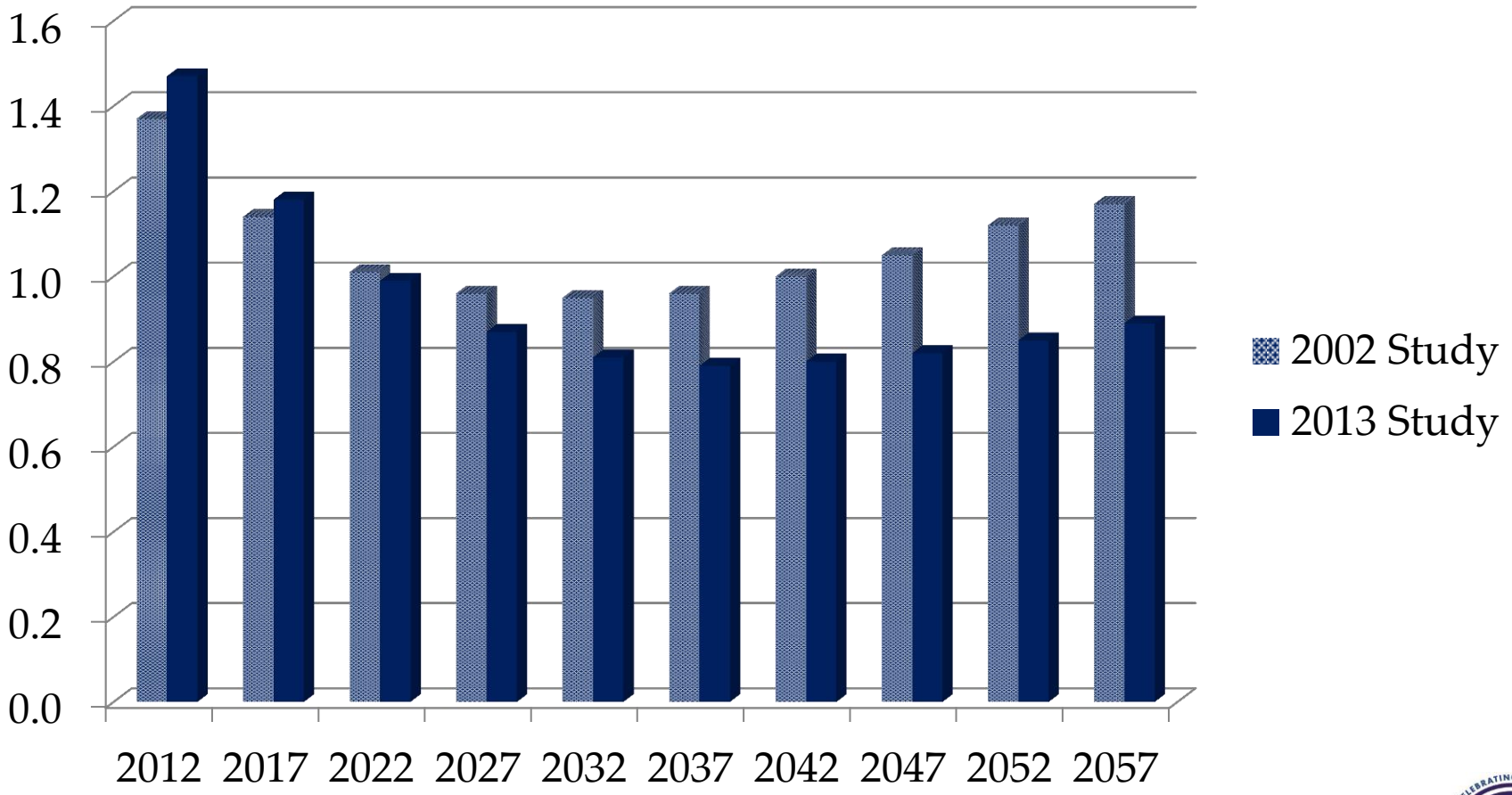
Ratio of Active Members to Retirees



Regular Valuation

- Quantifies commitments with present value liability calculations
- Contains an implied plan for meeting cash flows
- Doesn't disclose specifics of the plan very well

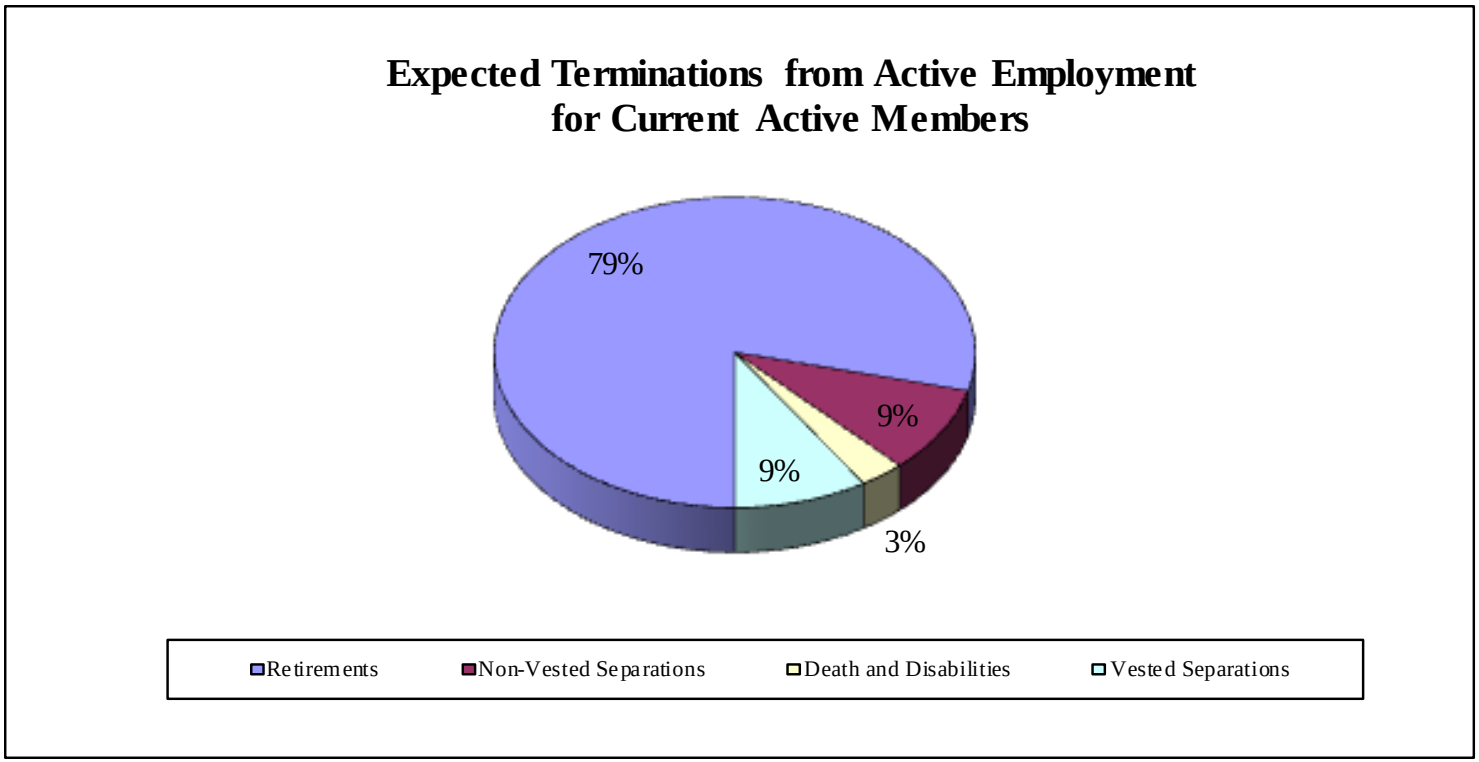
Projection

- Quantifies commitments by projecting year by year cash flows
- Demonstrates how the plan for meeting cash flows is expected to work
- Discloses emerging patterns
- Not a prediction

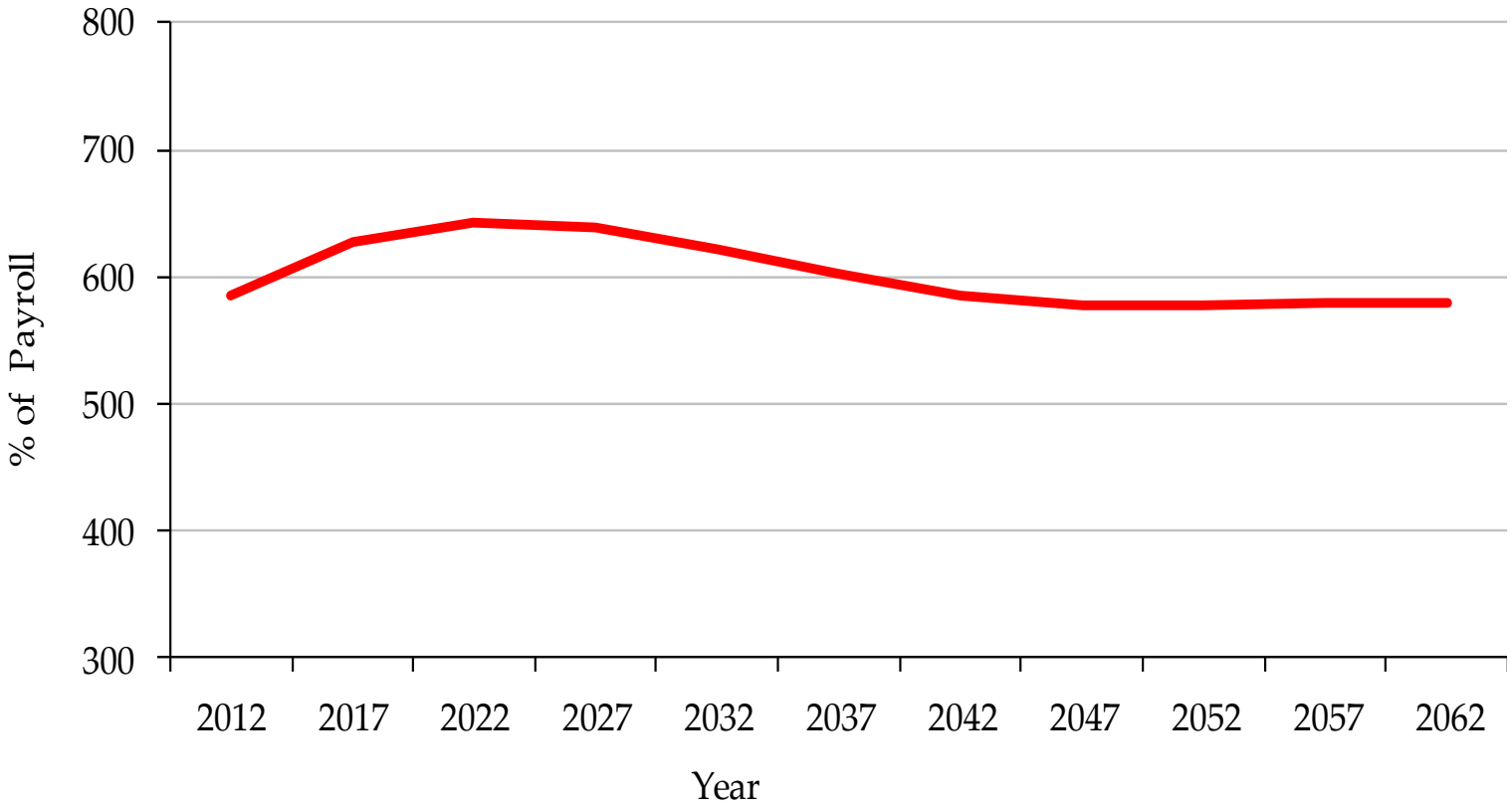
Comments

- WRS is a well funded system (100%)
- Contribution requirements have been remarkably stable
- However, events of the last decade have resulted in prior dividends being taken away. As the number of annuitants with remaining dividends decreased, the effect on individuals was magnified.
- Can this process be improved?

Expected Terminations from Active Employment for Current Active Participants

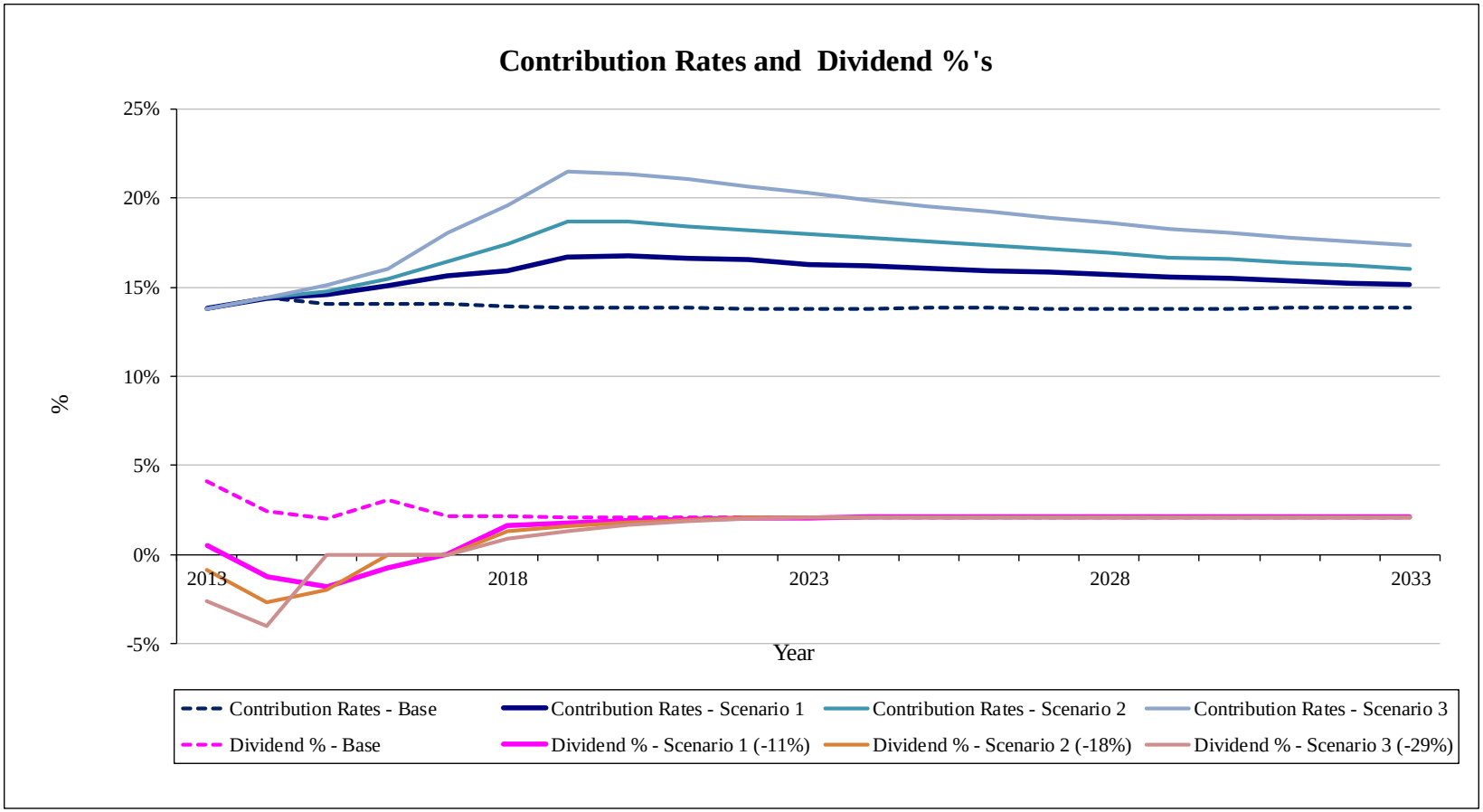


Assets as a Percent of Payroll

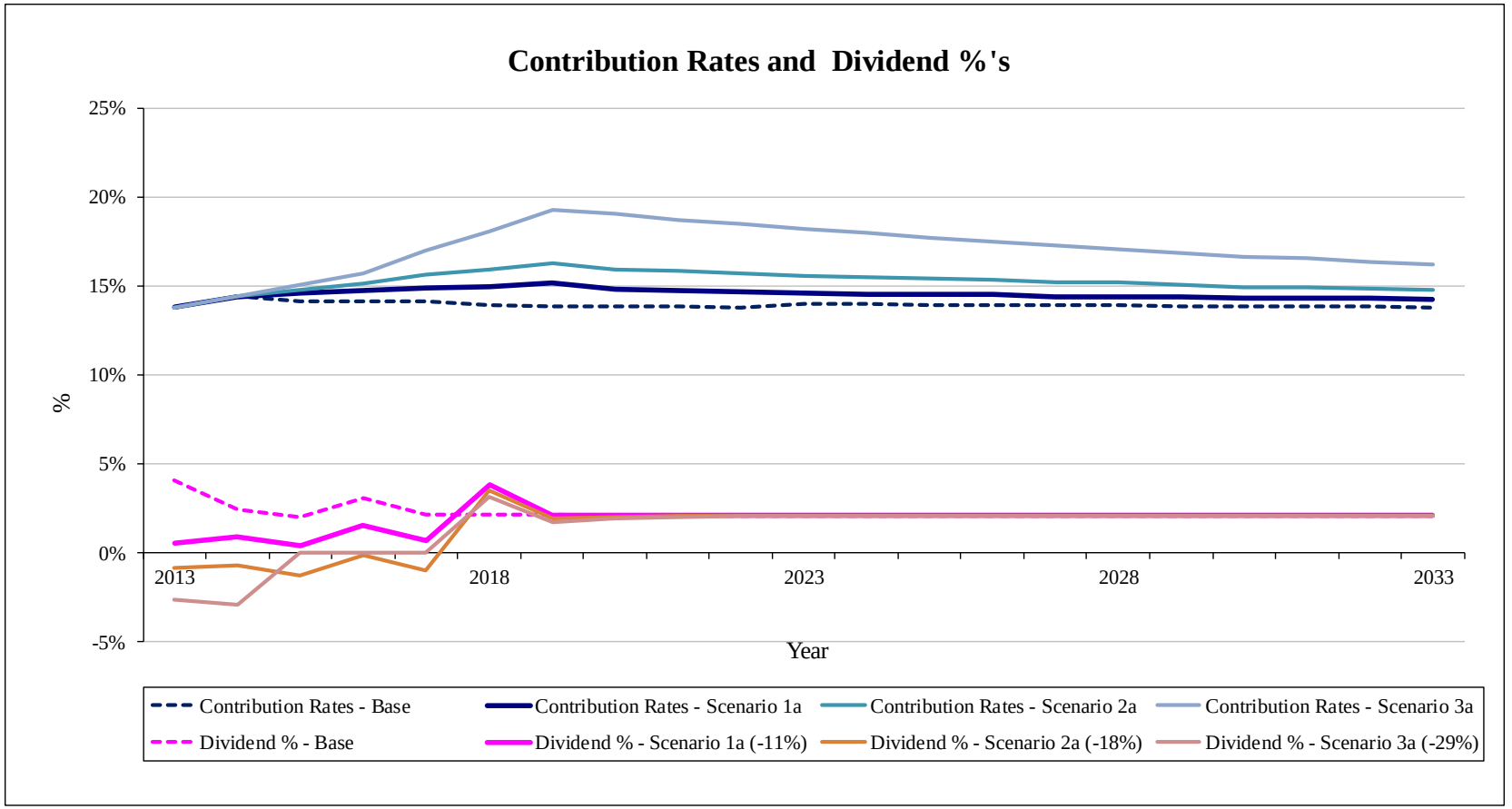


Deterministic Scenario Summary

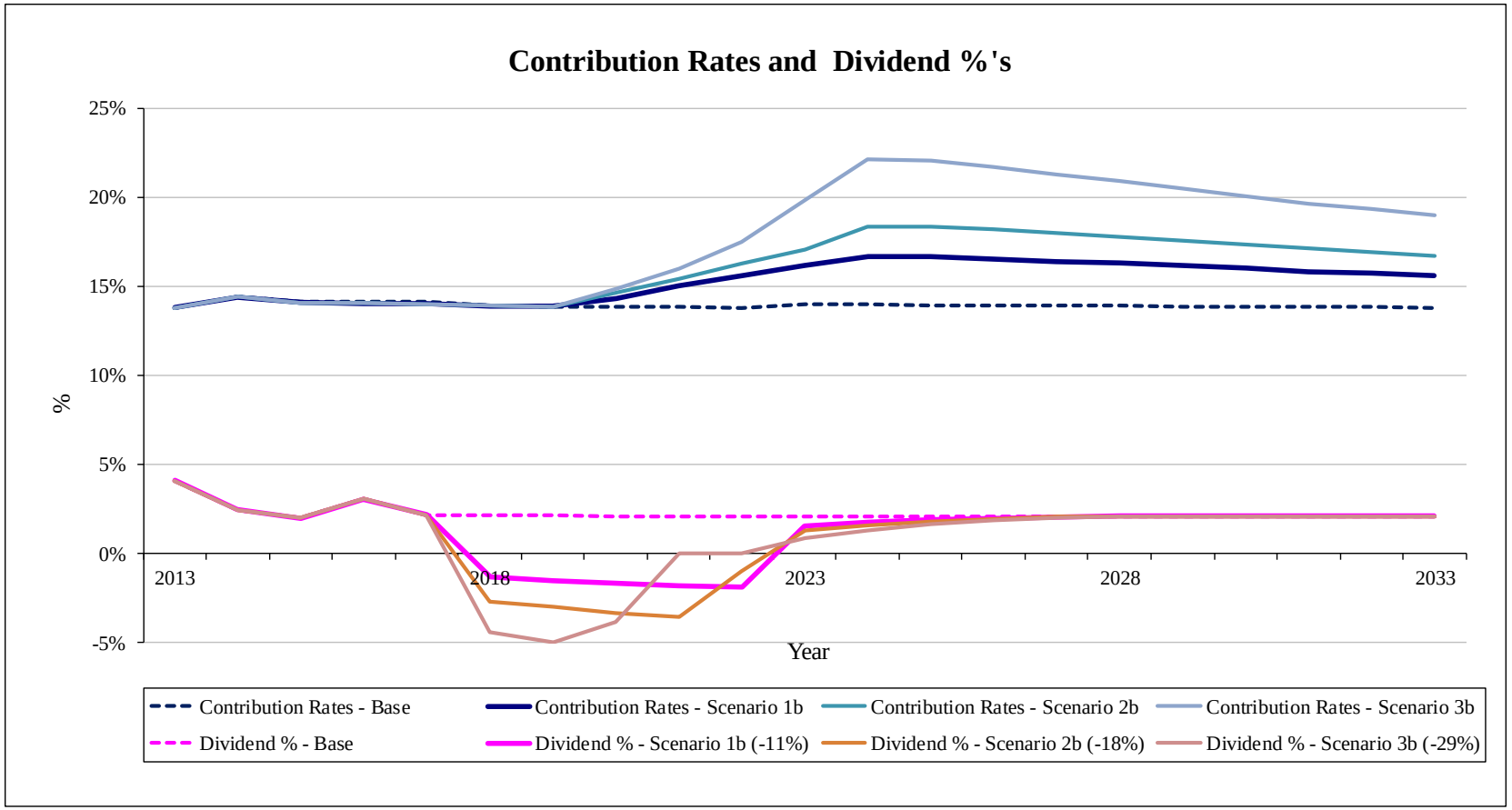
Summary of Scenarios 1 - 3



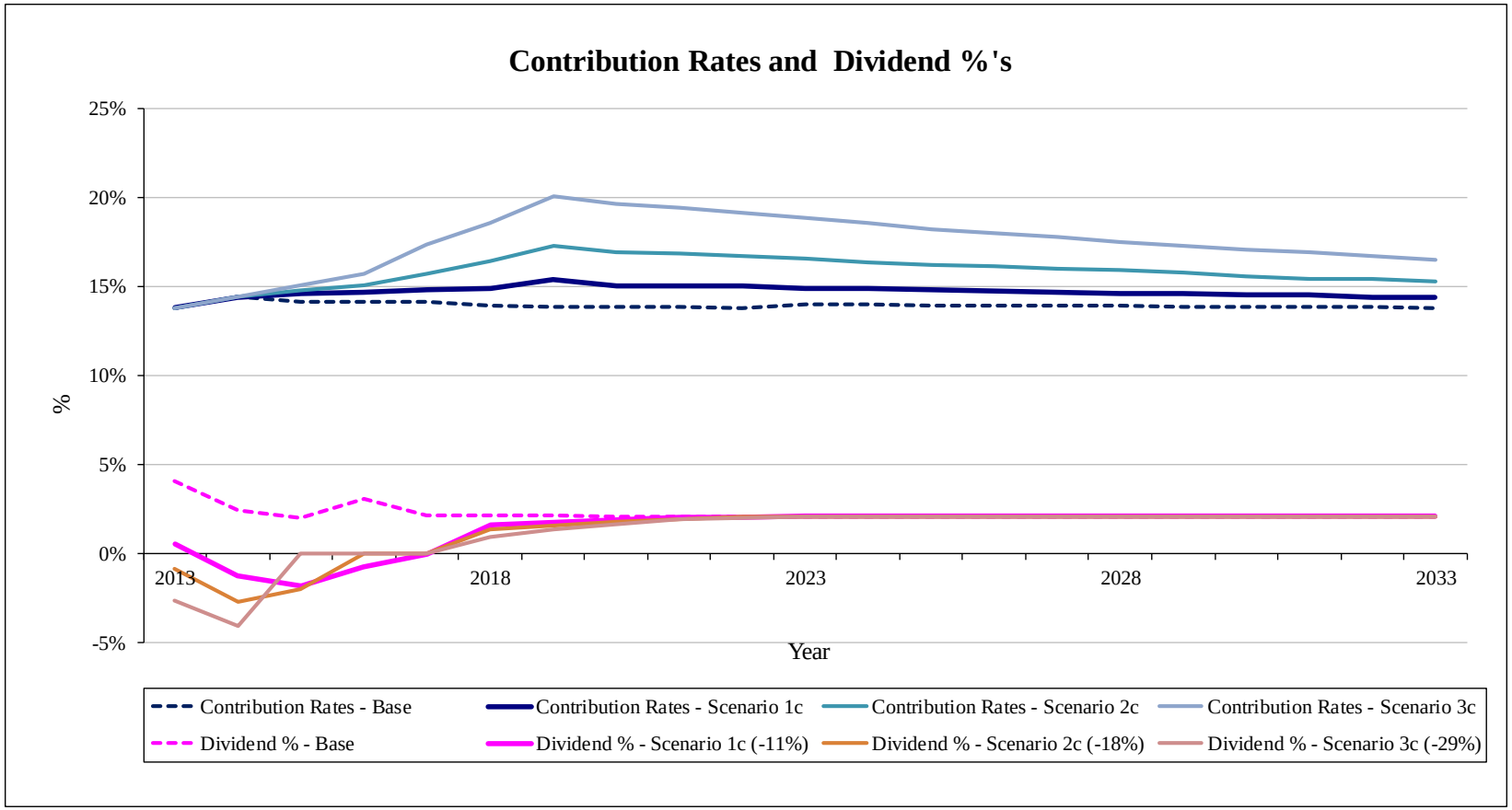
Summary of Scenarios 1a - 3a



Summary of Scenarios 1b - 3b



Summary of Scenarios 1c - 3c



Unfunded Dividend Analysis

Do Nothing

- This course of action assumes that the deficit is a short-term phenomenon that will be made up by investment gains above 5% in the future.
- No dividends would be paid until the "deficit" has been filled.
- This method applies the full cost of the loss to present and near-term future retirees.
- Of course, the conditions that produced the deficit probably affected employer and participant contributions anyway.

Let It Flow Through the EAR

- This method fully funds the retiree reserve with a special reserve transfer.
- The deficit is thereby transferred to the active reserves and is financed over the EAR financing period.
- The method transfers almost the entire cost of the deficit to participants and employers.
- Dividends might resume very rapidly in such a circumstance, perhaps even the next year.

Special Amortization

- Set up a 5-year amortization of the deficit.
- Will affect both participant and employer rates.
- Charge the deficit with 5% interest.
- Credit the deficit with employer and participant amortization contributions and earnings on the retiree reserve above 5%.
- No dividends paid until deficit is paid off.
- This method shifts a portion, but not all of the cost back to employers and active participants.

Deficit Analysis

- Suppose the retiree core fund initially has $40 Billion in assets and liabilities and
- The entire dividend reserve has previously been used up and
- At the end of the year the fund has $36 Billion in assets and $40 Billion in liabilities and
- Going forward all assets earn 7.2%
- How long will it take the assets to catch back up to the liabilities?

Deficit Analysis

- In this case, the fund would have $36 Billion in assets earnings 7.2% each year, 2.2% more than required interest.
- So, an annual payment of 2.2% x $36 Billion, which is $720 Million, could be applied to the $4 Billion deficit.
- Of course, the deficit is also a debt bearing interest at 5%.
- The payoff schedule looks like this.

Deficit Payoff Schedule

Year	Beginning Balance	Interest (5%)	Payment	Ending Balance
1	$ 4,000	$ 200	$ 792	$ 3,408
2	3,408	170	792	2,786
3	2,786	139	792	2,134
4	2,134	107	792	1,448
5	1,448	72	792	729
6	729	36	792	(27)

In this example, the deficit would be extinguished during the sixth year

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Effect of changes to Money purchase benefit on Active member liability

(in $ Billions)

	Executives	Police	Fire	General
Base	0.32	5.12	1.22	40.86
MP interest + 2%	0.35	5.35	1.23	45.55
MP interest – 2%	0.31	5.04	1.22	39.10
EE Contribution + 1%	0.33	5.15	1.22	41.67
EE Contribution – 1%	0.32	5.09	1.22	40.30

Liability moves up faster than down due to members reaching formula benefit