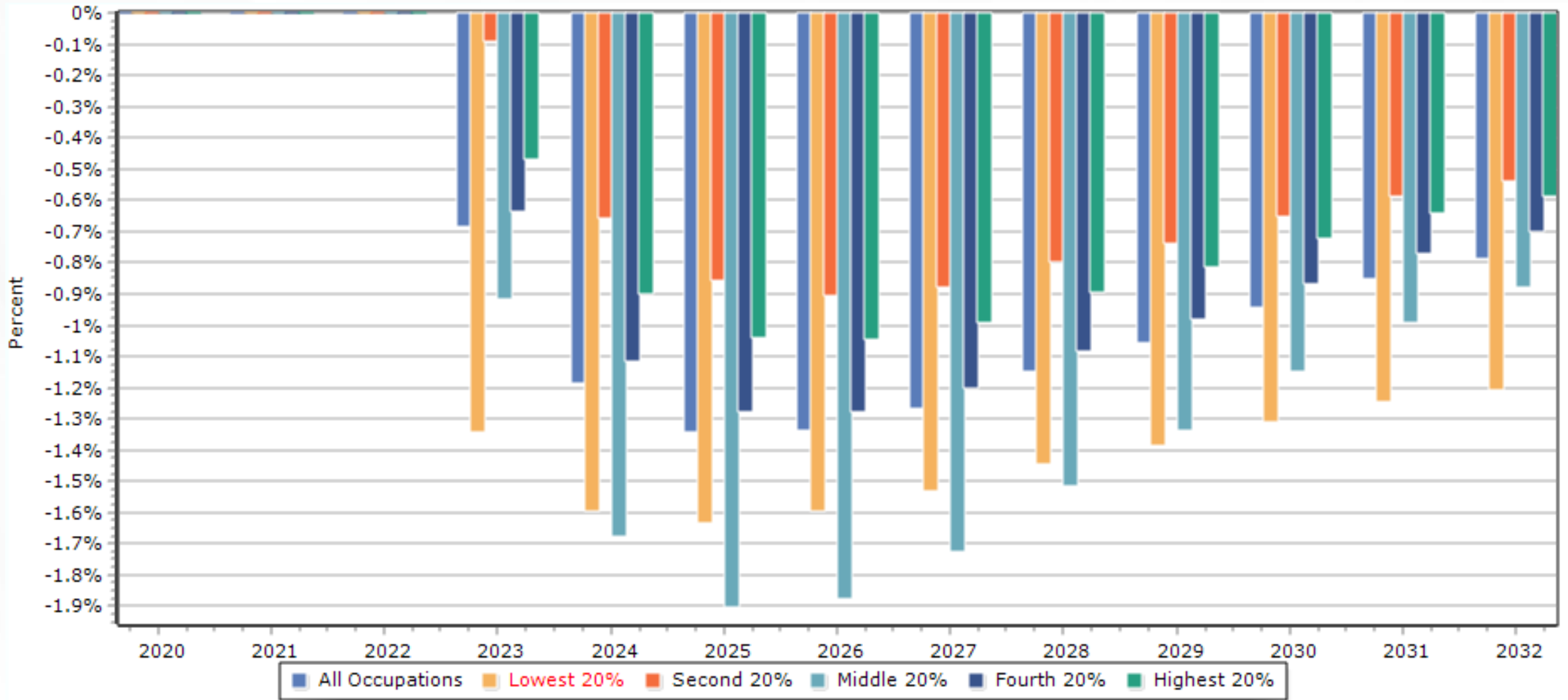
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Scenario 1: Increase in Employment for U.S. Industries Competing against Imports



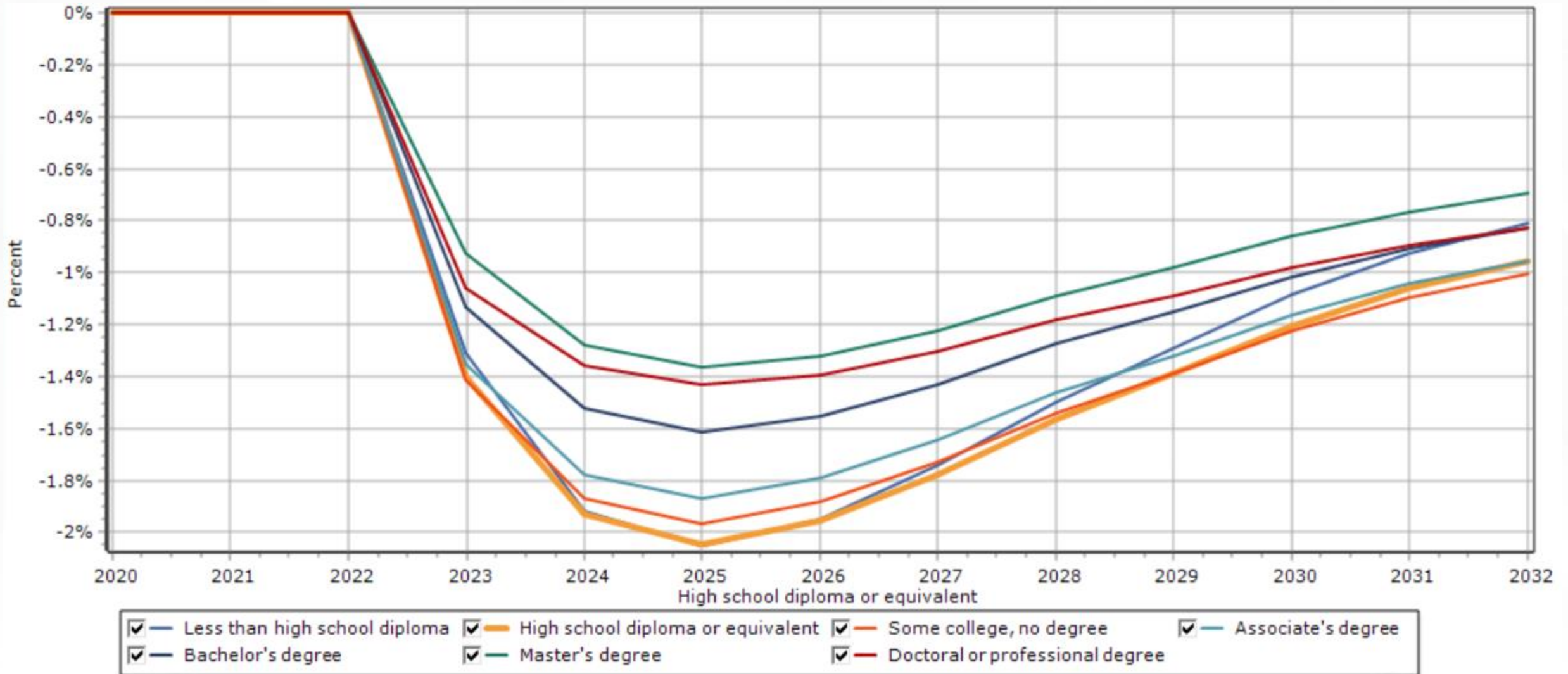
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Scenario 1: Employment by Occupation Wage Quintile, MI



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Scenario 1: Employment by Educational Attainment, MI



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Scenario 2: Deglobalization to Mitigate Black Swan Risk



- Increasing domestic supply chain for critical inputs could reduce susceptibility to future supply shocks
- Black Swan events are unpredictable and have severe consequences
- Risk of major economic disruption due to lack of critical inputs could be mitigated by domestic production
- Higher cost of domestic inputs (and less efficient economy) could be justified to reduce disaster risk

- The high tension started in 2021 due to Beijing's view that Taiwan is a breakaway province of 23 million people that will eventually have to "reunified" with the rest of China.
- *"The historical task of the complete reunification of the motherland must be fulfilled, and will definitely be fulfilled,"* Mr. Xi said.

Measuring Resilience with E3+

- **Disaster Resilience Study**
 - Tool for evaluating the effectiveness of multiple disaster recovery and mitigation plans
 - E3+ can produce an automatic calculation discussing resilience through a forecast's "Resiliency Report"
- **Concept:** Cyber-attack shock with versus without resilient system
 - No-Action Baseline Control: Direct shock impact from cyber-attacks
 - Resilience Investment Scenario: Cushion from resilient system
- The model produces a **Resilience Loss Reduction Potential** figure:

$$RLRP = \frac{\textit{Avoided Losses}}{\textit{Maximum Potential Losses}}$$

Disaster Baseline Control

- Output
 - Motor vehicles, bodies and trailers, and parts manufacturing
 - Reduce by 50% in 2032

Resilience Scenario Policy Variable 1

- Foreign Import Costs
 - Motor vehicles, bodies and trailers, and parts manufacturing & Computer and electronic product manufacturing
 - Increase by 10% since 2023

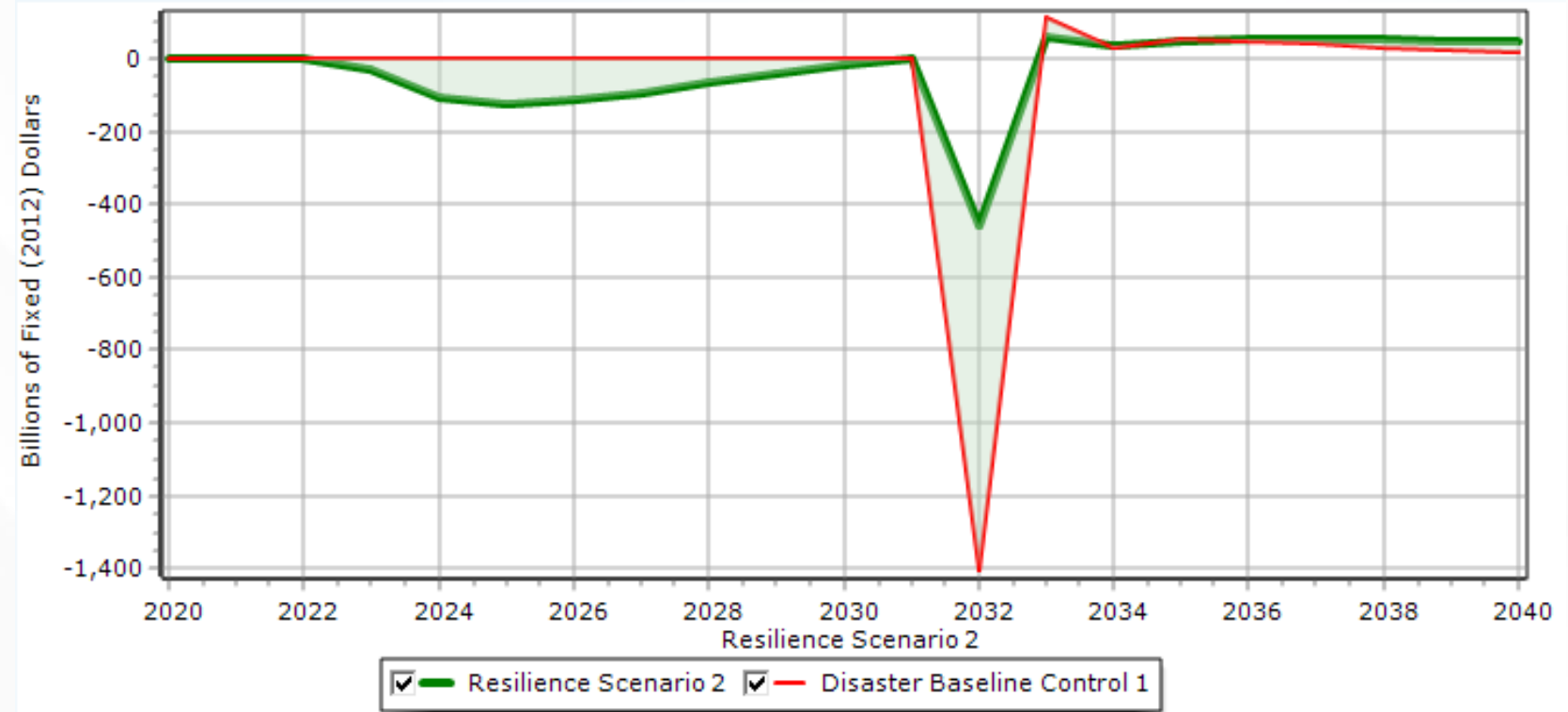
Resilience Scenario Policy Variable 2

- Output
 - Motor vehicles, bodies and trailers, and parts manufacturing
 - Increase by 100% in 2032

Resilience Study Results: Output



- Total Maximum Loss Potential = \$1,062B
- Actual Loss in Resilience Scenario = \$660B
- Avoided Loss Due to Resilience Measures = \$401B
- Resilience Loss Reduction Potential = 38%



- The COVID Pandemic and Russia-Ukraine War have set the stage for Deglobalization
- Generally, Globalization is Highly Efficient at Low-Cost Production
- Yet, there are winners and losers from Globalization
- Furthermore, the global supply chain may be fragile, so that developing domestic supply alternatives may mitigate potential disruptions.

Thank you for attending!

For more information, please contact
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