Revenue Volatility

• Three ways to address revenue volatility
  – Address the impact annually through the budget process
  – Broaden the tax base
  – Remove volatility from the budget and put it in reserve funds
• Rainy day funds are an example of the last approach, but they are generally limited in their use and impact
Defining Stabilization

• Spectrum of options
  – Addressing severe recessions or other causes of significant budget shortfalls
  – Providing buffers to alleviate the need for tax policy changes and/or spending reductions to address transient conditions
  – Eliminating or managing all revenue volatility for budgeting purposes

• States have generally elected a combination of the first two options—some exceptions
Budget Reserve Account

• Delaware’s Budget Reserve Account, or Rainy Day Fund (RDF) falls in the first category—it is available “to fund any unanticipated deficit”
• Unencumbered funds deposited within 45 days of the end of a fiscal year, up to a cap of 5% of estimated general fund revenues
• Has been at the cap since at least FY 1988
Fiscal Controls

- Fiscal controls are intended to restrain budget expansion during periods of strong economic growth.
- Stabilization fund deposit rules can act as fiscal controls, but not all do.
- Fiscal controls should be independent of direct measures of revenue.
Illustrative Examples of Rainy Day Fund Rules

• Applied several states’ rules to see what the effect would have been in Delaware
  – Up to 1% of revenues when growth exceeds 4% (Idaho)
  – 10% of revenue growth (Tennessee, modified)
  – Half of growth over the average annual growth of the prior six years (Virginia)

• Available data allows analysis from 2006 forward
Rainy Day Fund Deposits

Hypothetical deposits to Delaware’s RDF from constant-law revenues using rules of Idaho, Virginia and Tennessee
Delaware Deposits

- Tennessee rule has negligible impact with respect to volatility
- Idaho rule smooths volatility by redirecting some revenue when growth is strong
- The Virginia rule is one step closer to a full stabilization fund than a traditional RDF
- All rules provide that some portion of annual growth is available for spending in the current year
Hypothetical deposits from constant-law revenues beginning in 2006, with no withdrawals
Delaware Withdrawals

- May well have been used in the four years when revenues declined
- May have forestalled tax increases in 2010
- Even Virginia rule for deposits would have fallen short of $1.1 billion required to have prevented any revenue declines from 2006 to present
Withdrawal Rules

• Withdrawals can be based on economic or revenue volatility, deficits, or forecast error
• Rules generally allow but do not mandate drawdowns when conditions are met
• Also generally not intended to fully protect against spending reductions or tax increases
• Accordingly, it is difficult to demonstrate how an accessible stabilization fund would have fared in prior periods
Virginia Rule Simulation

- The following slide shows, applied to Delaware’s budget
  - A Delaware RDF with Virginia's deposit rules
  - Withdrawals available any time revenues decline
  - Withdrawals only to offset half of the decline, but no limitation on the fund balance

- Strictly for illustrative purposes, not a recommendation
Virginia Rule Simulation

Impact on Available Revenues

Stabilization Fund Balance

- GF (FY17 Law)
- Available Revenues

- Never Withdraw
- Fullest Withdraw

Hypothetical impact on constant-law revenues
Full Stabilization

- Can the budget be fully stabilized (expenditure growth set by a rule) on a sustainable basis?
- When revenue growth is above the rate set by the rule, funds are set aside in a reserve fund.
- When revenue growth is weak, funds from the reserve fund are used to continue expenditure growth at the level called for.
Fixed Rate Budget Growth

Fiscal Control Based on Fixed 2.75% Rate

- GF (FY 2017 Law)
- Stabilization Threshold

Revenues in Billions of $
Stabilization Fund with Fixed Rate

Stabilization fund would have had a deficit in fiscal year 2003, requiring tax increases, spending cuts, or other funding sources.
Supplementation Could Be Required

Minimum seed funding of $150 million required to carry fixed spending at 2.75% growth through fiscal year 2016.

$150 million seed funding
Hindsight is 20/20

- Average annual revenue growth from 1998 through 2002, prior to the dot-com bubble bursting, was 7.0%
- After that recession, might have thought “normal” revenue growth was 3.5% to 5% or higher
- In retrospect, quite possible an unsustainable growth rate would have been selected
More Realistic Example of Fixed Rate

Fiscal Control Based on Fixed 3.5% Rate

- GF (FY 2017 Law)
- Stabilization Threshold

Revenues in Billions of $
Stabilization Not Achieved

Stabilization Fund Balance—Fixed Growth

Millions of $
Fixed Rate Budget Growth

- If fixed spending growth is too high, the smoothing mechanism collapses
- Too low, State’s resources are underutilized
- Even at “right” rate, reserves may become too large to maintain until downturn
- Structural change in revenues, as apparently occurred in 2006, causes difficulty
- Revisiting rate at regular intervals would be appropriate, but intervals should be lengthy
Stabilization Based on Underlying Growth

- Tying spending to economic growth of underlying tax base should be sustainable, at least for economically-sensitive revenues.
- Frequently discussed measures include population growth, CPI or other price indicator, personal income, etc.
- With proper specification, might be able to adapt to a change in underlying revenue trends.
Economic Stabilization

Fiscal Control Based on Economic Factors

- GF (FY 2017 Law)
- Stabilization Threshold

Average annual growth of threshold from 2003 to 2017 was 2.5%

Stabilization threshold is the growth rates of personal income (50%) and population plus CPI (50%)
May Lead to Large Reserves
Start One Year Earlier

Fiscal Control Based on Economic Factors

- GF (FY 2017 Law)
- Stabilization Threshold

Average annual growth of threshold from 2002 to 2017 was 2.7%
Base Year Matters

Stabilization Fund Balance–Economic Factors

$ in millions


Values: $ -2,500, -2,000, -1,500, -1,000, -500, 0, 500
Economic Stabilization

- This approach may be sustainable (base year matters)
- Rule applied to general fund revenues, but many revenue sources are not driven by Delaware population or any measure of price
  - Capital gains
  - Unclaimed property
  - Franchise Tax
  - Lottery
Addressing Balances

- To the extent balances are attributable to non-economic revenues, they can be withdrawn.
- Should not be built into operating budget.
- Regular evaluation of reserve fund and periodic evaluation of stabilization criteria seem appropriate.
Reserve Fund Caps

- Optimal fund size should be determined through analysis
- Analysis should include whether any portion of the existing RDF should remain untapped
- When optimal cap has been reached, funds otherwise available for deposit in the RDF should be used for one-time expenditures (capital improvements, OPEB, deferred maintenance)
Options

• *Status quo*
  – AAA bond rating has been maintained
  – Revenue volatility can increase budget conflict

• Enhance *status quo*—increase RDF size and/or lower 98% rule
  – Would increase reserves, well understood
  – May continue untouchable RDF and only addresses volatility at the extremes
Options

• Adopt something similar to Virginia model
  – Would have a smoothing impact on the budget
  – Deposit could be required when revenues decline

• Fixed Stabilization
  – Acts as a fiscal control and eliminates volatility
  – May not be sustainable

• Economically-tied Stabilization
  – Acts as fiscal control and reduces volatility
  – Annual monitoring would be beneficial