Budget Stress Testing in Utah

October 19, 2016

Federation of Tax Administrators
Revenue Estimating Conference
Background & Context
Utah Total Non-Ag Employment
Utah GF/EF/TF Revenue Structure
Revenue Trends (Economic Cycle is Real)
• Unstable economic conditions impact government revenues
• Tax policy amplifies economic instability
• Expenditure patterns countercyclical
• Expectations of stable government services
When Should You Prepare for a Flood?
Many Tools Available to Balance Budget

• Structural balance
  – Separating ongoing and one-time revenues
• Timing of spending compared to revenues
• Spending reductions
• Revenue adjustments – tax base, tax rate, fees
Many Tools Available to Balance Budget

• Budget reserves – broadly defined
  – Unappropriated balances
  – Operating reserves
  – “Working rainy day funds” (ongoing $ for capital)
  – Nonlapsing balances
  – Restricted fund balances
  – Formal rainy day funds
  – Permanent trust funds
  – Bonding capacity
Budget Stress Testing
• Formal review of “playbook” in a downturn
• Used consensus process
  – Revenues – GOMB, LFA, Tax Commission
  – Expenditures – GOMB and LFA
• Modeled how state budget might respond to economic scenarios
  – Revenues & expenditures
• Categorized budget reserves
Stress Testing – Economic Assumptions

• Used Federal Reserve bank stress test economic scenarios
  – Adverse
  – Severely adverse ("Severe")
• Not exactly aligned with indicators used in normal revenue estimating process
  – Each entity independently adjusted from Federal Reserve economic indicators to revenue indicators
• Focused on major tax types
  – Individual income
  – Sales and use
  – Corporate
• Ran through normal revenue estimation models
• Focused on major enrollment-driven programs
  – Medicaid
  – K-12 Education
  – Higher Education

• Interaction between demographics in Great Recession and economic factors
Stress Testing – Expenditures

Expenditures ($b)

FY13 FY14 FY15 FY16 FY17

Baseline  Adverse  Severe
Change in School Enrollment
and Difference in Births 5 and 17 Years Previous

Thousands

-10
-5
0
5
10
15
20
25

- Enrollment Change
- Birth Difference

Stress Testing – K-12 Enrollment
Potential Exposure ($b)

By Category of Accessibility

Expenditures  Revenue (2 yr)

Reserves/Offsets ($b)

Easy  Moderate  Somewhat Difficult  Difficult
Challenges & Issues

• Formal v. informal process
• High-level v. tons of detail in revenue and expenditure categories to review
• Selecting economic assumptions
• Defining budget reserves
• Examining time frame
• Speculating about future / considering probabilities
• Communicating results
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Governor’s Office of Management and Budget
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### Economic Indicators for Utah and the United States: September 2016

#### Production and Spending

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<tbody>
<tr>
<td>U.S. Real Gross Domestic Product</td>
<td>Billion Chained $2009</td>
<td>15,982.3</td>
<td>16,397.2</td>
<td>16,645.7</td>
<td>17,052.7</td>
<td>17,466.9</td>
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<td>U.S. Real Personal Consumption</td>
<td>Billion Chained $2009</td>
<td>10,868.9</td>
<td>11,214.7</td>
<td>11,523.4</td>
<td>11,819.5</td>
<td>12,111.5</td>
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<tr>
<td>U.S. Real Private Fixed Investment</td>
<td>Billion Chained $2009</td>
<td>2,660.6</td>
<td>2,767.8</td>
<td>2,792.1</td>
<td>2,922.2</td>
<td>3,065.1</td>
<td>4.0</td>
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<td>U.S. Real Federal Defense Spending</td>
<td>Billion Chained $2009</td>
<td>686.3</td>
<td>672.0</td>
<td>668.8</td>
<td>665.9</td>
<td>665.3</td>
<td>-2.1</td>
<td>-0.5</td>
<td>0.1</td>
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<td>U.S. Real Exports</td>
<td>Billion Chained $2009</td>
<td>2,118.3</td>
<td>2,120.6</td>
<td>2,112.2</td>
<td>2,171.2</td>
<td>2,262.9</td>
<td>0.1</td>
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<tr>
<td>Utah Exports (NAICS, Census)</td>
<td>Million Dollars</td>
<td>12,224.3</td>
<td>13,307.2</td>
<td>14,503.8</td>
<td>14,059.0</td>
<td>13,952.1</td>
<td>8.9</td>
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<td>Utah Coal Production</td>
<td>Million Tons</td>
<td>17.9</td>
<td>14.5</td>
<td>14.1</td>
<td>15.1</td>
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<td>Utah Crude Oil Production</td>
<td>Million Barrels</td>
<td>40.9</td>
<td>37.1</td>
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<td>Utah Natural Gas Production Sales</td>
<td>Billion Cubic Feet</td>
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<td>Utah Copper Mined Production</td>
<td>Million Pounds</td>
<td>467.8</td>
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<td>Utah Molybdenum Production</td>
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#### Income and Unemployment

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<td>U.S. Personal Income (BEA)</td>
<td>Billion Dollars</td>
<td>14,810</td>
<td>15,459</td>
<td>15,988</td>
<td>16,712</td>
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<td>U.S. Unemployment Rate (BLS)</td>
<td>Percent</td>
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<td>5.3</td>
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<tr>
<td>Utah Personal Income (BEA)</td>
<td>Million Dollars</td>
<td>110,844</td>
<td>117,764</td>
<td>124,510</td>
<td>130,912</td>
<td>137,628</td>
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<tr>
<td>Utah Unemployment Rate (BLS)</td>
<td>Percent</td>
<td>3.8</td>
<td>3.5</td>
<td>3.7</td>
<td>3.6</td>
<td>4.0</td>
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