Reserves: How Much Can You Use?
Evaluating Organizational Risks and Reserves Levels

Government Finance Officers Association

April 30, 2020
12 Steps through the process

Your Financial Condition

3 Stages of Financial Recovery

- BRIDGING
- REFORM
- TRANSFORM

- Recovery Leadership
- Manage Recovery Program
- Long-Term Financial Planning

- Recognize
- Mobilize
- Generic Treatments
- Initial Diagnosis
- Fiscal First Aid
- Recovery Plan
- Detailed Diagnosis
- Longer-Term Therapies

- A Strong Financial Foundation for a Thriving Community
- Bankruptcy/Receivership

- Decline
- Distress
- Stabilization
- Recovery
- Financial Health
Panelists

Lunda Asmani, CPFO
Chief Financial Officer
Town of New Canaan, CT

Kathleen VonAchen
Chief Financial Officer
Unified Government of Wyandotte County and Kansas City, KS

Nancy Zielke
Senior Director
Alvarez & Marsal Public Sector Services, LLC
GFOA Panelists

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Senior Consultant  
Research & Consulting Center

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Senior Manager  
Research & Consulting Center

Shayne Kavanagh  
Senior Manager of Research  
Research & Consulting Center
Overview

- Why is it important to evaluate risks to reserves?
  - What preliminary steps should be taken before diving in?

- Discussion of Methods
  - Method 1: Basic, General Fund Reserve Calculation Worksheet
  - Method 2: Intermediate, Triple-A Evaluation
  - Method 3: Advanced, Probabilistic Measurement

- Key Takeaways
  - How can I get started?
Considering Reserves and Analyzing Risk
Why is this important?

- Reserves provide options to respond to emergencies, economic shocks, and other risks
  - Fiscal First Aid

- Important to have adequate reserves for economic recovery, but also hedge against other risks

- Critical to balance long and short-term strategy
3 Methods to Evaluate Risk

- Important to understand risks posed to your organization

- Spectrum of methods for measuring risk
  - Method 1: Basic, General Fund Reserve Calculation Worksheet
  - Method 2: Intermediate, Triple-A Framework
  - Method 3: Advanced, Probabilistic Measurement

- Choose your own adventure!
## Getting Started

### Common Risks Governments Face

| Vulnerability to extreme events and public safety concerns (e.g., earthquakes, floods, fires, landslides, high winds, etc.) | Liquidity |
| Revenue source stability | Other funds’ dependency |
| Expenditure volatility (e.g., impending lawsuits) | Growth |
| Leverage (e.g., pension cost) | Capital projects |
Getting Started

- Gather data
  - Monthly revenues/expenditures, historical data, peer organizations, other (e.g. FEMA)

- Consider your revenue sources!
Method 1:
General Fund Reserve Calculation Worksheet
Method 1 evaluates risks

1. Identify risks
2. Assess risks
3. Identify risk mitigation approaches
4. How important for you is to maintain reserves for this risk?
   • Very important to very unimportant
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Vulnerability to Extreme Events</strong></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><strong>1. Identify Risks</strong></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>What extreme events are you at risk for?</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td><strong>2. Assess Risks</strong></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>What is your vulnerability to each extreme event, given past experience?</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td><strong>3. Identify other risk mitigation approaches</strong></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>What options do you have to avoid, reduce, or transfer the risk (i.e., manage it without reserves)</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td><strong>4. Considering the above, how important for you is it to retain the risks of extreme events through reserves?</strong></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Enter your score here</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td><strong>Very important.</strong> We are subject to extreme events of severe potential magnitude which would require a quick and decisive response from our government. There are few alternative risk management approaches.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td><strong>Important.</strong> We are subject to extreme events of severe potential magnitude, but our government does not have an important disaster response role and/or we have other risk management alternatives.</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td><strong>Neutral.</strong> We do not face an unusually high or low level of risk from extreme events.</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td><strong>Unimportant.</strong> We are subject to one or two types of significant extreme events and we have other risk management options.</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td><strong>Very unimportant.</strong> We are subject to very few, if any, potential extreme events of significant potential damage</td>
<td></td>
</tr>
</tbody>
</table>
1. Identify: General and master plans, subject matter experts

2. Assess: Past experiences

3. Mitigate: Insurance, capital planning (i.e., retrofit)
1. **Identify:** Major revenue sources

2. **Assess:** Seasonality, elasticity, other changes (base or rates)

3. **Mitigate:** Budgetary reductions
1. Identify: Subject matter experts, including risk management, unfunded mandates

2. Assess: Past or pending experiences

3. Mitigate: Insurance, risk pools, etc.
1. **Identify:** Debt capacity, outstanding obligations (pension / OPEB)

2. **Assess:** Implications (cost of borrowing, policy)

3. **Mitigate:** Internal borrowing, pension / OPEB trust
1. **Identify:** Source of cash flow issues (bulk of revenues received infrequently)

2. **Assess:** Past or potential experiences

3. **Mitigate:** Time major expenses to cash flow cycles
1. **Identify:** Transfers to other funds

2. **Assess:** Need of a transfer in case of an emergency

3. **Mitigate:** Internal borrowing, charges and fees
1. **Identify**: Near-term population growth

2. **Assess**: Imbalance to revenue received and expenditures required

3. **Mitigate**: Impact fees
1. **Identify**: Unfunded capital projects, vulnerable assets

2. **Assess**: Reserves, debt issuance, etc.

3. **Mitigate**: Maintenance strategy
## Preliminary risk score

<table>
<thead>
<tr>
<th>Score</th>
<th>Analytical Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-16</td>
<td>16.6% of revenues / expenditures</td>
</tr>
<tr>
<td>17-24</td>
<td>17-25% of revenues / expenditures</td>
</tr>
<tr>
<td>25-31</td>
<td>26-35% of revenues / expenditures</td>
</tr>
<tr>
<td>32-40</td>
<td>Greater than 35% of revenues / expenditures</td>
</tr>
</tbody>
</table>
Adjust the preliminary score

- Government size
- Budget practices
- Borrowing capacity
- Commitment and assignments
- Outsider perceptions, e.g. rating agencies
- Political support
Method 2: Triple-A Approach
Approaching uncertainty

- Accept – Uncertainty is inevitable
- Assess – Identify potential impact
- Augment – Uncertainty will usually be underestimated!
  - Rule of thumb: Relatively little historical data, double your assessed amount of uncertainty
A SoCal story

- Revenue volatility (sales and property taxes)
- Extreme events (wildfires / winter storms and earthquakes)
- Leverage (pensions)
The City’s sales tax revenues are strongly impacted by cyclical forces. The trend cycle for sales tax declined by 9% between third quarter 2008 and second quarter 2009 as highlighted by the green arrows.
Triple A and sales tax

✓ Assess

<table>
<thead>
<tr>
<th>Category</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto &amp; Transportation</td>
<td>(29.2%)</td>
</tr>
<tr>
<td>Business &amp; Industry</td>
<td>(22.6%)</td>
</tr>
<tr>
<td>General Consumer Goods</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>Building &amp; Construction</td>
<td>(52.5%)</td>
</tr>
<tr>
<td>Restaurants &amp; Hotels</td>
<td>0.4%</td>
</tr>
<tr>
<td>Fuel &amp; Service Stations</td>
<td>(6.0%)</td>
</tr>
<tr>
<td>Food &amp; Drugs</td>
<td>(10.5%)</td>
</tr>
</tbody>
</table>

✓ Augment

✓ Over 10 years of data
✓ Establishment base appears to be less vulnerable to economic dislocations
✓ Factor of 1.0 for future volatility
✓ 20.6% decline in annual sales tax revenue
Between FY 1995 and FY 2014, the City’s supplemental property tax revenue ranged between 2% of total property tax revenues and 30% of total property tax revenues.
Triple A and property taxes

✓ Assess
✓ FY 2009 reflects downturn of housing market

✓ Augment
✓ 20 years of information
✓ Greater regulatory oversight in the housing market since the Great Recession has placed greater requirements for home mortgages and restrictions on lenders
✓ Factor 1.0 to the referenced scenario
✓ 2.6% annual decrease in total property tax revenue
## Historic Wildfires and Winter Storms

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2003 Cedar Fire</td>
<td>49,833</td>
<td>$750,123</td>
<td>$952,766</td>
<td>$19</td>
</tr>
<tr>
<td>January 2005 Storms</td>
<td>50,675</td>
<td>$491,227</td>
<td>$587,830</td>
<td>$12</td>
</tr>
<tr>
<td>February 2005 Storms</td>
<td>50,675</td>
<td>$7,000</td>
<td>$8,377</td>
<td>$0</td>
</tr>
<tr>
<td>2007 Witch Creek Fire and Mudflow</td>
<td>50,830</td>
<td>$1,888,851</td>
<td>$2,129,032</td>
<td>$42</td>
</tr>
<tr>
<td>Witch Creek Fire</td>
<td>-</td>
<td>$1,692,197</td>
<td>$1,907,372</td>
<td>-</td>
</tr>
<tr>
<td>Mudflow</td>
<td>-</td>
<td>$196,654</td>
<td>$221,660</td>
<td>-</td>
</tr>
<tr>
<td>2010 Winter Storms</td>
<td>52,056</td>
<td>$58,851</td>
<td>$63,075</td>
<td>$1</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>50,814</td>
<td><strong>$639,210</strong></td>
<td><strong>$748,216</strong></td>
<td><strong>$15</strong></td>
</tr>
</tbody>
</table>
Triple A and wildfires / winter storms

✓ Assess
  ✓ Historic experiences
    ✓ Average expenditure per capita: $15
    ✓ Maximum expenditure per capita: $42
  ✓ Apply to City’s current population
    ✓ Average: $718,000
    ✓ Maximum: $2.0 million
  ✓ Timing of expenditures
    ✓ 87% in first year
      ($625,000 to $1.8 million)

✓ Augment
  ✓ Five reference points
  ✓ Factor 2.0 to the referenced maximum scenario
  ✓ $625,000 to $3.5 million in first year
## Estimated Damages from Select California Earthquakes

<table>
<thead>
<tr>
<th>Earthquake</th>
<th>Magnitude</th>
<th>City</th>
<th>Total Estimated Damages ($ in 2015)</th>
<th>Estimated Damages per Resident</th>
<th>Estimated Damages per Sq. Mile</th>
<th>Estimated Damages per Resident per Sq. Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 Yountville**</td>
<td>5.0</td>
<td>Napa</td>
<td>$1,329,398</td>
<td>$19</td>
<td>$75,591</td>
<td>$331</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td></td>
<td></td>
<td>$1,329,398</td>
<td>$19</td>
<td>$75,591</td>
<td>$331</td>
</tr>
<tr>
<td>2003 San Simeon</td>
<td>6.6</td>
<td>Arroyo Grande</td>
<td>$29,058</td>
<td>$2</td>
<td>$4,976</td>
<td>$10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Atascadero</td>
<td>$28,521,775</td>
<td>$1,056</td>
<td>$1,112,394</td>
<td>$27,070</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Morro Bay</td>
<td>$356,498</td>
<td>$34</td>
<td>$67,264</td>
<td>$182</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paso Robles</td>
<td>$7,432,213</td>
<td>$281</td>
<td>$388,714</td>
<td>$5,380</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pismo Beach</td>
<td>$30,569</td>
<td>$4</td>
<td>$8,491</td>
<td>$13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>San Luis Obispo</td>
<td>$9,308</td>
<td>$0</td>
<td>$728</td>
<td>$3</td>
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<tr>
<td></td>
<td></td>
<td>Guadalupe</td>
<td>$877,057</td>
<td>$149</td>
<td>$669,509</td>
<td>$196</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Santa Maria</td>
<td>$49,108</td>
<td>$1</td>
<td>$2,158</td>
<td>$14</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td></td>
<td></td>
<td>$4,663,198</td>
<td>$191</td>
<td>$281,779</td>
<td>$4,108</td>
</tr>
<tr>
<td>2010 Baja California</td>
<td>7.2</td>
<td>Brawley</td>
<td>$42,841</td>
<td>$2</td>
<td>$5,578</td>
<td>$13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calexico</td>
<td>$7,861,608</td>
<td>$204</td>
<td>$937,021</td>
<td>$1,710</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calipatria</td>
<td>$160,332</td>
<td>$21</td>
<td>$43,100</td>
<td>$77</td>
</tr>
<tr>
<td></td>
<td></td>
<td>El Centro</td>
<td>$2,496,415</td>
<td>$59</td>
<td>$225,308</td>
<td>$649</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Holtville</td>
<td>$2,927,708</td>
<td>$493</td>
<td>$2,545,833</td>
<td>$567</td>
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<tr>
<td></td>
<td></td>
<td>Imperial</td>
<td>$1,183,967</td>
<td>$80</td>
<td>$202,042</td>
<td>$470</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td></td>
<td></td>
<td>$2,445,479</td>
<td>$143</td>
<td>$659,814</td>
<td>$581</td>
</tr>
<tr>
<td>2014 South Napa***</td>
<td>6.0</td>
<td>Napa</td>
<td>$11,242,680</td>
<td>$145</td>
<td>$630,195</td>
<td>$2,581</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td></td>
<td></td>
<td>$11,242,680</td>
<td>$145</td>
<td>$630,195</td>
<td>$2,581</td>
</tr>
<tr>
<td><strong>TOTAL MEAN</strong></td>
<td></td>
<td></td>
<td>$4,034,408</td>
<td>$159</td>
<td>$432,431</td>
<td>$2,454</td>
</tr>
</tbody>
</table>
At 50% to 80% the City gets the most efficient use for reserves. An additional $1 million in reserves provides a 4% increase in confidence.

Contingent capital arrangement, inter-fund borrowing, and parametric insurance are options to consider.
Leverage: Pension cost

- Employer contributions rates were estimated to increase over next six years
  - Largest year-over-year increase estimated at 7.6% or $332,000

- Pension cost should be addressed through budget process
Triple A and leverage / pension

✓ Assess
  ✓ Scenario whereby revenues are flat or declining
  ✓ City had drawn on pension stabilization fund for purpose to mitigate the effects of significant year-over-year changes

✓ Augment
  ✓ One data point
  ✓ Uncertainty regarding magnitude of scenario that would result in flat or declining revenue
  ✓ Factor 2.0
  ✓ Reserve of $664,000
Refining the target reserve level

- Risk interdependencies
  - Revenue decline results in leverage / pension risk
  - Natural disaster might impact revenues
  - Lawsuits is an independent risk

- Probability of risk occurring
  - Likely to occur, hole the full amount
  - Low probability of occurring, might hold less than the full amount

- Ability to reduce budget in the event of a downturn
Method 3: Probabilistic Analysis
A Complete Definition of Risk*

The **probability** and **magnitude** of a loss, disaster, or other undesirable event

*Definition from Doug Hubbard in *The Failure of Risk Management*
“Without numbers, there are no odds and no probabilities; without odds and probabilities, the only way to deal with risk is to appeal to the gods and the fates. Without numbers, risk is wholly a matter of gut.”

-Peter Bernstein, *Against the Gods: The Remarkable Story of Risk*
Research on the Performance of the Gut

Provided courtesy of Doug Hubbard, author of *The Failure of Risk Management: Why it is Broken and How to Fix it*
When expert performance is tracked, they have a much lower chance of being right than they expect.

Graphic Provided Courtesy of Doug Hubbard, www.hubbardresearch.com
Experts are inconsistent. They are influenced by random and irrelevant factors. They have difficulty replicating their own judgements.

Graphic Provided Courtesy of Doug Hubbard, www.hubbardresearch.com
Decision makers are also inconsistent regarding their own aversion to risk.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Risk Aversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being around smiling people</td>
<td></td>
</tr>
<tr>
<td>Recalling an event causing fear</td>
<td></td>
</tr>
<tr>
<td>Recalling an event causing anger</td>
<td></td>
</tr>
<tr>
<td>A recent win in an unrelated decision</td>
<td></td>
</tr>
<tr>
<td>A recent loss in an unrelated decision</td>
<td></td>
</tr>
</tbody>
</table>

Graphic Provided Courtesy of Doug Hubbard, www.hubbardresearch.com
A thoughtful and precise evaluation of our reserves and the amount that should be held for emergencies. It provides an amount that can be justified and still have flexibility in times of economic uncertainty.

We plan to repeat this type of analysis with other funds.

This has helped the City consider risk in new ways and which has now permeated and become part of the financial decision-making culture at the City.

The analysis substantiated the target reserve levels the City should work to achieve. The City has used the analysis multiple times in reserve level conversations with City Council, City Management, bond rating agencies, etc.
The Normal Distribution
The Normal Distribution

Average 5' 9"
The Normal Distribution

Average 5’ 9”

4’ 5”

6’ 10”

Height
Normal Distribution
Normal Distribution
Normal Distribution

The “Tails” of a distribution are often of great interest in risk analysis.
Using Distributions for Planning

- County's typical budget would cover everything to the left of this point.
- Average snowfall: 54 in.
- 90% of the time, annual snowfall is less than 78 in.
- 95% of the time, annual snowfall is less than 84 in.

Frequency

Total Annual Snowfall (Inches)
Cumulative Probability Chart

Floods

$527,000 is 90% likely to cover damages from a given flood
## Risks aren’t Additive

<table>
<thead>
<tr>
<th>Likelihood of covering the extreme event</th>
<th>Hazardous Materials</th>
<th>Wildfires</th>
<th>Total (New Distribution of Total Risk)</th>
<th>Total (Simple Sum of Individual Risks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>90%</td>
<td>$3.1 million</td>
<td>$2.5 million</td>
<td>$4.7 million</td>
<td>$5.6 million</td>
</tr>
<tr>
<td>95%</td>
<td>$3.5 million</td>
<td>$2.8 million</td>
<td>$5.2 million</td>
<td>$6.3 million</td>
</tr>
<tr>
<td>99%</td>
<td>$4.1 million</td>
<td>$3.2 million</td>
<td>$6.1 million</td>
<td>$7.3 million</td>
</tr>
<tr>
<td>Risk Categories</td>
<td>Damage in $Millions</td>
<td>% tile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earthquake</td>
<td>$30</td>
<td>$52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire</td>
<td>$22</td>
<td>$43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flood</td>
<td>$21</td>
<td>$64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landslide</td>
<td>$21</td>
<td>$49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewer</td>
<td>$15</td>
<td>$21</td>
<td></td>
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<tr>
<td>Pollution</td>
<td>$21</td>
<td>$37</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$130</strong></td>
<td><strong>$267</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Created by ProbabilityManagement.org in collaboration with GFOA
<table>
<thead>
<tr>
<th>Risk Categories</th>
<th>Average</th>
<th>Scenario 1</th>
<th>% tile</th>
<th>Change this value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>$30</td>
<td>$40</td>
<td>$40</td>
<td></td>
</tr>
<tr>
<td>Fire</td>
<td>$22</td>
<td>$19</td>
<td>$31</td>
<td></td>
</tr>
<tr>
<td>Flood</td>
<td>$21</td>
<td>$41</td>
<td>$36</td>
<td></td>
</tr>
<tr>
<td>Landslide</td>
<td>$21</td>
<td>$40</td>
<td>$32</td>
<td></td>
</tr>
<tr>
<td>Sewer</td>
<td>$15</td>
<td>$16</td>
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Resources to Get Started

- Check out Recording of March 27 Webinar “Financial Decision-Making Under Uncertainty”
  - Introduces basic tools for probabilistic thinking

- ProbabilityManagement.org for free tools or mini-models (tricycles)
  - Try out “reserve calculator” demo
  - Try out others: https://www.probabilitymanagement.org/models
    - Scroll down until you find “Probability Management in Financial Planning” where you will find models produced with GFOA

- Play with advanced decision-model (motorcycle)
  - Newport Beach model available at www.gfoa.org/fiscal-first-aid
Takeaways

- Importance of garnering community/elected body support

- Use your financial policy to help guide the conversation
  - Check out April 9 Webinar “Take the 2020 Financial Policy Challenge”

- Be risk aware…
  - …any of the three evaluative methods can help

- If possible, take a quantitative approach (model 2 or 3)
Remember, You Just Need to Outrun the Bear
The End

- For access to all slides and resources shown on this webinar go to:
  - www.gfoa.org/ffa

- Includes access to models, etc.

- If you have questions, please use the chat feature to ask

- Our presenters, in order of appearance
  - Gen Carter, gcarter@gfoa.org
  - Nancy Zielke, nzielke@alvarezandmarsal.com
  - Elizabeth Fu, efu@gfoa.org
  - Lunda Asmani, lunda.asmani@newcanaanct.gov
  - Shayne Kavanagh, skavanagh@gfoa.org
  - Kathleen Von Achen, kvonachen@wycokck.org
Step 11: Manage the Recovery Process (Updated!)
Step 12: The Outcome of Recovery

GFOA Research
- NEW - Maintaining Treasury Operations During the COVID-19 Crisis
- Working Remotely: A Guide for the Public Sector
- Cash is King: Short-Term Strategies to Slow the Flow of Money Out the Door and Keep the Budget Balanced

Upcoming Training
- April 30: Reserves: How Much Can You Use? Evaluating Organizational Risks and Reserves Levels

Past Training
Click on each webinar to access a recording of the webinar, the PowerPoint presentation, and other supporting materials.
- April 9, 2020. Take the 2020 Financial Policy Challenge
- April 13, 2020. Procurements Under FEMA Awards During Periods of Emergency or Exigency
- April 24: Managing Cash Flow in a Crisis: How to Quickly Build a Working Cash Flow Model