State Budget Stress Testing

How Utah Budget-makers are Shifting the Focus from a Balanced Budget to Fiscal Sustainability

2019 NCSL Midwest States Fiscal Leaders Meeting
March 9, 2019

Juliette Tennert, Director of Economic and Public Policy Research
About to mark longest U.S. economic expansion

Duration of United States Economic Expansions

- October 1945: 37 months
- October 1949: 45 months
- May 1954: 39 months
- April 1958: 24 months
- February 1961: 106 months
- November 1970: 36 months
- March 1975: 58 months (3.5%)
- December 1982: 92 months (2.8%)
- March 1991: 120 months
- November 2001: 73 months
- July 2009: 116 months

Source: National Bureau of Economic Research
Great Recession’s impact on Utah’s Budget

Utah State Fund Revenue Collections
Unrestricted General Fund and Education Fund, $ millions

Note: Y-axis does not begin at zero.
Source: 2019 Economic Report to the Governor
Great Recession’s impact on Utah’s Budget

Utah Medicaid Enrollment
Average monthly enrollment, adults and children

43% Increase

Note: Y-axis does not begin at zero.
Source: Utah Office of the Legislative Fiscal Analyst
The Week in Public Finance: Some States Are Less Prepared for a Recession Than a Decade Ago

But according to two analyses, a majority of states have nearly enough savings to weather a downturn.

BY LIZ FARMER | SEPTEMBER 21, 2018 AT 3:00 AM
Are state budgets prepared for the next downturn?

1. Do you think your state has saved up enough to help buffer the next downturn and how would you define “enough”?

2. How does your state decide when to put an extra dollar toward savings versus another important priority? Explicit rule? Benchmark target? More ad-hoc?

3. How would you rank your budgetary reserves when thinking about what tool to use first, second, third for mitigating the effect of a downturn?
Are state budgets prepared for the next downturn?

When a state has a low rainy day fund balance, a large unfunded public pension liability, and deteriorating infrastructure, how does your state think about reconciling those needs with seeking structural/temporal budget balance?

Does your state conduct some version of long-range planning or long-term budgeting? Do you think it’s been beneficial to the state’s structural budget balance?

Do you have any reservations about long-term budgeting or stress-testing the state’s budget?
How Utah is promoting fiscal sustainability

Utah Code Ann. § 36-12-13(e)

Beginning in 2017 and repeating every three years after 2017, to prepare the following cycle of analyses of long-term fiscal sustainability:

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

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

(iii) in year three, a budget stress test comparing estimated future revenue to and expenditure from major funds and tax types under various potential economic conditions;
What is a budget stress test

State budget stress tests evaluate the **sufficiency** of reserves and other budget contingencies to cover recession-spurred revenue **shortfalls** and countercyclical cost hikes.
Why a budget stress test

Utah Budget-maker’s Goals

Think **beyond the 2-year budget cycle** to:

- Manage the business cycle
- Set sustainable expectations and meet them
- Avoid crisis-driven policy decisions

Source: Utah Office of the Legislative Fiscal Analyst
How to implement a state budget stress test

Utah Budget Stress Test Steps

1. Define the period of analysis and economic assumptions for stress scenarios

2. Identify revenue and expenditure components at risk and estimate total value at risk under stress scenarios

3. Inventory and categorize reserves and other budget contingencies by ease of accessibility

4. Compare total value at risk to total contingencies to evaluate overall resilience of state budget
1. Define the period of analysis and economic assumptions for stress scenarios

Utah State Fund Revenue Collections
Unrestricted General Fund and Education Fund, $ millions


Note: Y-axis does not begin at zero.
Source: 2019 Economic Report to the Governor
1. Define the period of analysis and **economic assumptions for stress scenarios**

Utah’s Unemployment Rate
Moody’s Analytics Economic Forecast Scenarios

*Derived using 2016 Dodd-Frank Supervisory Stress Test Scenarios*

Source: Moody’s Analytics
2. **Identify revenue and expenditure components at risk and estimate total value at risk under stress scenarios**

**Components in Utah Budget Stress Test**

<table>
<thead>
<tr>
<th>REVENUES</th>
<th>EXPENDITURES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State Funds:</strong></td>
<td><strong>Countercyclical Services:</strong></td>
</tr>
<tr>
<td>Education Fund ((\text{income tax}))</td>
<td>Medicaid</td>
</tr>
<tr>
<td>Unrestricted General Fund</td>
<td>Higher Education</td>
</tr>
<tr>
<td></td>
<td>Pension Contributions</td>
</tr>
<tr>
<td></td>
<td><strong>High Priority:</strong></td>
</tr>
<tr>
<td></td>
<td>Public Education Growth</td>
</tr>
</tbody>
</table>
2. Identify revenue and expenditure components at risk and estimate total value at risk under stress scenarios

State Expenditure Index
Baseline and stress scenarios, 100 = FY 2016 (actual)

Note: Y-axis does not begin at zero.
Source: Kem C. Gardner Policy Institute analysis of Utah Office of the Legislative Fiscal Analyst data
2. Identify revenue and expenditure components at risk and estimate total value at risk under stress scenarios.

**State Revenue Index**
Baseline and stress scenarios, 100 = FY 2016 (actual)

Note: Y-axis does not begin at zero.
Source: Kem C. Gardner Policy Institute analysis of Utah Office of the Legislative Fiscal Analyst data
2. Identify revenue and expenditure components at risk and estimate total value at risk under stress scenarios

Total Value at Risk
Cumulative total as a percent of FY 2017 Appropriations

- Revenue Shortfall
  - Adverse: 27.4% (39.3% - 11.9%)
  - Severely Adverse: 27.5% (29.8% - 2.3%)
  - Stagflation: 23.6% (12.5% + 11.1%)

Source: Kem C. Gardner Policy Institute analysis of Utah Office of the Legislative Fiscal Analyst data
3. Inventory and categorize reserves and other budget contingencies by ease of accessibility

Utah’s Fiscal Toolkit

Only when value at risk and economic volatility are high are Utah policymakers more likely to tap into revenue enhancements and rainy day funds.

Source: Utah Office of the Legislative Fiscal Analyst data
### 3. Inventory and categorize reserves and other budget contingencies by ease of accessibility

<table>
<thead>
<tr>
<th>Reserves and Other Contingencies</th>
<th>One-time</th>
<th>Ongoing</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Easy to Access</strong></td>
<td></td>
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<tr>
<td>Cash Funded Buildings</td>
<td>$108.6</td>
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<td>$261.3</td>
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<td><strong>Moderately Easy to Access</strong></td>
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<td>Nonlapping Balances</td>
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<tr>
<td>Half of Capital Improvements</td>
<td>$1.2</td>
<td>$58.9</td>
<td>$295.8</td>
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<tr>
<td>Funding Other Earmarks</td>
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<td>$53.0</td>
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<td>$1,098.9</td>
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<td>Transportation Investment Fund</td>
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<td>of 2005</td>
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<td>Utah State Revolving Fund for Wastewater Projects</td>
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<td>State Revolving Fund for Drinking Water Projects</td>
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<tr>
<td>Half of Capital Improvements</td>
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<td>$58.9</td>
<td>$294.6</td>
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<tr>
<td>Funding and $1.2M for one-time project</td>
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<td>Water Resources Conservation &amp; Development Fund</td>
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<td>Water Resources C&amp;D Pledged Loans</td>
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<td>Industrial Assistance Account</td>
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<td>Utah Wastewater Loan Program Subaccount</td>
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<td>Water Resources Construction Fund</td>
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<td>Water Resources Cities Water Loan Fund</td>
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<td>Education Fund Budget Reserve Account</td>
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<td>General Fund Budget Reserve Account</td>
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<td>$143.6</td>
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<td>$20.5</td>
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<tr>
<td><strong>Difficult to Access Total</strong></td>
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<td>$0.0</td>
<td>$513.6</td>
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<tr>
<td><strong>Very Difficult to Access</strong></td>
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<td>State Endowment Fund</td>
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<td>$171.4</td>
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<tr>
<td><strong>Very Difficult to Access Total</strong></td>
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<td>$171.4</td>
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<tr>
<td><strong>All Degrees of Access</strong></td>
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<tr>
<td><strong>Total Reserves and Other Contingencies</strong></td>
<td>$2,311.8</td>
<td>$190.8</td>
<td>$3,265.9</td>
</tr>
</tbody>
</table>

*Total = one-time + five years of ongoing

Source: Utah Office of the Legislative Fiscal Analyst
4. Compare total value at risk to total contingencies to evaluate overall resilience of state budget

**State of Utah Budget Stress Test Results**

Percent of FY 2017 Appropriations

- **Value at Risk Adverse Scenario:** 39.4%
- **Value at Risk Severely Adverse Scenario:** 57.3%
- **Value at Risk, Stagflation Scenario:** 12.5%
- **Reserves:** 50.9%

**Reserves Accessibility**

- Easy
- Moderately Easy
- Difficult
- Somewhat Difficult
- Very Difficult
Considerations for Future Analyses

1. Developing a fiscal toolkit
2. Identifying economic scenarios
3. Period of analysis
4. Role of 50-state analyses
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