

STRESS TESTING THE UTAH STATE BUDGET

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WHY STRESS TEST?

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

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MAJOR CHALLENGES FOR STATE GOVT IN ECONOMIC DOWNTURN

- Unstable economic conditions impact government revenues
- Tax policy amplifies economic instability
- Expenditure patterns are countercyclical
- Expectations of stable government services

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UTAH'S STRESS TESTING PROCESS REVENUE

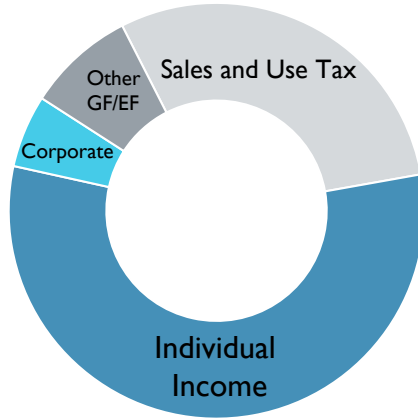
- 1. Scenario Assumptions
- 2. Each entity estimates revenue using different assumptions
- 3. Estimates were made for sales tax, income tax, corporate tax, and "other"
- 4. Come to consensus

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UTAH GENERAL FUND—EDUCATION FUND REVENUE STRUCTURE

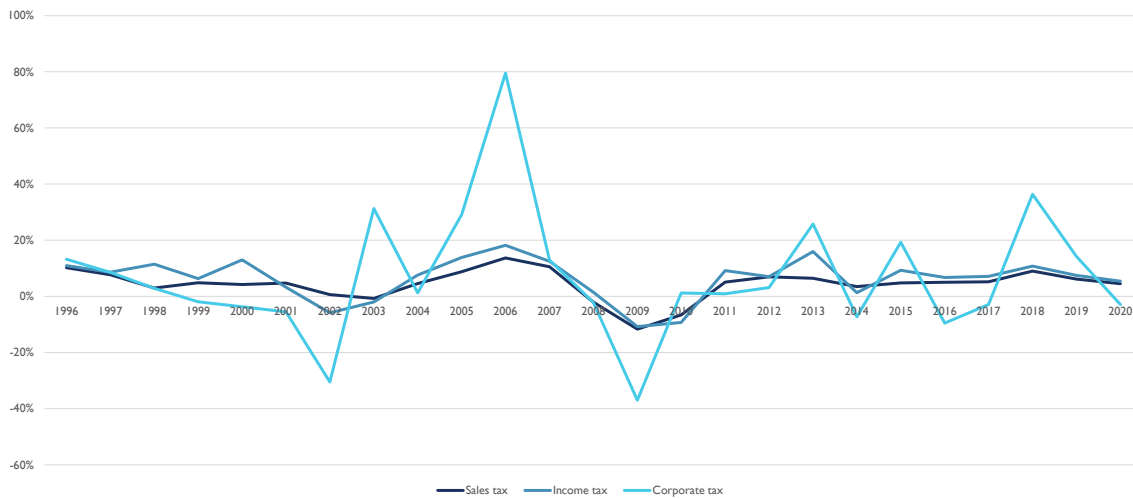


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Revenue Volatility



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2019 PROCESS

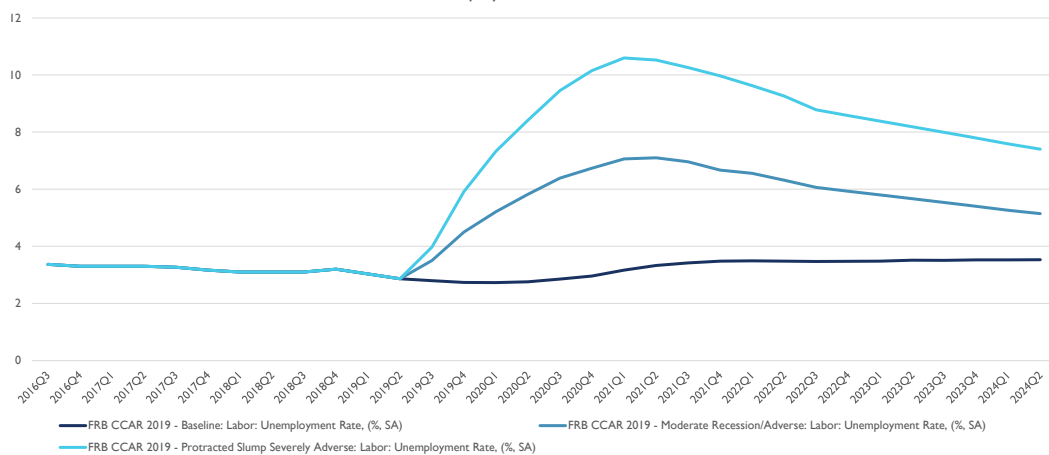
- Used regionalized and aged-forward Federal Reserve economic scenarios purchased from Moody's Analytics: Baseline, Adverse/Moderate Recession, Severely Adverse/Protracted Slump
- Five Year Timeframe
- Moderate Recession/Adverse: assumes recession begins 3rd quarter 2019 and lasts through second quarter 2021.
- Protracted Slump/Severely Adverse: assumes same recession duration as first scenario, but with a protracted slump recovery.

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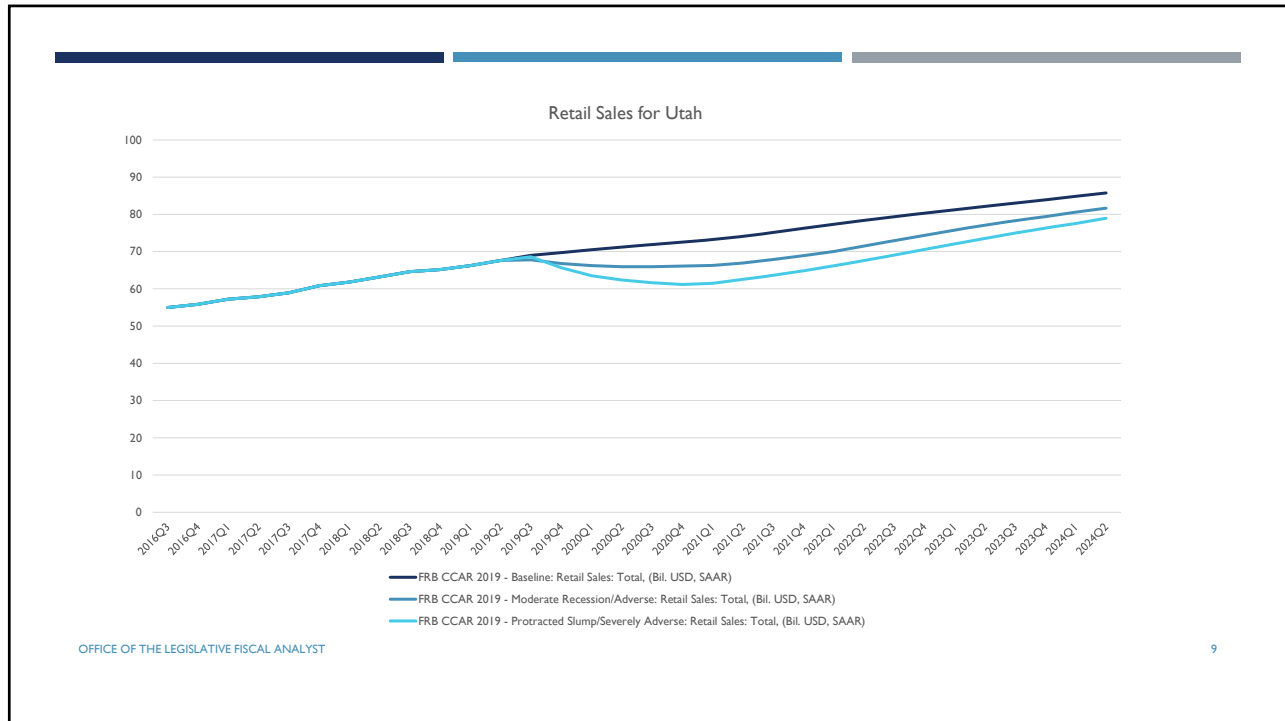
Unemployment Rate for Utah



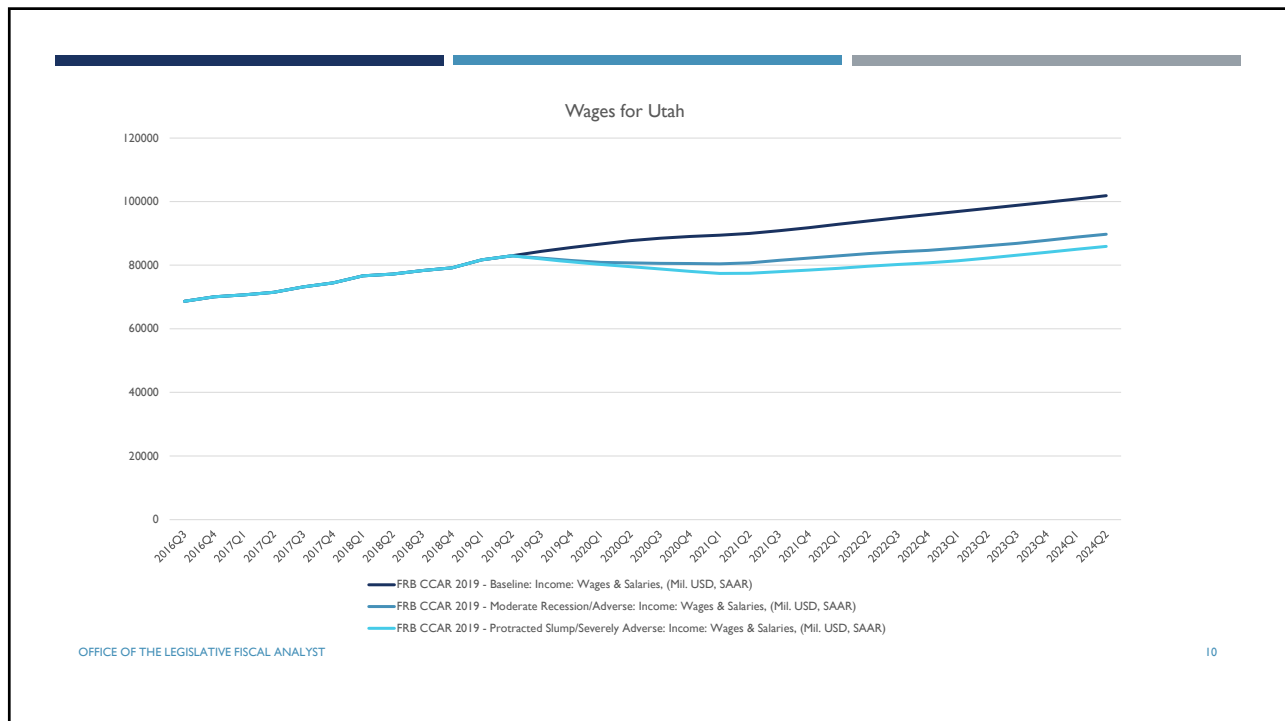
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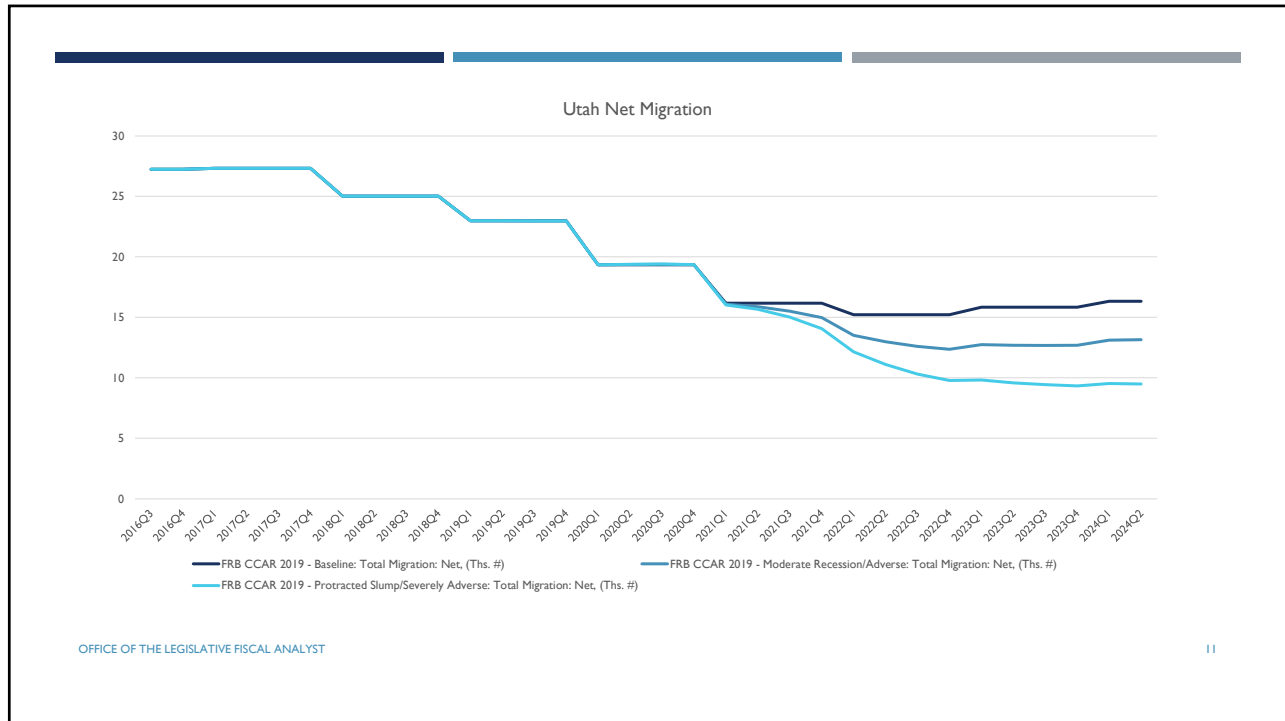
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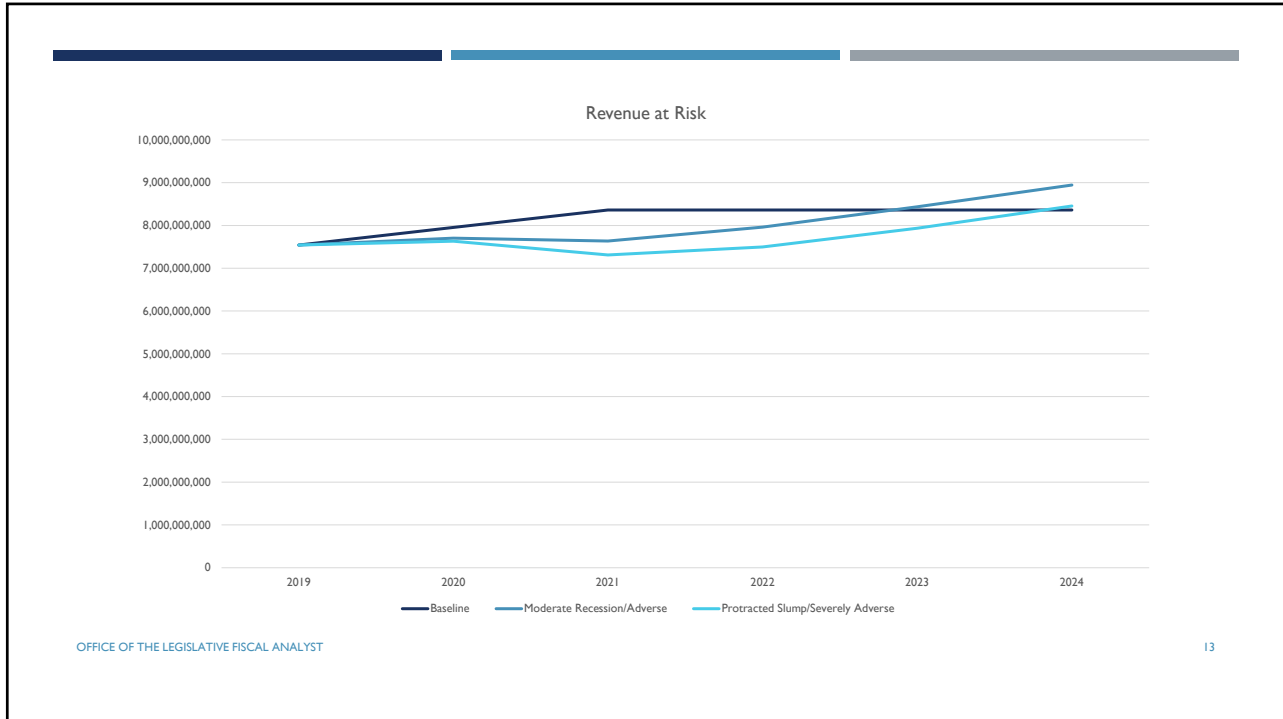


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	Baseline			Moderate Recession/Adverse			Protracted Slump/Severely Adverse		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Unemployment Rate	2.8	3.3	3.5	6.0	6.9	6.2	8.8	10.3	9.1
Retail Sales	71.5	74.7	78.8	66.1	67.5	72.2	62.2	63.1	68.3
Wages	87,968.7	90,495.0	94,407.5	80,671.1	81,226.0	83,837.8	79,133.4	77,810.3	79,900.4
Net Migration	19.3	16.2	15.2	19.4	15.6	12.9	19.4	15.2	10.8

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REVENUES AT RISK

Moderate Recession/Adverse	721,368,962
Protracted Slump/Severely Adverse	2,566,807,345

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REVENUES AT RISK

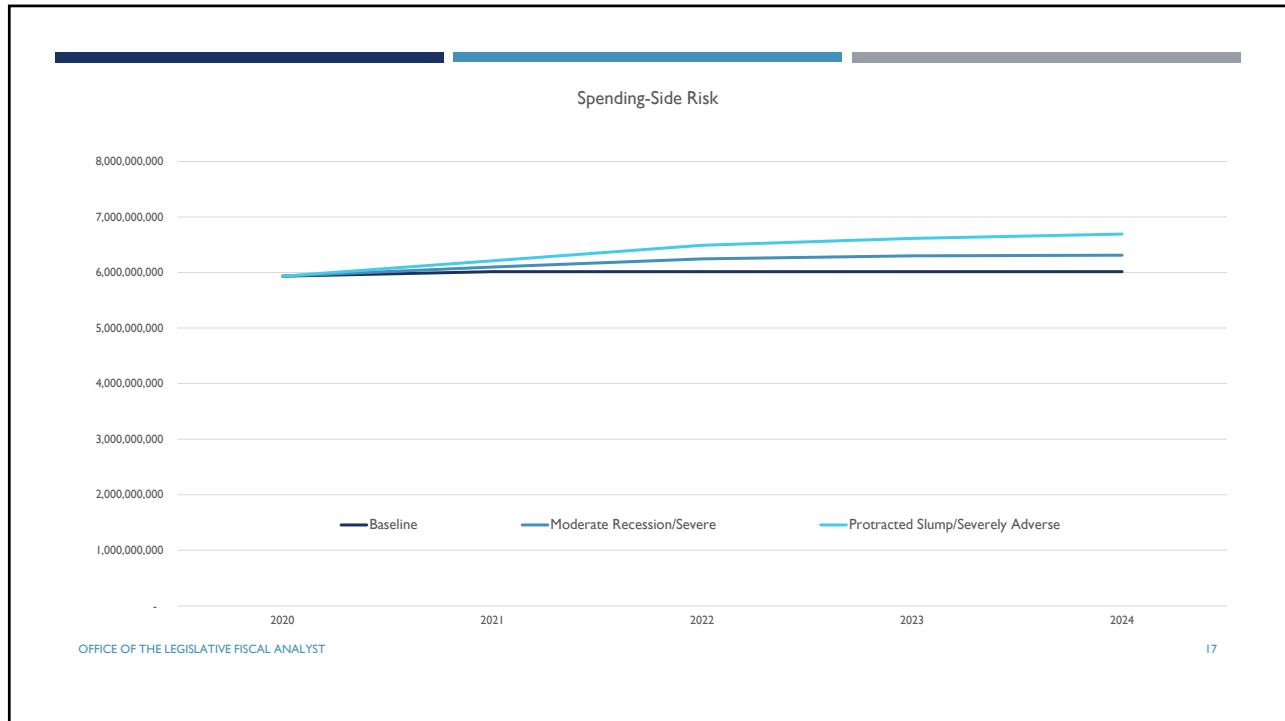
Change in Revenue Collections by Scenario and Fiscal Year						
Scenario	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
Moderate Recession/Adverse Scenario						
Sales Tax	-3.8%	-8.1%	-4.1%	1.9%	7.5%	-1.3%
Personal Income Tax	-2.5%	-8.0%	-4.4%	1.4%	8.2%	-1.0%
Corporate Income Tax	-6.4%	-25.2%	-15.2%	-7.2%	-0.4%	-10.9%
All Other Revenue	-2.7%	-4.9%	-3.4%	-1.6%	0.5%	-2.4%
Total Moderate Recession/Adverse Scenario	-3.1%	-8.7%	-4.8%	0.9%	7.0%	-1.7%
Protracted Slump/Severely Adverse Scenario						
Sales Tax	-5.2%	-12.4%	-8.6%	-2.6%	3.6%	-5.1%
Personal Income Tax	-2.9%	-11.0%	-9.4%	-4.5%	2.2%	-5.2%
Corporate Income Tax	-10.1%	-39.1%	-36.9%	-28.0%	-19.5%	-26.8%
All Other Revenue	-3.1%	-6.0%	-5.0%	-3.5%	-1.5%	-3.9%
Total Protracted Slump/Severely Adverse Scenario	-4.0%	-12.6%	-10.4%	-5.1%	1.1%	-6.2%

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UTAH'S STRESS TESTING PROCESS EXPENDITURES

- 1. Scenario Assumptions
- 2. Each entity estimates expenditures using different assumptions. Same timeframe as revenue.
- 3. Estimates were made for enrollment-driven programs (Medicaid, higher ed, public ed), but added employee retirement costs
- 4. Come to consensus

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EXPENDITURES AT RISK

Moderate Recession/Adverse	976,599,178
Protracted Slump/Severely Adverse	2,025,366,499

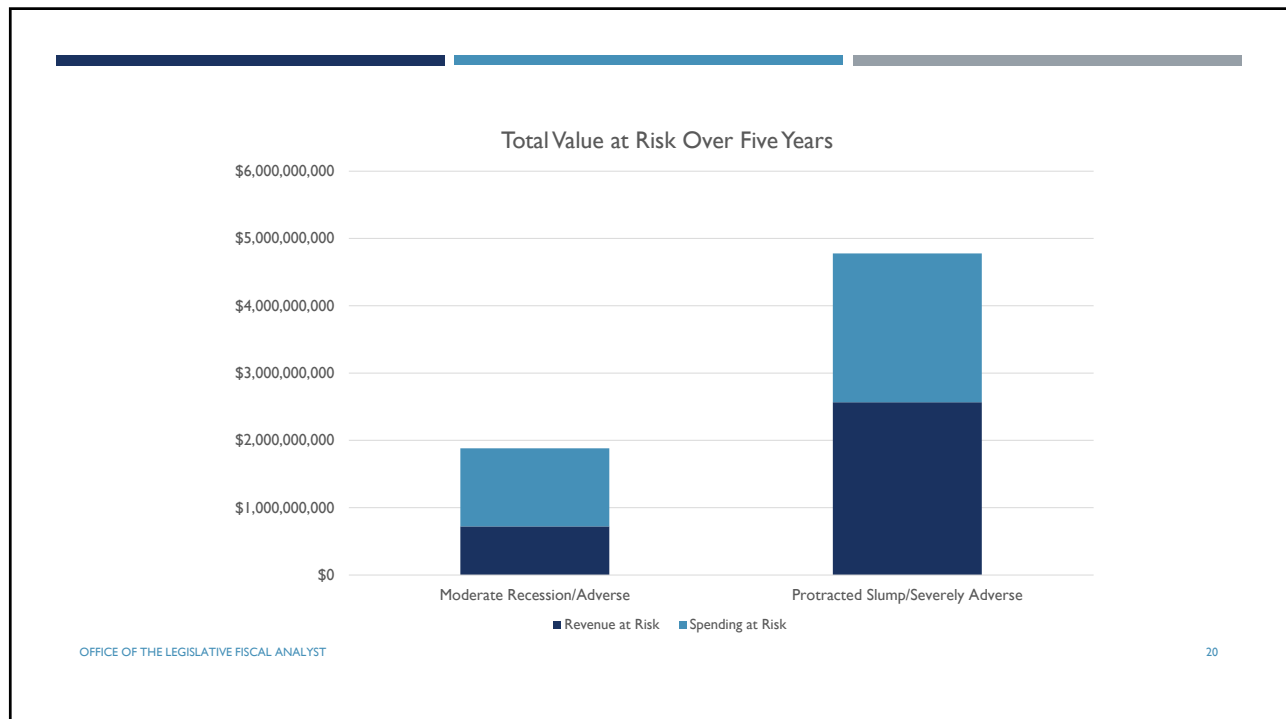
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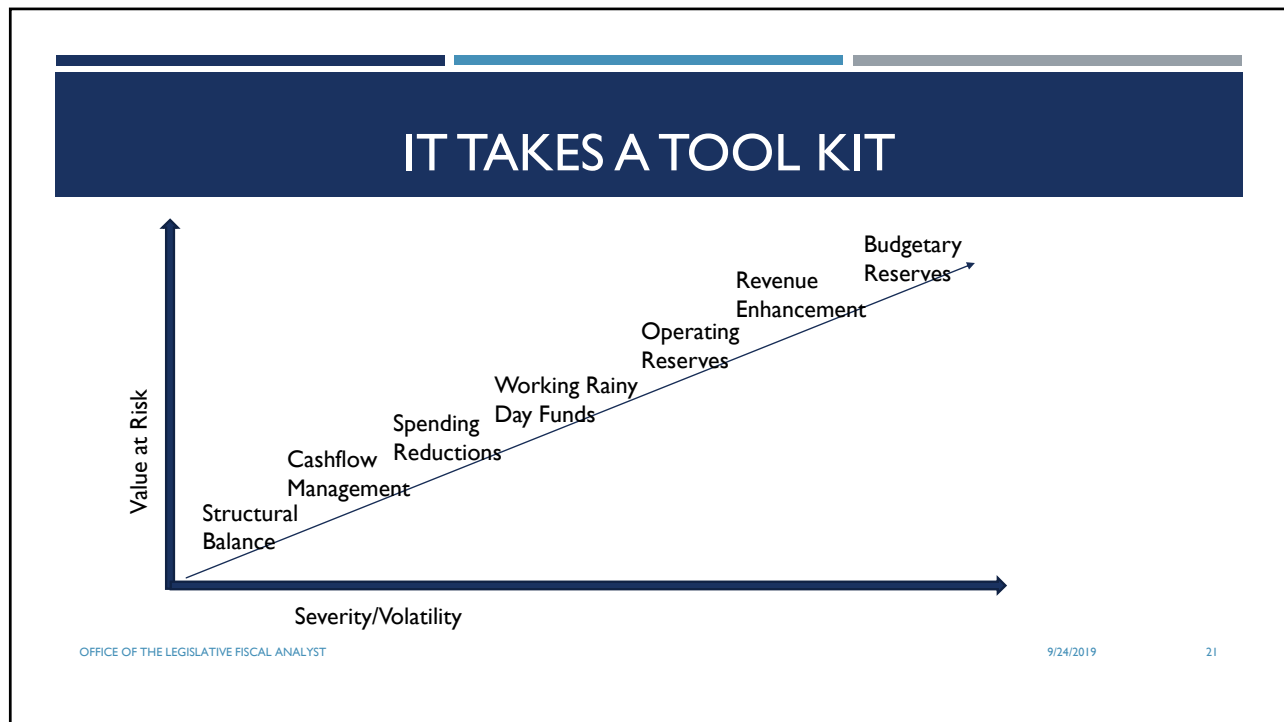
EXPENDITURES AT RISK

Change in Expenditures by Scenario and Fiscal Year						
Scenario	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
Moderate Recession/Adverse Scenario						
Medicaid	0.0%	2.5%	9.0%	14.8%	19.2%	9.2%
Public Education	0.0%	0.0%	0.3%	0.5%	0.0%	0.2%
Higher Education	0.0%	5.1%	12.0%	13.4%	13.1%	8.7%
Retirement	0.0%	-0.5%	4.5%	10.6%	19.0%	6.7%
Total Moderate Recession/Adverse Scenario	0.0%	1.4%	4.0%	5.2%	5.7%	3.3%
Protracted Slump/Severely Adverse Scenario						
Medicaid	0.0%	10.1%	25.6%	40.1%	53.5%	26.0%
Public Education	0.0%	0.0%	0.3%	0.4%	-0.1%	0.1%
Higher Education	0.0%	9.4%	20.6%	21.5%	19.8%	14.3%
Retirement	0.0%	-1.0%	7.9%	20.9%	39.6%	13.5%
Total Protracted Slump/Severely Adverse Scenario	0.0%	3.2%	8.0%	10.4%	12.0%	6.8%

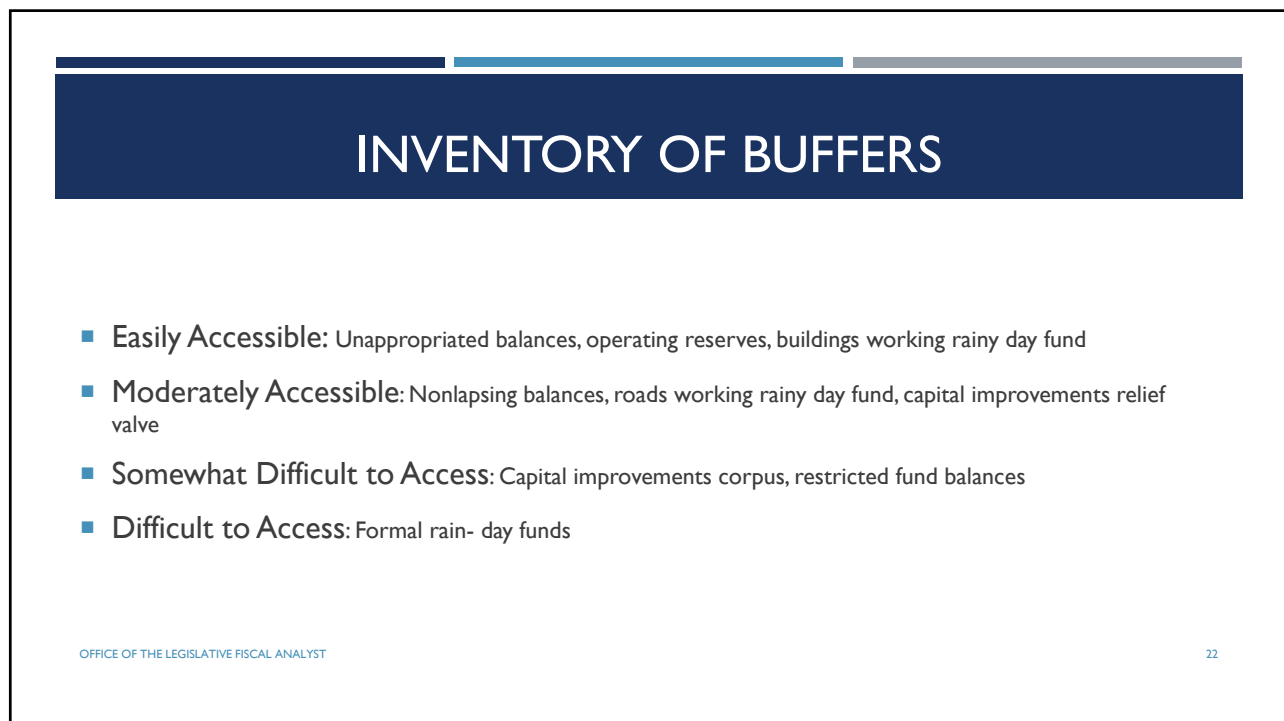
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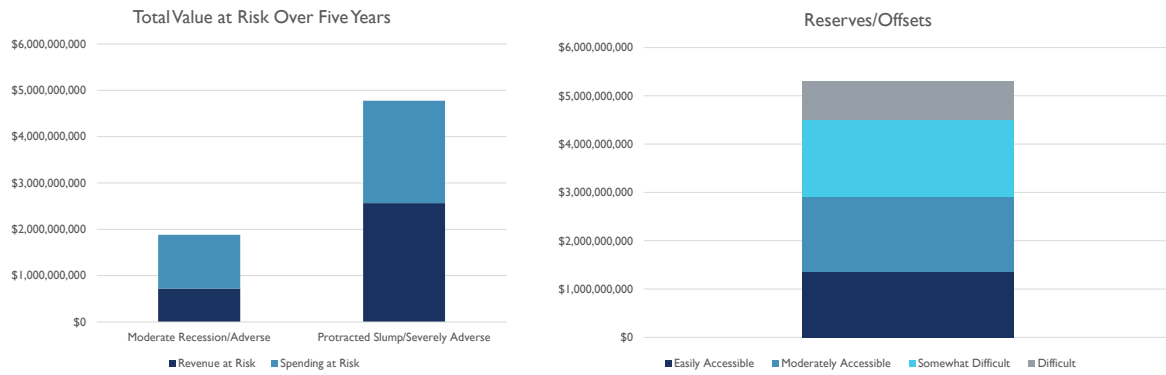


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RISKS VS. BUFFERS



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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

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