



Sustainable Benefit Enhancement Plan and Other Updates

May 18, 2023

- **Overview**
- **Sustainable Benefit Enhancement Plan**
- **Ohio Systems Funding Review**

- **Ohio law**

- Requires the board's actuary to determine if a proposed benefit enhancement would materially impair the fiscal integrity of the system

- **Board's Pension Funding Policy**

- Complies with Ohio law
- Sets forth the goal of safeguarding members' benefits in the long-term and the funding objectives
- Fiscal 2022 funded ratio below the 100% funding objective and the 85% provision
- Assessment: no benefit enhancement recommended

- **Board's Pension Funding Scorecard**
 - Included in board's pension funding policy
 - Risk tool using four categories of metrics to evaluate the financial condition of the plan
 - Fiscal 2022 overall summary score -1
 - Assessment: no benefit enhancement recommended

- **Sustainable Benefit Enhancement Plan (SBEP)**

- Complies with Ohio law
- SBEP is designed to provide sustainability and manage the risk of future benefit cuts
- Plan can be utilized to augment the funding policy and scorecard assessment
- Fiscal 2023 budget amount \$0; de minimis enhancement \$830 million
- Board's pension funding policy will be reviewed by the board's governance committee; SBEP and framework can be included

State Teachers Retirement System of Ohio



Sustainable Benefit Enhancement Plan

May 18, 2023

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- Recap April Meeting
 - Sustainable Benefit Enhancement Plan
 - De-minimis Enhancement
- Cheiron thoughts following Board input
 - Fiscal Integrity
 - Should the SBEP tests be revised?
 - Can the de-minimis threshold test be exceeded?
 - When will a “meaningful” enhancement be available



- Budget Amount for enhancement based on three tests
 - Test 1= Do contributions exceed treadwater by a margin of 25%?
 - No, 125% of Treadwater = 28.56%, current contributions = 27.52%
 - Test 2 – Will contributions to exceed treadwater following a shock asset return within 5 years?
 - No, Baseline time to return following -18.39% is 11 years
 - Test 3 – Is the probability that contributions will exceed treadwater in 10 years above 80%?
 - Yes, the probability of exceeding treadwater in 10 years is 80.4%. Budget under test 3 is \$300 million
- SBEP Budget is the lesser of the three tests which is zero

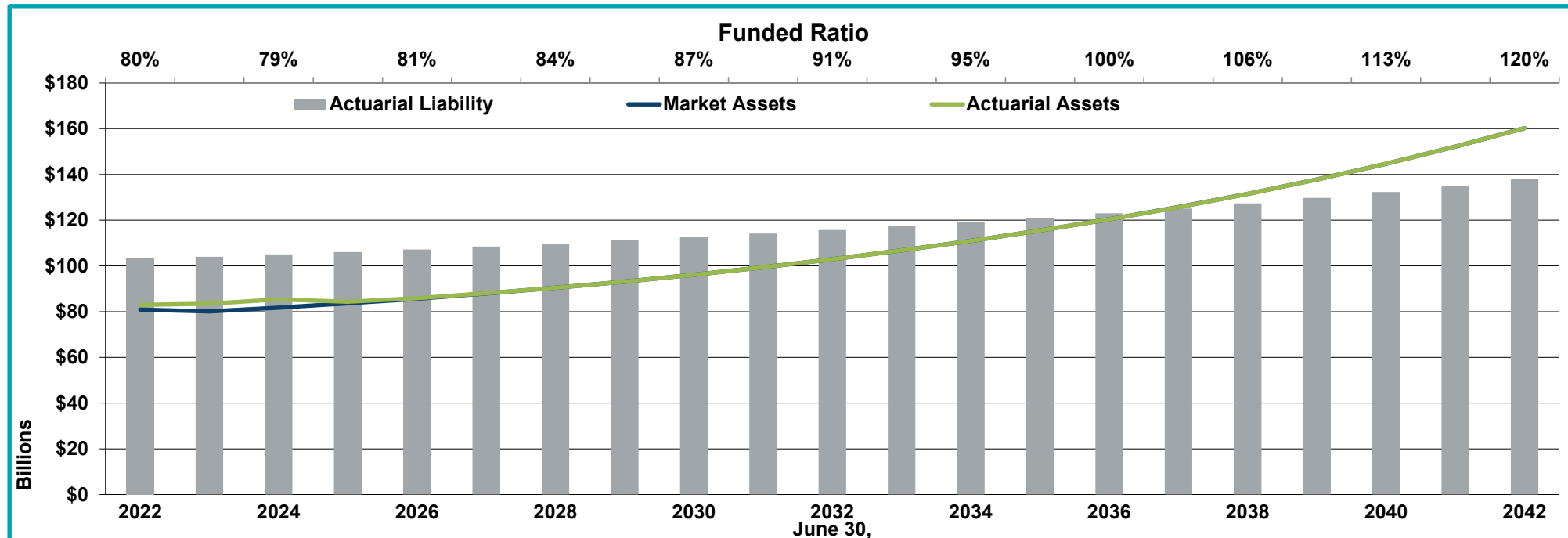


- Cheiron has determined that in the event the SBEP budget is zero, a de minimis enhancement would not materially impair the fiscal integrity of the system
- De Minimis Enhancement
 - The de minimis enhancement amount will be no more than 1% of the actuarial value of assets, provided the Plan is projected to be fully funded in 20 years or less after the inclusion of the de minimis enhancement
 - This projection will reflect the latest known investment return for the current fiscal year and assumed returns for future years
 - FYE 2023 currently projected at 5%

2023 De Minimis Enhancement – April Meeting



- In 2023, the amount of de minimis enhancement that may be considered is:
 - 1% of \$83.0 billion = \$830 million
- With the de minimis enhancement, STRS is projected to become fully funded within 20 years
- Therefore, this enhancement would not materially impair the fiscal integrity of the system





- Cheiron definition of Fiscal Integrity
- Should the SBEP tests be revised?
- Can the de minimis threshold test be exceeded?
- When will a meaningful enhancement be available?



*The Board may adjust the benefits of the System if the Board actuary determines that the adjustment **does not materially impair** the fiscal integrity of the system, or is necessary to preserve the fiscal integrity of the system*

Fiscal integrity of the system

- Not defined in legislation
- General actuarial principals include:
 - Ability to withstand financial shocks
 - Expected improvement in the Plan's funded ratio



- Should the SBEP tests be revised?
 - We are not revising any of the SBEP tests
- Can the de minimis threshold test be exceeded?
 - Cheiron strongly believes that once a metric is selected it establishes a line that should never be breached
 - Once breached a dangerous precedent is established
 - Moving the metric represents a material risk to the fiscal integrity of the system
 - Is 1% of assets the appropriate metric for de minimis enhancement?
 - At this time, Cheiron believes it is

When will a meaningful enhancement be available?



- Dependent on the conditions of the system
- Less than expected asset return in FYE 2022 and projected for FYE 2023 make more significant enhancements a material risk to fiscal integrity
- Better than expected return will increase the budget for enhancements
- Incremental enhancements will reduce future SBEP budgets
- Projections can help the Board understand the impact of current decisions on future conditions



LIVE MODELING



Enhancement Option Analysis



- As requested by the Board, budget impact for potential enhancements is shown in the following table
 - Limited to enhancements which do not require legislative action
 - Options within de minimis enhancement value shown

Plan Enhancement Analysis – 2023 Options



| <u>Enhancement</u> | <u>First Year COLA</u> | <u>Future Years COLA</u> | <u>ER Contrib</u> | <u>EE Contrib</u> | <u>Elig. Unred</u> | <u>SBEP Budget Impact (\$M)</u> |
|---|------------------------|--------------------------|-------------------|-------------------|--------------------|---------------------------------|
| Baseline - Actual | - | - | 14% | 14% | 35 yrs | |
| Contributions | | | | | | |
| Decrease EE contributions by 0.6% | - | - | 14% | 13.4% | 35 yrs | \$ 794 |
| COLA | | | | | | |
| One-time Permanent 1.8% | 1.8% | No | 14% | 14% | 35 yrs | \$ 821 |
| Combinations | | | | | | |
| Decrease EE cont 0.3%, One-time COLA 0.9% | 0.9% | No | 14% | 13.7% | 35 yrs | \$ 808 |
| One-time COLA 1%, Temp 34 yr Elig Unreduced | 1.0% | No | 14% | 14% | 34 yrs* | \$ 825 |

* Temporary period allowing unreduced retirement at 34 years through 7/31/2028 (5 additional years)

Plan Enhancement Analysis Details



| Enhancement | First Year COLA | Future Years COLA | ER Contrib | EE Contrib | Elig. Unred | SBEP Budget Impact (\$B) |
|---------------------------------|-----------------|-------------------|------------|------------|-------------|--------------------------|
| Baseline - Actual | - | - | 14% | 14% | 35 yrs | |
| Contributions | | | | | | |
| 1.1 - Increase 1%** | - | - | 14% | 15% | 35 yrs | \$ (1.32) |
| 1.2 - Decrease 1% | - | - | 14% | 13% | 35 yrs | \$ 1.32 |
| COLA | | | | | | |
| 2.1 - 3% Ongoing Annual | 3% | 3% | 14% | 14% | 35 yrs | \$ 20.93 |
| 2.2 - 2% Ongoing Annual | 2% | 2% | 14% | 14% | 35 yrs | \$ 13.96 |
| 2.3 - 1% Ongoing Annual | 1% | 1% | 14% | 14% | 35 yrs | \$ 6.98 |
| 2.4 - One-time Permanent 3% | 3% | No | 14% | 14% | 35 yrs | \$ 1.37 |
| 2.5 - One-time Permanent 2% | 2% | No | 14% | 14% | 35 yrs | \$ 0.91 |
| 2.6 - One-time Permanent 1% | 1% | No | 14% | 14% | 35 yrs | \$ 0.46 |
| 2.7 - 2% Ongoing, up to \$40k** | 2%* | 2%* | 14% | 14% | 35 yrs | \$ 11.42 |
| Eligibility | | | | | | |
| 3.1 - Points Rule of 90** | No | No | 14% | 14% | 90 pts | \$ 3.40 |
| 3.2 - Points Rule of 92** | No | No | 14% | 14% | 92 pts | \$ 2.30 |
| 3.3 - Points Rule of 94** | No | No | 14% | 14% | 94 pts | \$ 1.33 |
| 3.4 - 34 years | No | No | 14% | 14% | 34 yrs | \$ 1.14 |
| 3.5 - 33 years | No | No | 14% | 14% | 33 yrs | \$ 2.27 |
| 3.6 - 32 years | No | No | 14% | 14% | 32 yrs | \$ 3.23 |
| 3.7 - 31 years | No | No | 14% | 14% | 31 yrs | \$ 3.96 |
| 3.8 - 30 years | No | No | 14% | 14% | 30 yrs | \$ 4.44 |

* The annual COLA granted would be limited to 2% of \$40,000.

** Additional legislative, legal, and actuarial analysis may be required for these enhancement

Required Disclosures



The purpose of this presentation is to present actuarial the valuation results for the State Teachers Retirement System of Ohio. This presentation is for the use of the Board and System staff.

In preparing our presentation, we relied on information, some oral and some written, supplied by the State Teachers Retirement System of Ohio. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The actuarial assumptions, data, and methods are those used in the preparation of the Actuarial Valuation Report as of June 30, 2022.

The assumptions reflect our understanding of the likely future experience of the System, and the assumptions as a whole represent our best estimate for the future experience of the System. The results of this presentation are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the System could vary from our results.

Cheiron utilizes and relies upon ProVal, an actuarial valuation software leased from Winklevoss Technologies for the intended purpose of calculating liabilities and projected benefit payments. Projected results of future valuations in this presentation were developed using P-scan, our proprietary tool for the intended purpose of developing projections. As part of the review process for this presentation, we have performed a number of tests to verify that the results are reasonable and appropriate. We are not aware of any material inconsistencies, unreasonable output resulting from the aggregation of assumptions, material limitations or known weaknesses that would affect this presentation.

We hereby certify that this presentation and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this presentation. This presentation does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

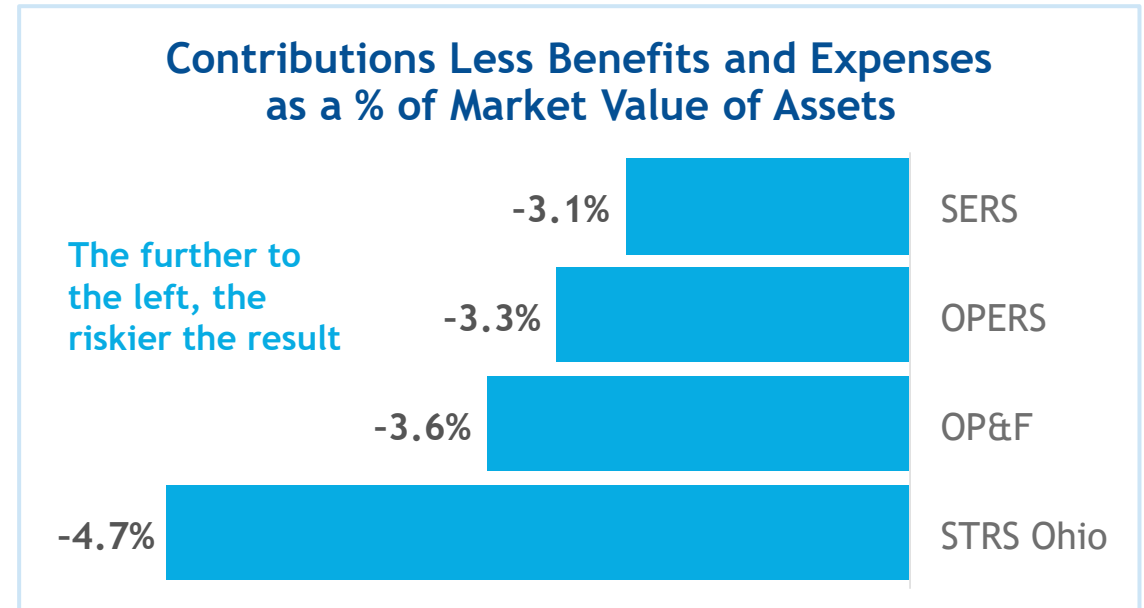
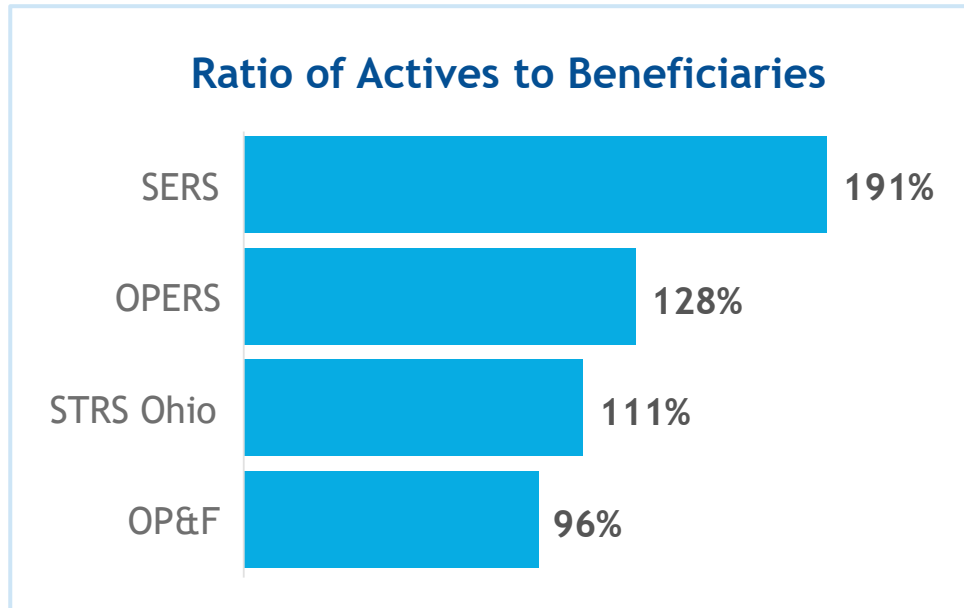
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Ohio Systems Funding Review

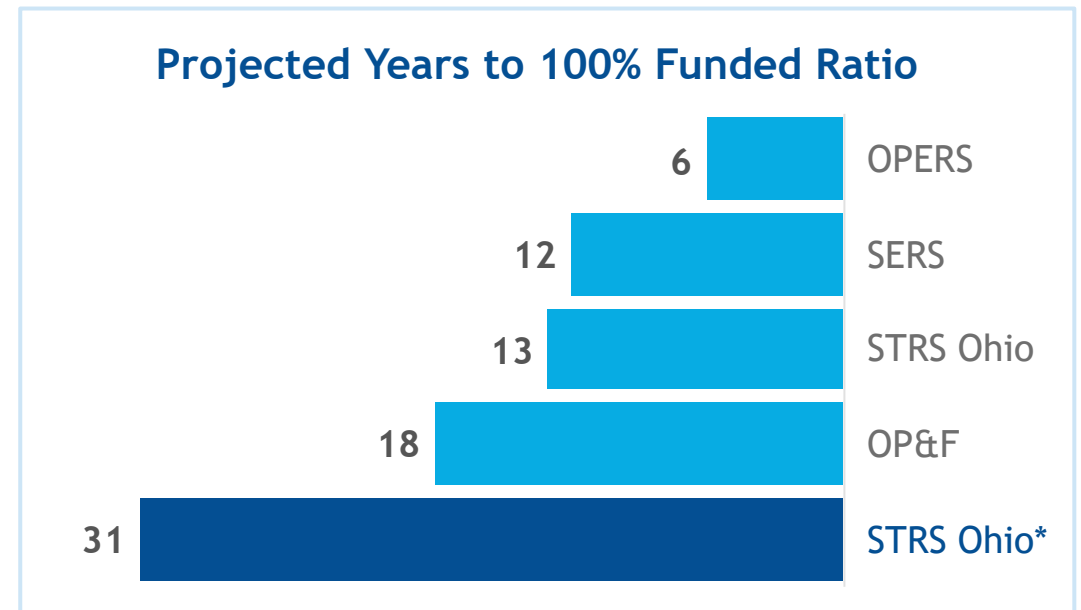
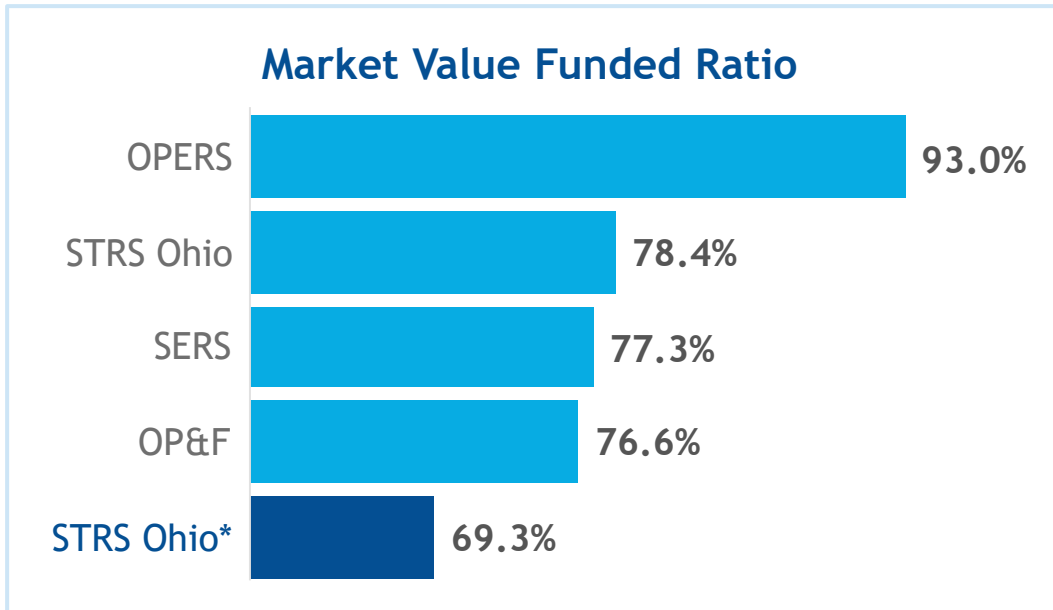
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- **Question: How does STRS Ohio’s funding compare to the other Ohio funds?**
 - Each system has its own level of risk, demographics and decades of decisions
 - Some are more vulnerable to adverse events than others – we refer to this as “maturity”



- Results are as of most recent actuarial valuation (6/30/2022 for STRS Ohio and SERS, 12/31/2021 for OPERS and OP&F)
- Measurements are based on market value, and projections use the systems’ own actuarial assumptions

- **STRS Ohio current funded status looks similar to SERS and OP&F, but results look very different if STRS Ohio paid an ongoing 2% COLA**



***Impact of a hypothetical 2% ongoing COLA**

- Results are as of most recent actuarial valuation (6/30/2022 for STRS Ohio and SERS, 12/31/2021 for OPERS and OP&F)
- Projected years to 100% funded ratio uses market value and assumes current contribution rates (and allocation to UAAL) remain the same in all future years, and that all results match plans' assumptions

Estimated Treadwater Rate for Ohio Systems



| Treadwater Rate | STRS Ohio | SERS | OPERS | OP&F | STRS Ohio (2% hypothetical ongoing COLA) |
|---------------------------|---------------|---------------|---------------|---------------|---|
| | Fiscal 2022 | Fiscal 2022 | Calendar 2021 | Calendar 2021 | Fiscal 2022 |
| Normal cost | 10.60% | 10.80% | 14.40% | 16.40% | 11.70% |
| UAAL on MV basis* | \$22,230,126 | \$ 4,978,363 | \$ 8,306,015 | \$ 5,740,659 | \$35,760,126 |
| Discount rate | 7.00% | 7.00% | 6.90% | 7.50% | 7.00% |
| Interest on UAAL* | \$ 1,556,109 | \$ 348,485 | \$ 573,115 | \$ 430,549 | \$ 2,503,209 |
| Payroll* | \$12,224,438 | \$ 3,994,658 | \$14,382,908 | \$ 2,536,803 | \$12,224,438 |
| Amortization rate | 12.30% | 8.40% | 3.90% | 16.40% | 19.80% |
| Total Treadwater** | 22.90% | 19.20% | 18.20% | 32.70% | 31.50% |

*Dollars in thousands

**Approximation based on a simplified method to allow apples-to-apples comparison



Questions?

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