How Stress Testing Can Inform State Budgets:
Examining Utah's Approach

Today's webinar

- Jonathan Ball
  Utah's Legislative Fiscal Analyst
  Previously served on the Joint Economic Committee of U.S. Congress, the D.C. Office of Michigan Governor John Engler, the U.S. Department of Commerce, and the White House Office of Management and Budget.

- Maddy Oritt
  Staff Economist, Utah Office of the Legislative Fiscal Analyst
  Previously served as director of the PAC-12 Academic Leadership Coalition.

- Juliette Tennert
  Chief Economist, Gardner Policy Institute at the University of Utah
  Previously served as the state budget director and chief economist for Governor Gary Herbert, chief economist for Governor Jon Huntsman, and fiscal analyst for the Utah State Legislature.

How to submit a question

- Please submit a question by clicking on the grey control panel on the right side of the screen.

- Once you do so, enter your query in the "Questions" box.

- We ask that you please include your name and state with your question.

HOW STRESS TESTING CAN INFORM STATE BUDGETS:
EXAMINING UTAH'S APPROACH

Jonathan Ball, Legislative Fiscal Analyst, Utah Office of the Legislative Fiscal Analyst
Juliette Tennert, Chief Economist, Kem C. Gardner Policy Institute
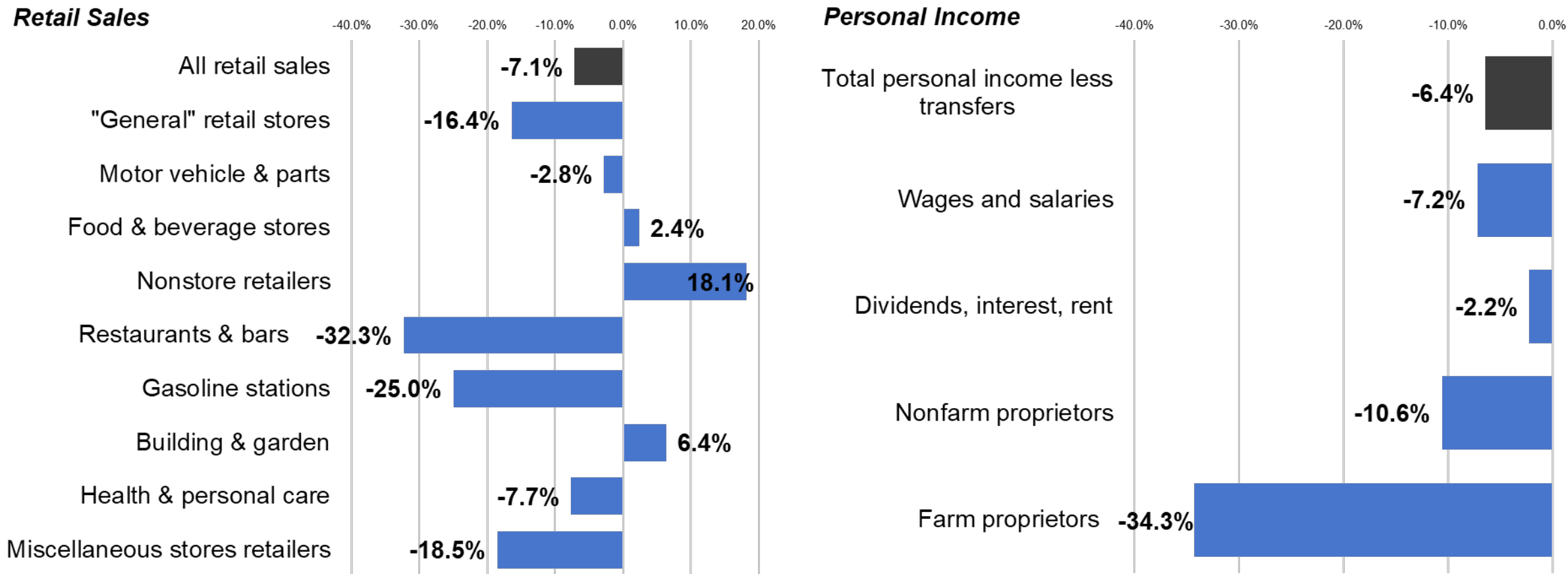Maddy Oritt, Economist, Utah Office of the Legislative Fiscal Analyst
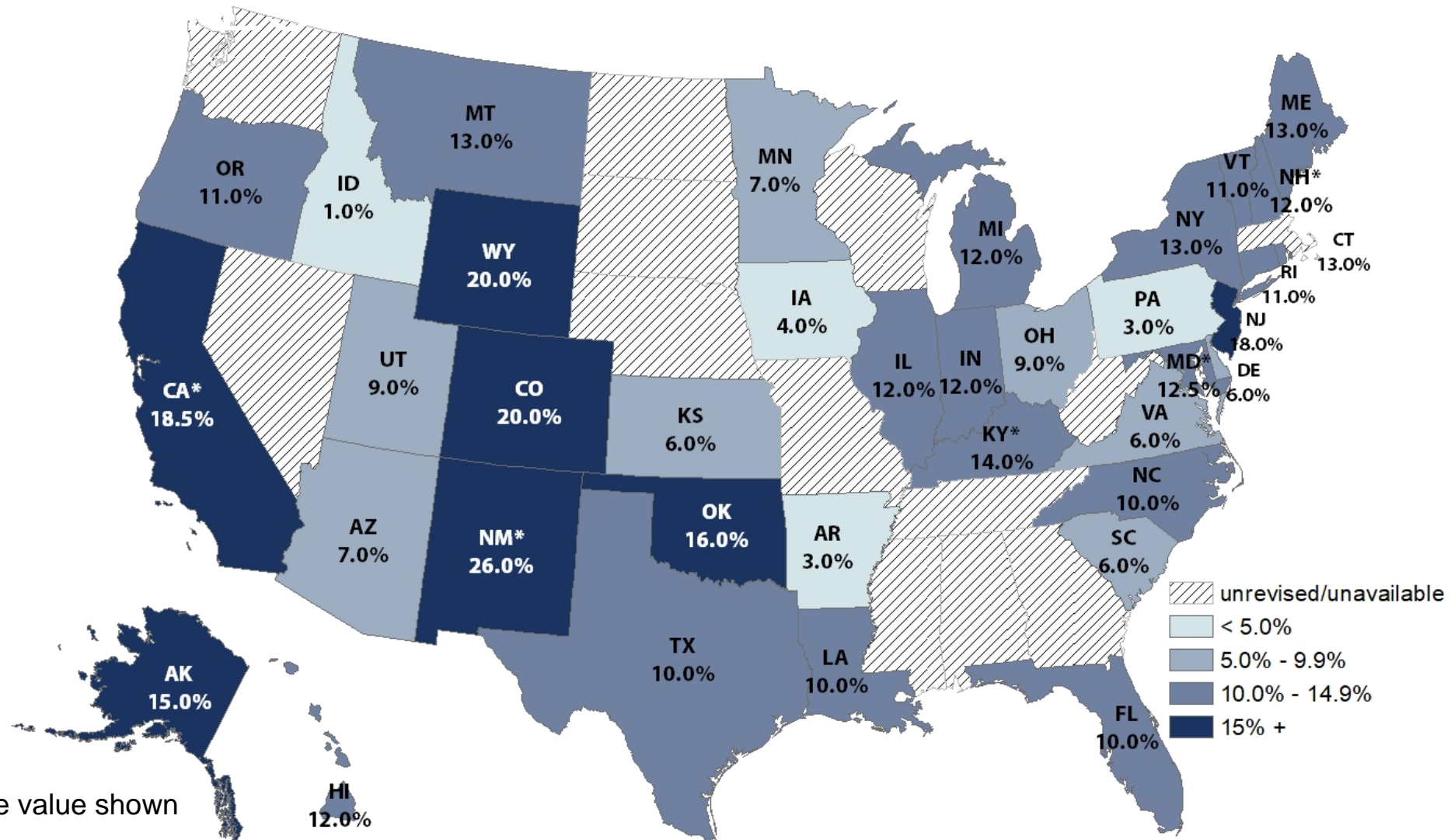
ECONOMIC UPDATE

JULIETTE TENNERT

Change in U.S. Retail Sales and Selected Components of Personal Income between Q1 and Q2 2020

Retail Sales

Category	Change
All retail sales	-7.1%
"General" retail stores	-16.4%
Motor vehicle & parts	-2.8%
Food & beverage stores	2.4%
Nonstore retailers	18.1%
Restaurants & bars	-32.3%
Gasoline stations	-25.0%
Building & garden	6.4%
Health & personal care	-7.7%
Miscellaneous stores retailers	-18.5%

Personal Income

Category	Change
Total personal income less transfers	-6.4%
Wages and salaries	-7.2%
Dividends, interest, rent	-2.2%
Nonfarm proprietors	-10.6%
Farm proprietors	-34.3%

Notes: Data are seasonally adjusted. "General" retail stores include sellers of furniture, electronic, appliances, clothing, sporting goods, books, and other general merchandise (NAICS 442, 443, 448, 451, and 452).

Source: Kem C. Gardner Policy Institute analysis of U.S. Census Bureau and Bureau of Economic Analysis data
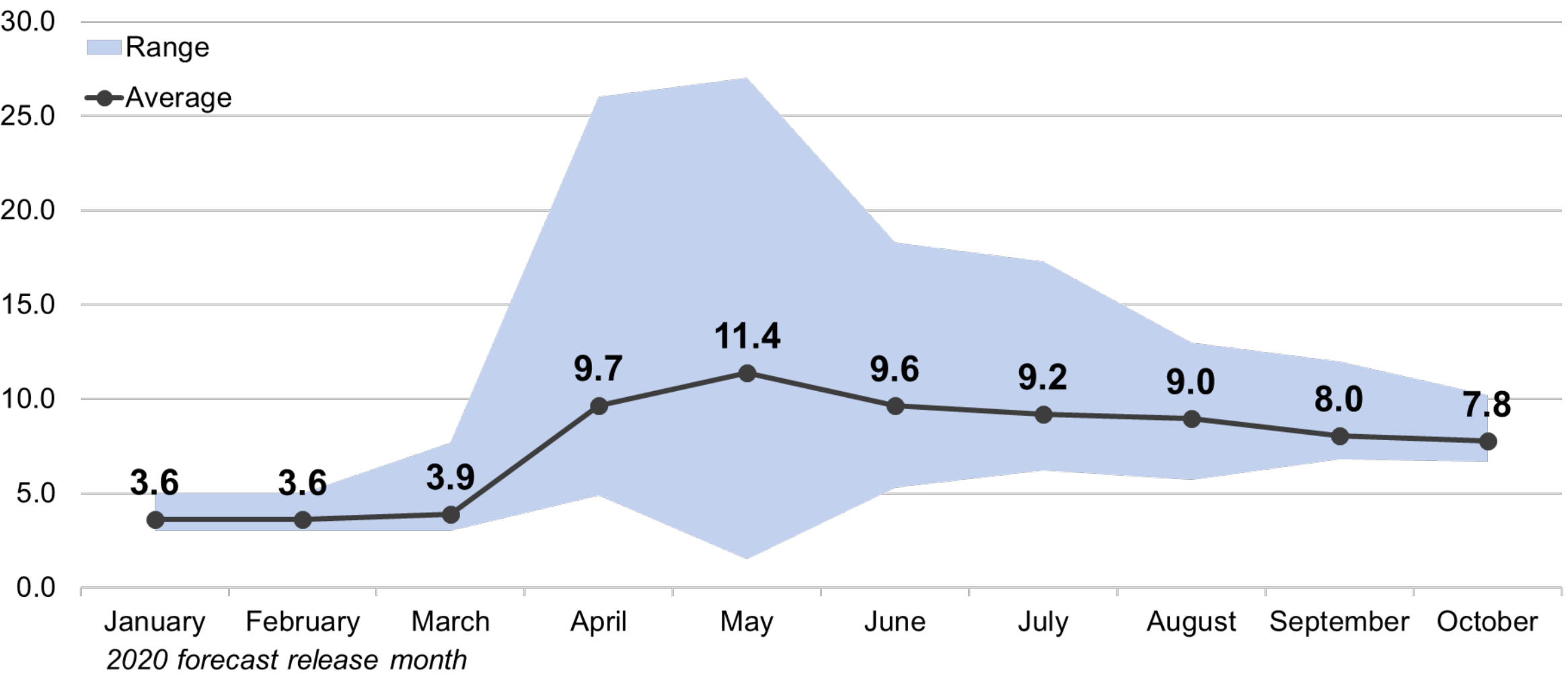
FY 21 State Revenue Projections: Percent decline from pre-COVID projection, September 2020

*Range, middle value shown

Source: National Conference of State Legislatures (NCSL)

Wall Street Journal: Economists' Forecast of December 2020 U.S. Unemployment Rate
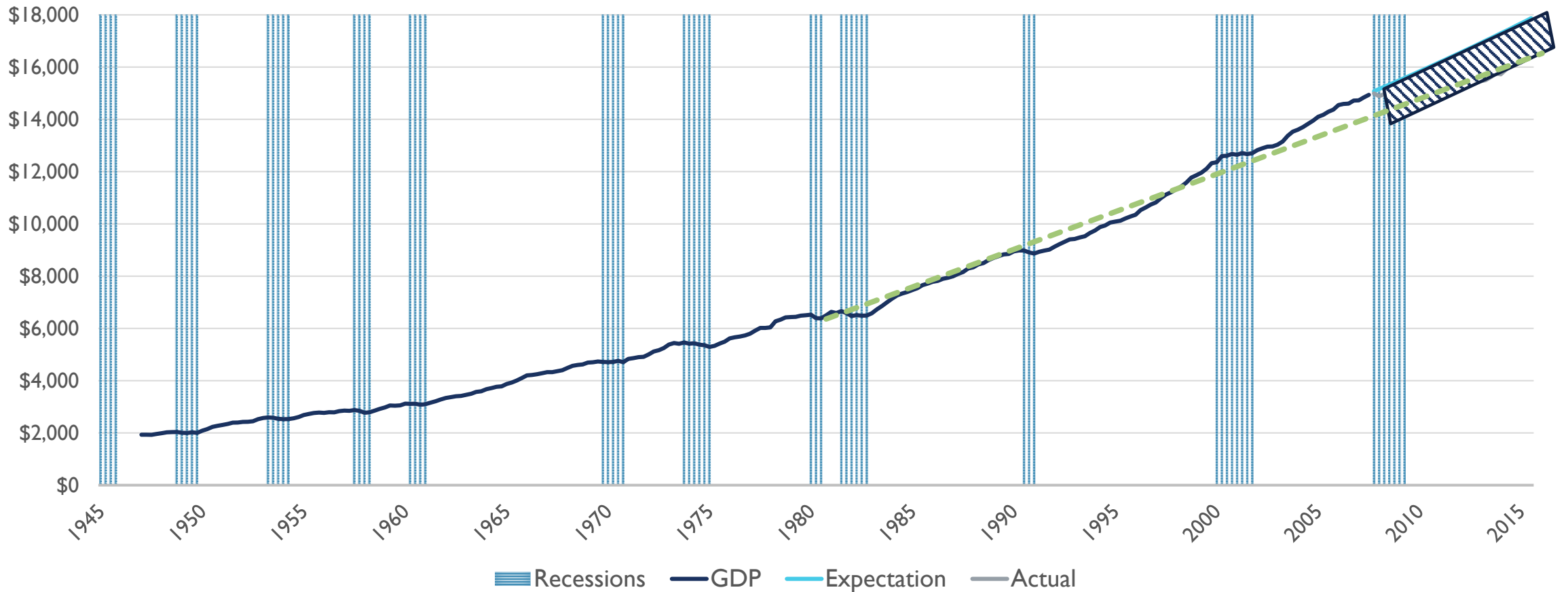
WHAT AND WHY?

JONATHAN BALL

WHAT IS A BUDGET STRESS TEST?

- Model impact of alternative economic scenarios
  - Use "free" DFAST scenarios from Fed (2015)
  - Purchase more detailed scenarios (2016)
- Test both revenue and spending sides
  - Medicaid, higher ed, retirement, etc.
- Compare to contingencies

WHY STRESS TEST?

1. Statute requires it: UCA 36-12-13
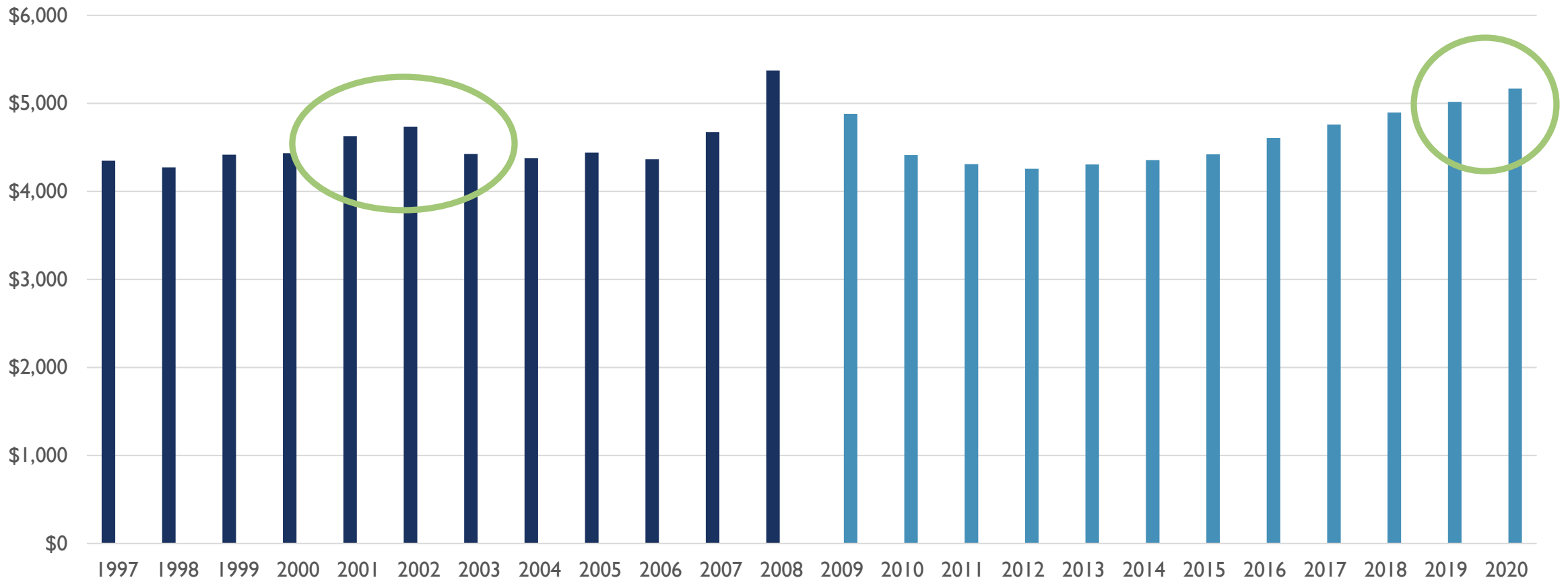
2. Manage the business cycle

U.S. GDP ($B) & RECESSIONS

WHY STRESS TEST?

1. Statute requires it UCA 36-12-13

2. Manage the business cycle

3. Set sustainable expectations and meet them

REAL PER STUDENT STATE APPROPRIATIONS ($2014)

WHY STRESS TEST?

1. Statute requires it UCA 36-12-13
2. Manage the business cycle
3. Set sustainable expectations and meet them
4. Avoid crisis-driven policy decisions

HOW TO: REGULAR PRACTICE

MADDY ORITT

OFFICE OF THE LEGISLATIVE FISCAL ANALYST

2019 PROCESS

- Used regionalized and aged-forward Federal Reserve economic scenarios purchased from Moody's Analytics: baseline, adverse/moderate recession, severely adverse/protracted slump

- Five-year timeframe

- Moderate recession/adverse: assumes recession begins 3rd quarter 2019 and lasts through second quarter 2021

- Protracted slump/severely adverse: assumes same recession duration as first scenario, but with a protracted slump recovery
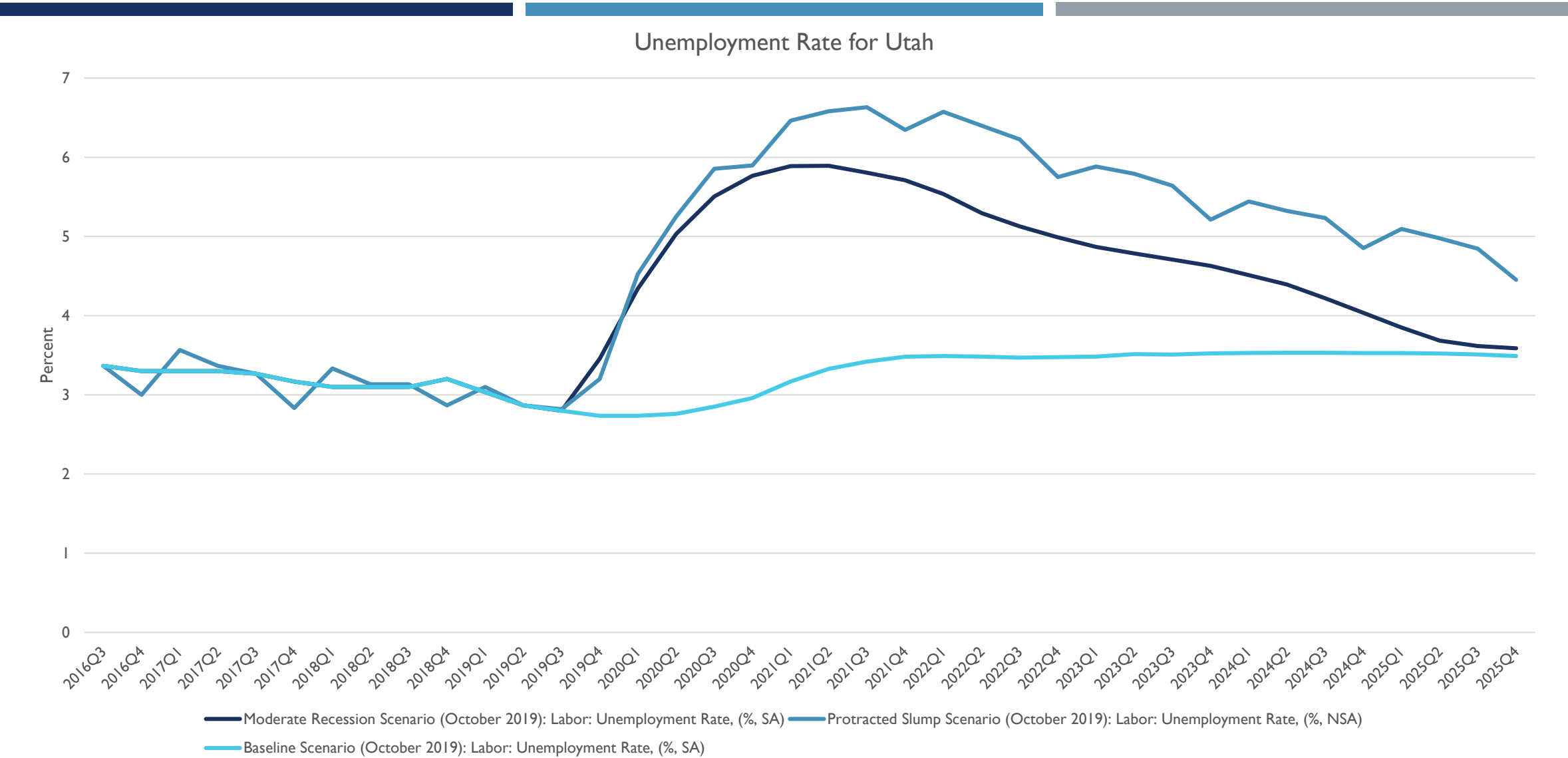
UTAH'S STRESS TESTING PROCESS
REVENUE

- 1. Scenario assumptions

- 2. Each entity estimates indicator variables, come to consensus

- 3. Each entity estimates sales tax, income tax, corporate tax, and "other," come to consensus
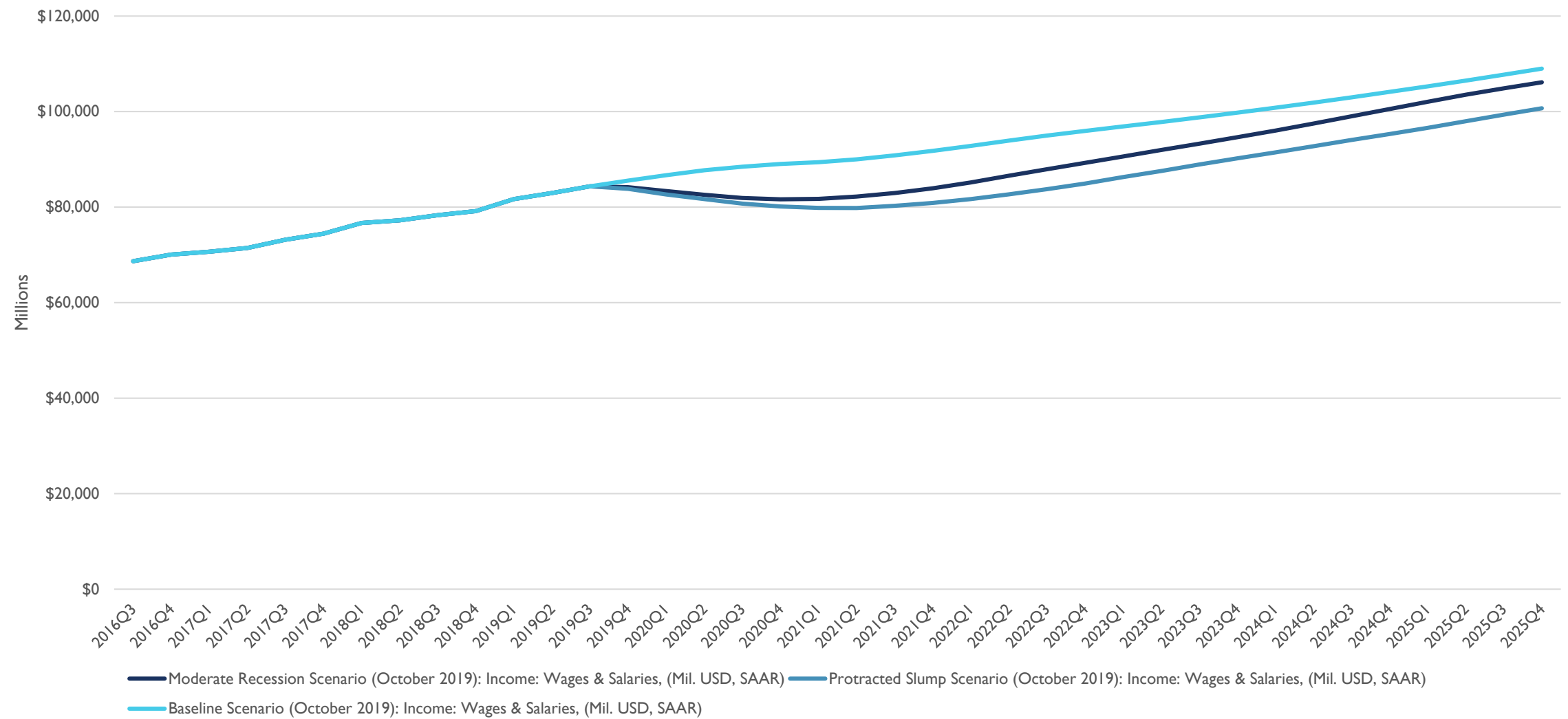
UTAH'S STRESS TESTING PROCESS
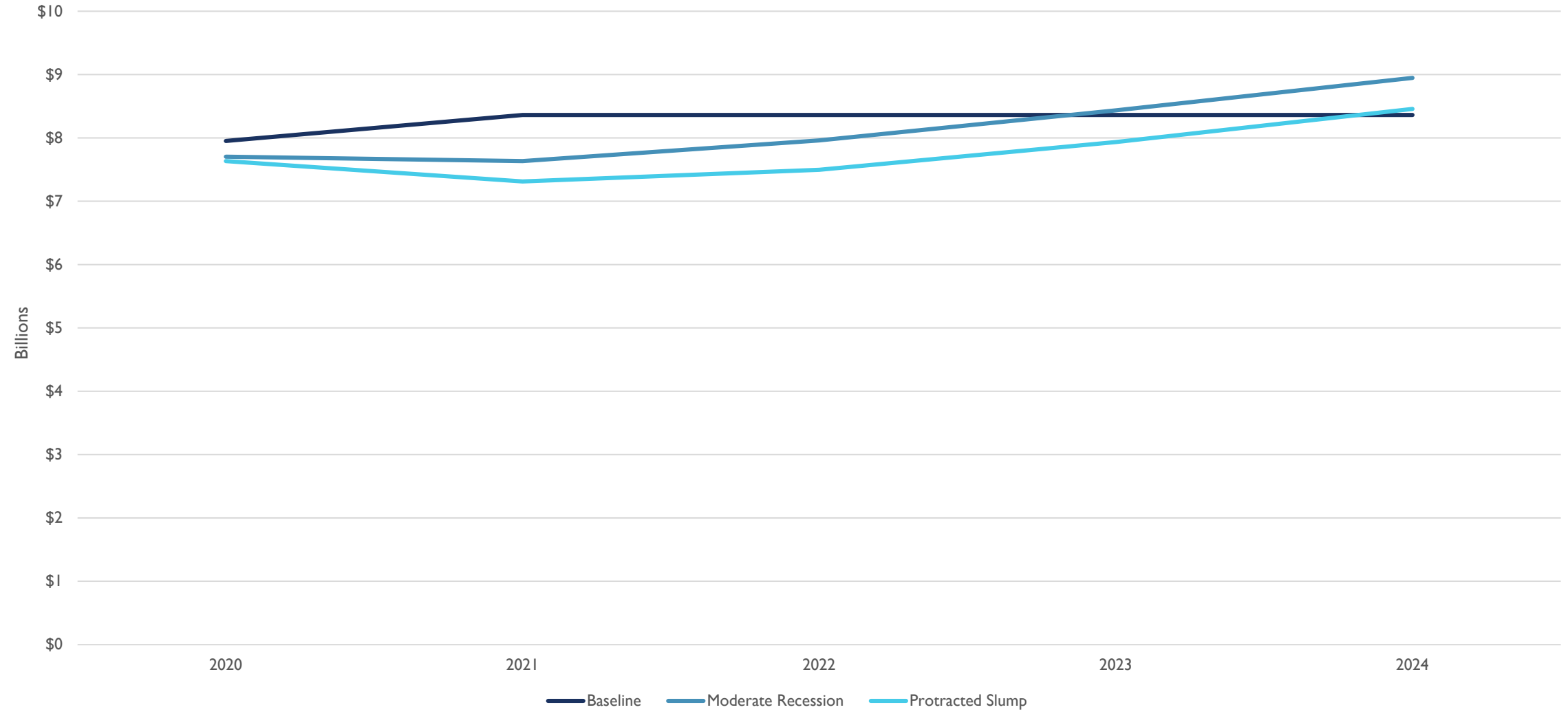## EXPENDITURES

- 1. Scenario assumptions

- 2. Each entity estimates indicator variables, come to consensus

- 3. Each entity estimates enrollment-driven programs (Medicaid, higher ed, public ed) and employee retirement costs, come to consensus
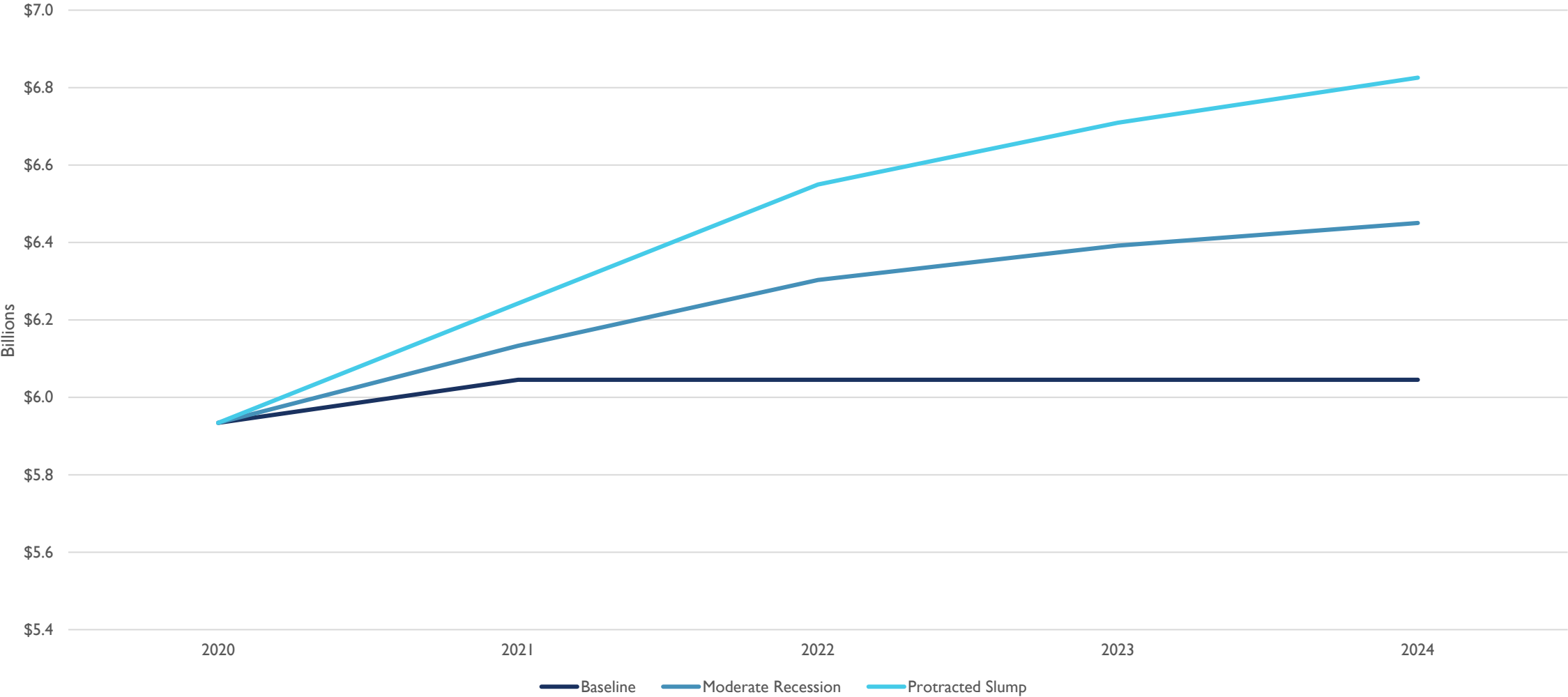
Unemployment Rate for Utah

Wages for Utah

Revenue-Side Risk

Billions

Legend: Baseline | Moderate Recession | Protracted Slump

Spending-Side Risk

Baseline   Moderate Recession   Protracted Slump

CONCLUSIONS

- 5-year risk between $1.7 billion and $4.6 billion

- Informal buffers = $4.4 billion (2019)

- Formal buffers = $877.4 million (2019)

- Bonding erodes largest informal buffer (working rainy day fund)

- Working rainy day fund creates future commitments
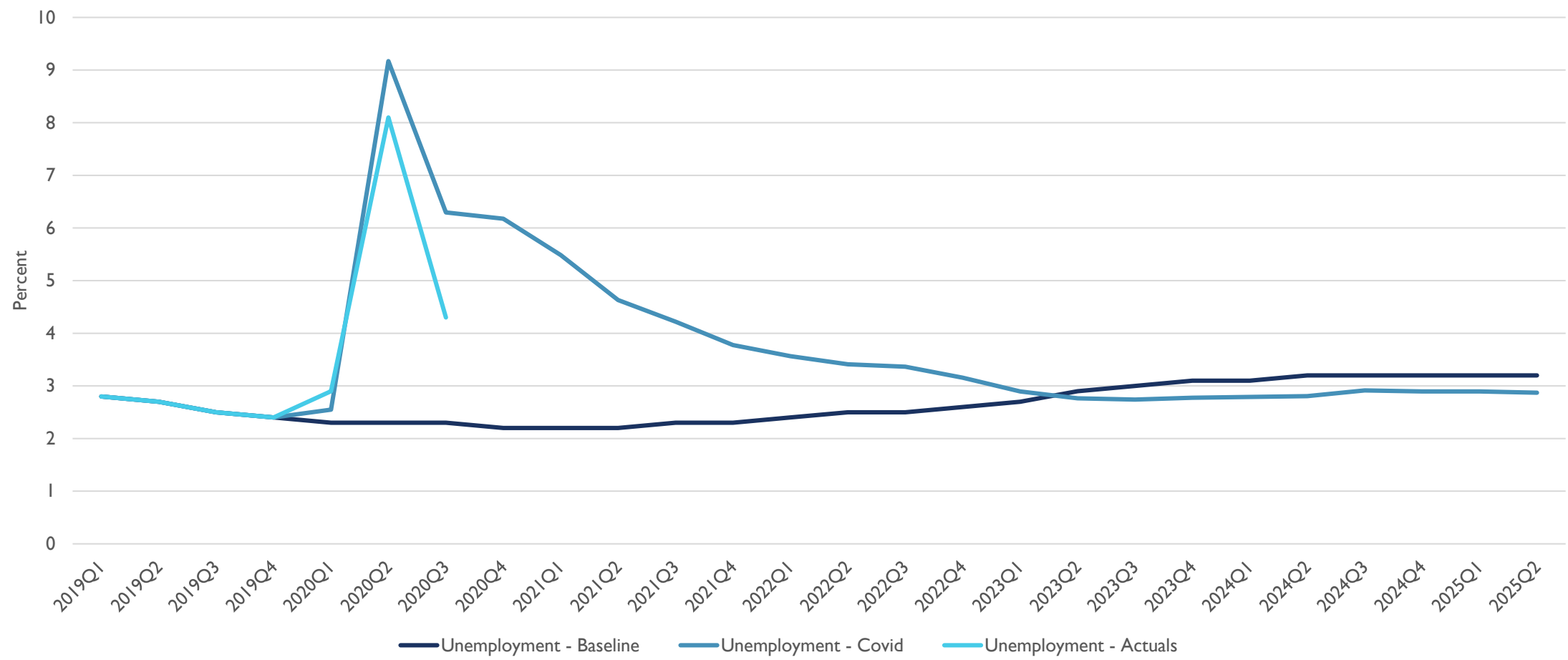
HOW TO: GLOBAL PANDEMIC

MADDY ORITT

2020 PANDEMIC PROCESS

- Consensus assumptions about duration and severity of shock

- Consensus assumptions about economic indicators

- Five-year timeframe

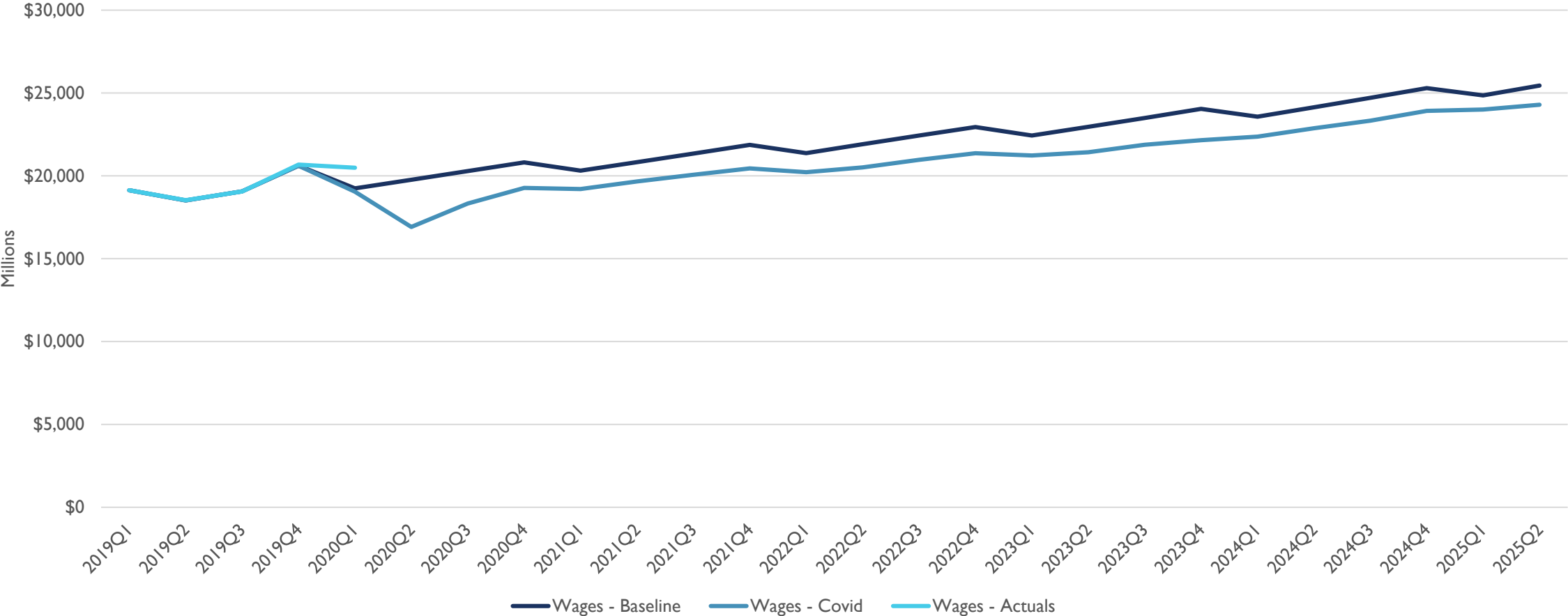- Each entity estimates revenues and expenditures, then consensus
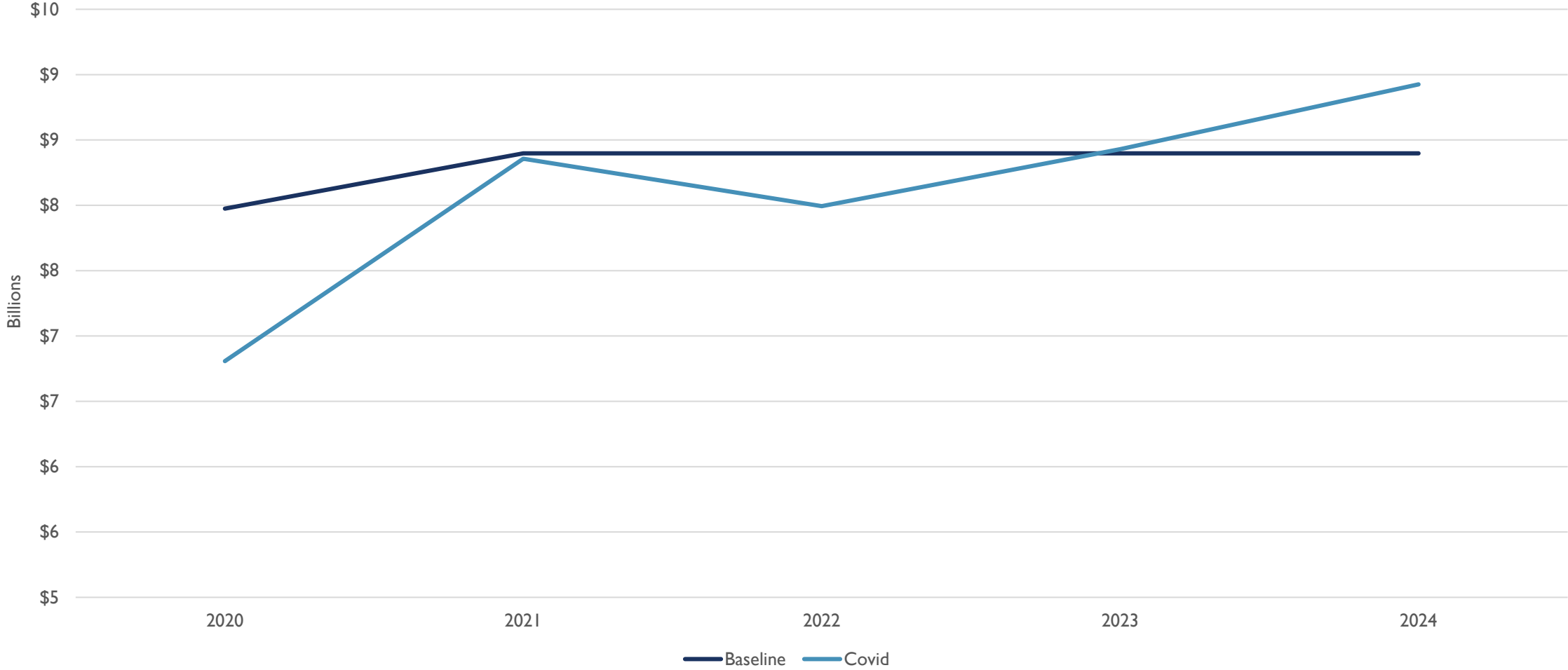
Unemployment Rate - Utah
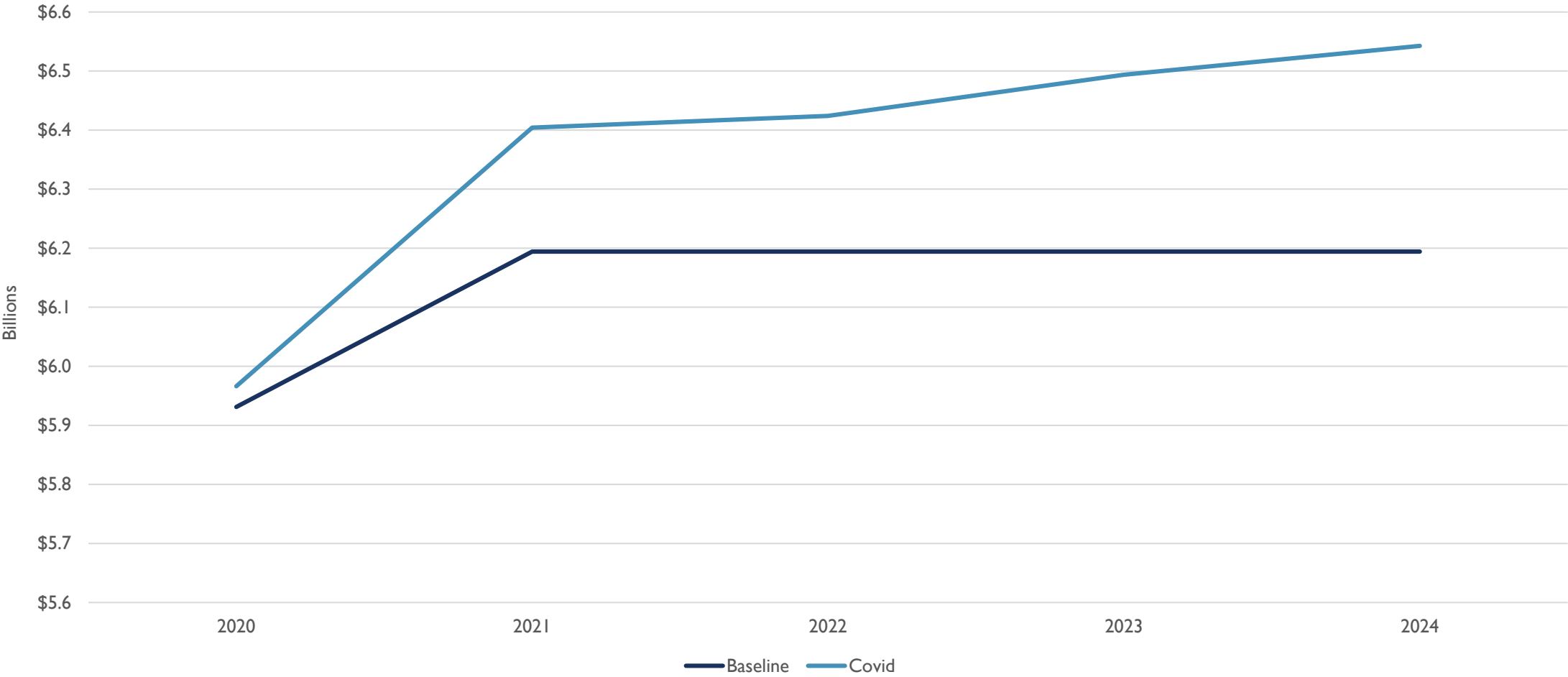
Wages - Utah

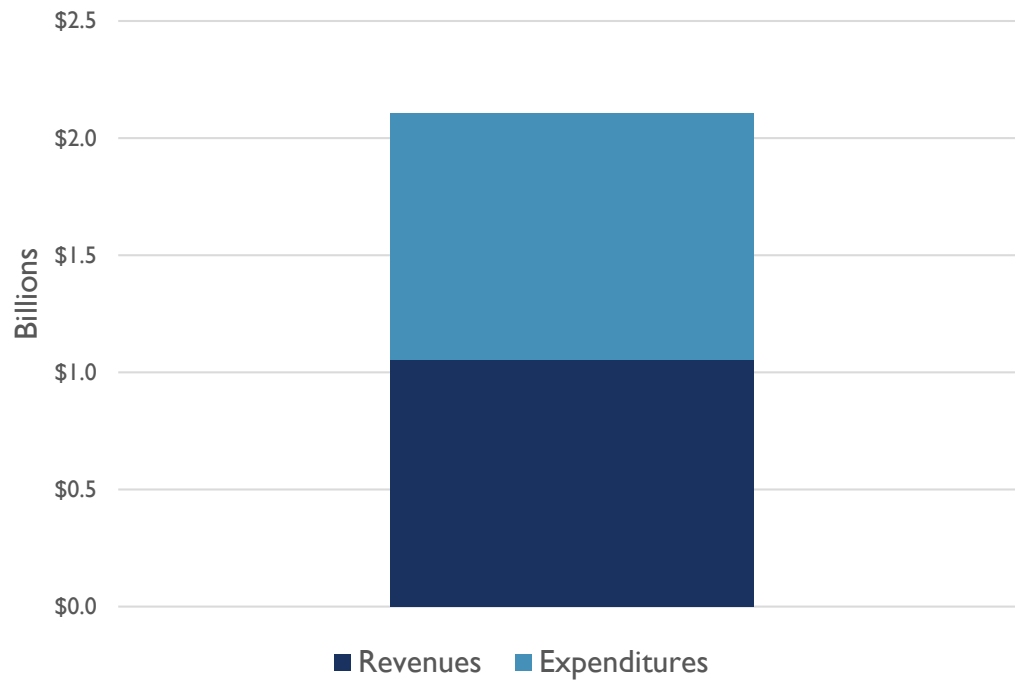Revenue-Side Risk

Expenditure-Side Risk
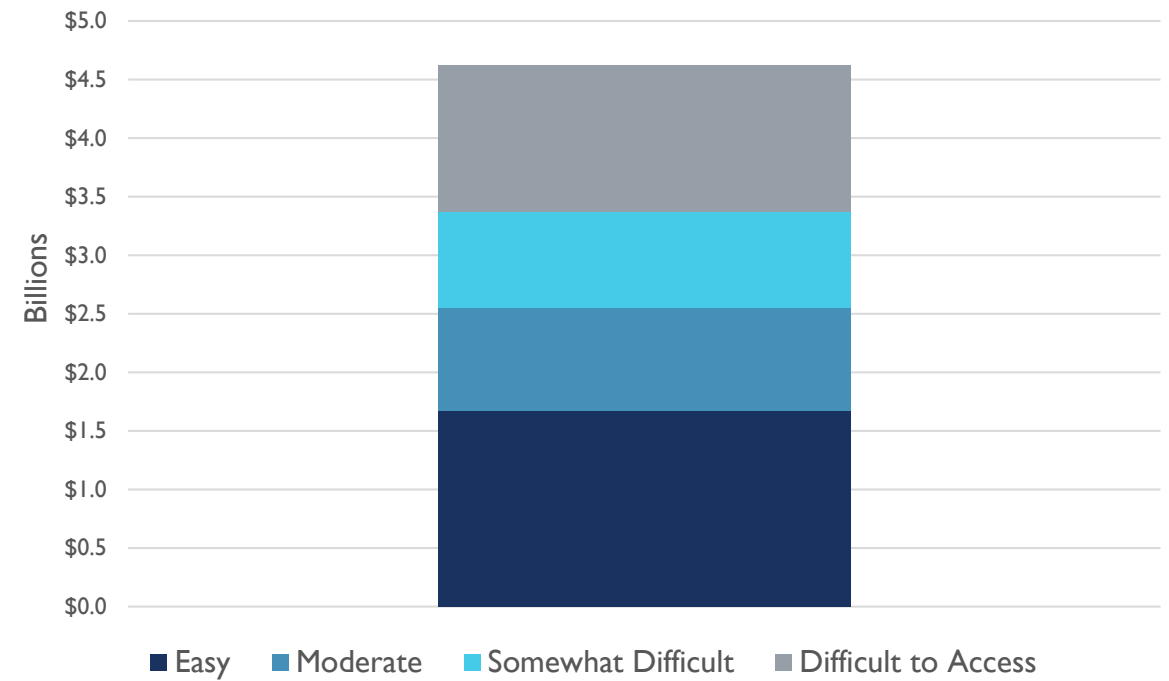
INVENTORY OF BUFFERS

- **Easily Accessible:** Certain restricted accounts, working rainy day funds

- **Moderately Accessible**: Nonlapsing balances, unclaimed property, certain sales tax earmarks

- **Somewhat Difficult to Access**: Restricted fund balances, capital improvements corpus, cash and investment in water loans

- **Difficult to Access**: Formal rainy day funds, remaining capital improvements
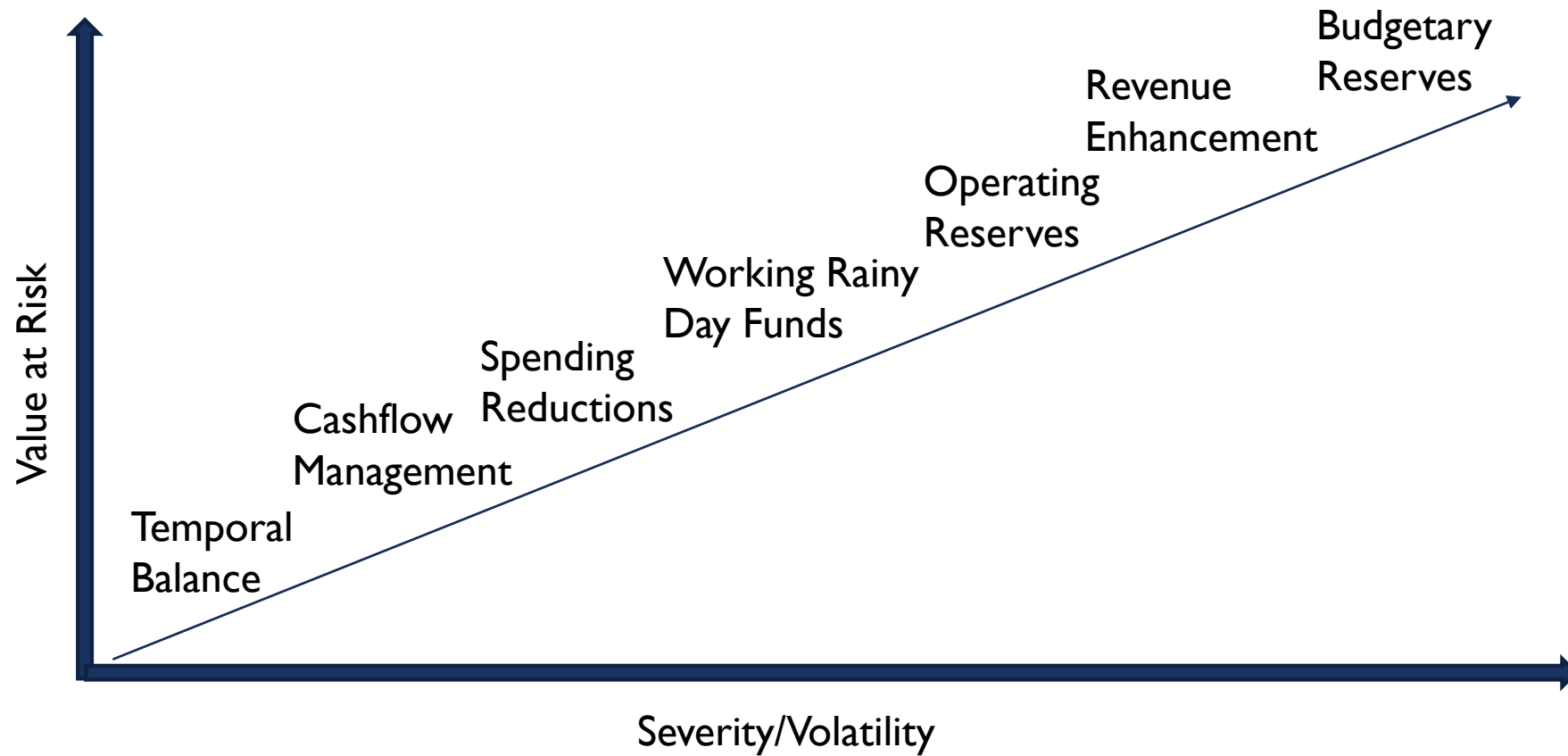
CONCLUSIONS

- 5-year risk between $1.2 billion and $2.1 billion

- Informal buffers = $3.9 billion (2020)

- Formal buffers = $725 million (2020)

- Bonding erodes largest informal buffer (working rainy day fund)

- Working rainy day fund creates future commitments

IT TAKES A TOOL KIT

Budgetary Reserves

Revenue Enhancement

Operating Reserves

Working Rainy Day Funds

Spending Reductions

Cashflow Management

Temporal Balance
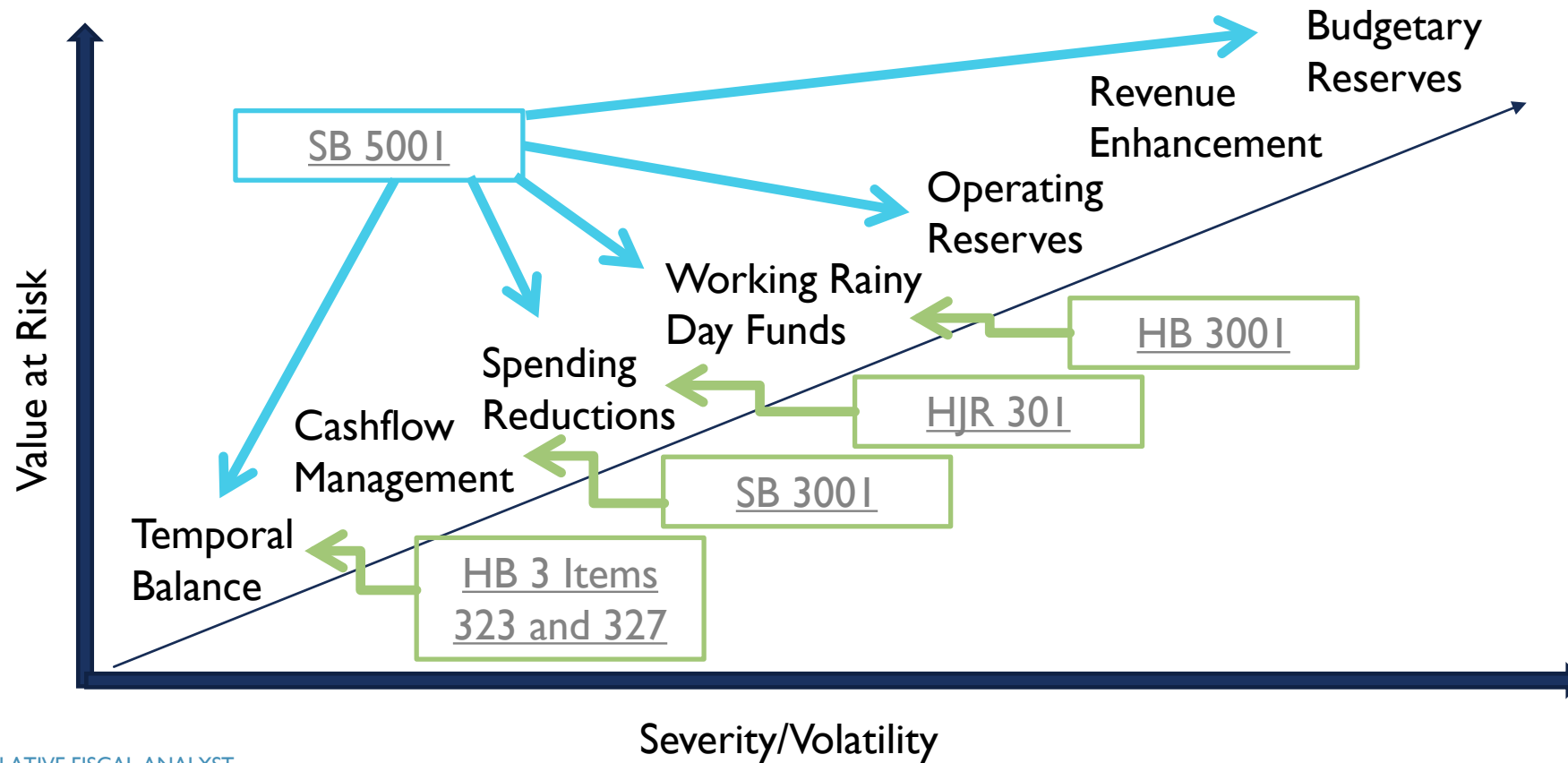
Value at Risk

Severity/Volatility

REAL LIFE: EXECUTION AND POLICY

JONATHAN BALL

SHARED EXPERIENCES

- Delay in income tax filing across fiscal years

- Immediate revenue loss (FY 2020)

- Dashed expectations

- Ongoing revenue loss (FY 2021)

IT TAKES A TOOL KIT

LONG-TERM FISCAL HEALTH

- Revenue volatility

- Long-term budgets

- Stress testing

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58 population;]

59   (c) to prepare on all proposed bills fiscal estimates that reflect:

60   (i) potential state government revenue impacts;

61   (ii) anticipated state government expenditure changes;

62   (iii) anticipated expenditure changes for county, municipal, local district, or special

63 service district governments; and

64   (iv) anticipated direct expenditure by Utah residents and businesses, including the unit

65 cost, number of units, and total cost to all impacted residents and businesses;

66   [(e)] (d) to indicate whether each proposed bill will impact the regulatory burden for

67 Utah residents or businesses, and if so:

68   (i) whether the impact increases or decreases the regulatory burden; and

69   (ii) whether the change in burden is high, medium, or low;

70   [(f) to prepare a review and analysis of revenue estimates for existing and proposed

71 revenue acts, which shall include a comparison of:]

72   [(i) current estimates to 15-year trends by tax type; and]

73   [(ii) current federal fund receipt estimates to 15-year trends;]

74   (e) beginning in 2017 and repeating every three years after 2017, to prepare the

75 following cycle of analyses of long-term fiscal sustainability:

76   (i) in year one, the joint revenue volatility report required under Section 63J-1-205;

77   (ii) in year two, a long-term budget for programs appropriated from major funds and

78 tax types; and

79   (iii) in year three, a budget stress test comparing estimated future revenue to and

80 expenditure from major funds and tax types under various potential economic conditions;

QUESTIONS?

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- Maddy Oritt moritt@le.utah.gov

- Stress Testing User Guide

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