Stress Testing the Utah State Budget

National Conference of State Legislatures

2019 Annual Summit
Expectations...
Real Per-pupil State Appropriations

- **Pre-Recession**
- **Post-Recession**
- **Proposed**
- **Trend**

<table>
<thead>
<tr>
<th>Year</th>
<th>1997</th>
<th>1999</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
<th>2015</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>$5,000</td>
<td>$4,000</td>
<td>$3,000</td>
<td>$2,000</td>
<td>$1,000</td>
<td>$0</td>
<td></td>
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</tr>
</tbody>
</table>

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Why?

1. Manage the business cycle
2. Set sustainable expectations and meet them
3. Avoid crisis-driven policy decisions
What

• Model impact of alternative 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
How?

Experience → Scenario Assumptions → Estimated Revenue
Part 1:

DETERMINE SCENARIOS
“What-if” Scenarios

- Baseline – Current forecast
- Adverse – 2001-like economic contraction
- Severely Adverse – 2008-like contraction
- Special Case/Industry Specific Shock – Depends on state. We used stagflation.
Part 2:

MODEL REVENUE AND SPENDING
Revenue Side
Sources of Discretionary General and Education Fund Revenue

- Individual Income Tax: 56%
- Unrestricted Sales Tax: 30%
- Corporate Income Tax: 6%
- All Other Sources: 8%
## Factors Driving Revenue

<table>
<thead>
<tr>
<th></th>
<th>Sales Tax</th>
<th>Ind Inc Tax</th>
<th>Corp Inc Tax</th>
<th>All Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Pers Income</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail Sales</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Stock Mkt</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Oil Prices</td>
<td></td>
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<td>X</td>
</tr>
</tbody>
</table>
Expenditure Side
Uses of Discretionary General and Education Fund Revenue

- Public Education: 46%
- All Other Uses: 30%
- Higher Education: 15%
- Medicaid: 9%

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## Factors Driving Spending

<table>
<thead>
<tr>
<th></th>
<th>Medicaid</th>
<th>Higher Ed</th>
<th>Pensions</th>
<th>Public Ed</th>
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<tbody>
<tr>
<td>Employment</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Unemployment</td>
<td>X</td>
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<td>X</td>
<td></td>
</tr>
<tr>
<td>Pers Income</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Births</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Population</td>
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<tr>
<td>Stock Mkt</td>
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<td></td>
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<td>X</td>
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</tbody>
</table>
Part 3:

DETERMINE VALUE AT RISK
Total Value at Risk

($b over 5 yrs)

Stagflation

Adverse

Severe

Revenue
Expenditures
Part 4: INVENTORY BUFFERS
It takes a tool kit.
Inventory of Buffers

- **Easily Accessible:** Unappropriated balances, operating reserves, buildings working rainy day fund
- **Moderately Accessible:** Nonlapsing balances, roads working rainy day fund, capital improvements relief valve
- **Somewhat Difficult to Access:** Capital improvements corpus, restricted fund balances
- **Difficult to Access:** Formal rainy day funds
- **Very Difficult to Access:** Permanent trust funds

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Part 5:

ASSESS PREPAREDNESS
## Cuts and Taxes

<table>
<thead>
<tr>
<th>Session</th>
<th>FY</th>
<th>Budget Cuts</th>
<th>Revenue Increases</th>
<th>Revenue Multiplied</th>
<th>GF/EF Budget</th>
<th>Cut % Budget</th>
<th>Rev % Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008S2</td>
<td>2009</td>
<td>$161</td>
<td></td>
<td></td>
<td>$5,574</td>
<td>2.9%</td>
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<tr>
<td>2008S2</td>
<td>2010</td>
<td>$251</td>
<td></td>
<td></td>
<td>$5,413</td>
<td>4.6%</td>
<td>0.0%</td>
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<tr>
<td>2009</td>
<td>2009</td>
<td>$116</td>
<td>$2</td>
<td>$6</td>
<td>$5,413</td>
<td>2.1%</td>
<td>0.1%</td>
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<tr>
<td>2009</td>
<td>2010</td>
<td>$317</td>
<td>$59</td>
<td>$177</td>
<td>$5,162</td>
<td>6.1%</td>
<td>3.4%</td>
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<tr>
<td>2010</td>
<td>2010</td>
<td>$70</td>
<td></td>
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<td>$4,845</td>
<td>1.4%</td>
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<tr>
<td>2010</td>
<td>2011</td>
<td>$75</td>
<td>$43</td>
<td>$43</td>
<td>$4,770</td>
<td>1.6%</td>
<td>0.9%</td>
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<td></td>
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<td>$990</td>
<td>$104</td>
<td>$226</td>
<td>$31,177</td>
<td>3.2%</td>
<td>0.7%</td>
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</tbody>
</table>

- 1% of baseline revenue used in scenarios = $324 m
Conclusions

- 5 year risk between $2.3 b and $3.7 b
- Informal buffers = $2.5 b
- Formal buffers = $0.5 b
- Cuts/Revenue ~ $0.3 b - $1.3 b
- Could withstand Stagflation and Adverse, but not severe
Utah Legislators deposited $85 million in FY 2019 plus another $94 million in FY 2020 into rainy day funds on-top of automatic deposits – bringing the funds to target levels.