



CAPSTONE

*Building Wealth, Controlling Risk*

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**Money Management Institute  
Annual Convention  
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**Asset Liability Matching**

**Presented by:  
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## ASSET / LIABILITY MATCHING OPPORTUNITIES AND CHALLENGES

- Retirement Plans
- Insurance Company Portfolio Segmentation
- Not-for-profit Healthcare
- Municipal Bond Issuance
- Nuclear Decommissioning Trust



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## ASSET / LIABILITY MATCHING NOT-FOR-PROFIT HEALTHCARE

### Traditional Sources of Capital:

- Operating Earnings                      Not sufficient
- Donations                                      Not reliable
- Equity Markets                              Not available
- Debt                                              Key source of capital



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## RISK AND VOLATILITY

<i>Financial Issues</i>	<i>PAST — LOWER RISK</i>	<i>PRESENT — HIGHER RISK</i>
DEBT	None	<b>High %</b>
GUARANTEES	None	<b>Multiple</b>
INVESTMENT INCOME	None	<b>Subsidizes Operations</b>
LIQUIDITY NEEDS	Predictable	<b>Unpredictable</b>
INVESTMENTS	Fixed Income	<b>Fixed &amp; Equities</b>
PAYOR CONTRACTS	Cost-Based	<b>Multiple Risk-Based</b>



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## ASSET / LIABILITY MANAGEMENT PLAN

1. Identify Risks
2. Identify opportunities to lower risks
3. Identify opportunities to lower cost of capital
4. Develop organizational capacity to continue to measure risks and rewards of A/L management plan



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# HOSPITAL BALANCE SHEET

(MILLIONS of DOLLARS)

<b>ASSETS</b>		<b>LIABILITIES</b>	
INVESTMENTS (SHORT-TERM)	\$100	FIXED RATE DEBT	\$100
PLANT	100	FUND BALANCE	100
<b>TOTAL ASSETS</b>	<b>\$200</b>	<b>TOTAL LIABILITIES/FUND BALANCE</b>	<b>\$200</b>

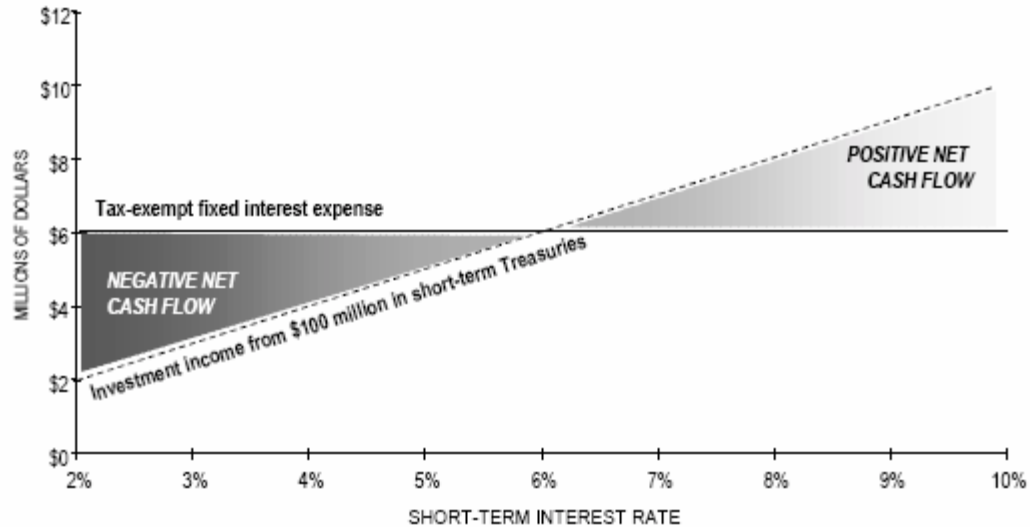


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# UNMATCHED BOOK

## Investment Income and Interest Expense on \$100 million



Unmatched Book					
Cash Flows as Short-term Interest Rates Change Over Time					
(Dollars in Millions)					
Short-term Interest Rate	2%	4%	6%	8%	10%
Investment Income	\$2.0	\$4.0	\$6.0	\$8.0	\$10.0
Interest Expense	\$(6.0)	\$(6.0)	\$(6.0)	\$(6.0)	\$(6.0)
Net Cash Inflow (Outflow)	\$(4.0)	\$(2.0)	\$0	\$2.0	\$4.0



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## IDENTIFY OPPORTUNITIES TO LOWER INTEREST RATE RISK

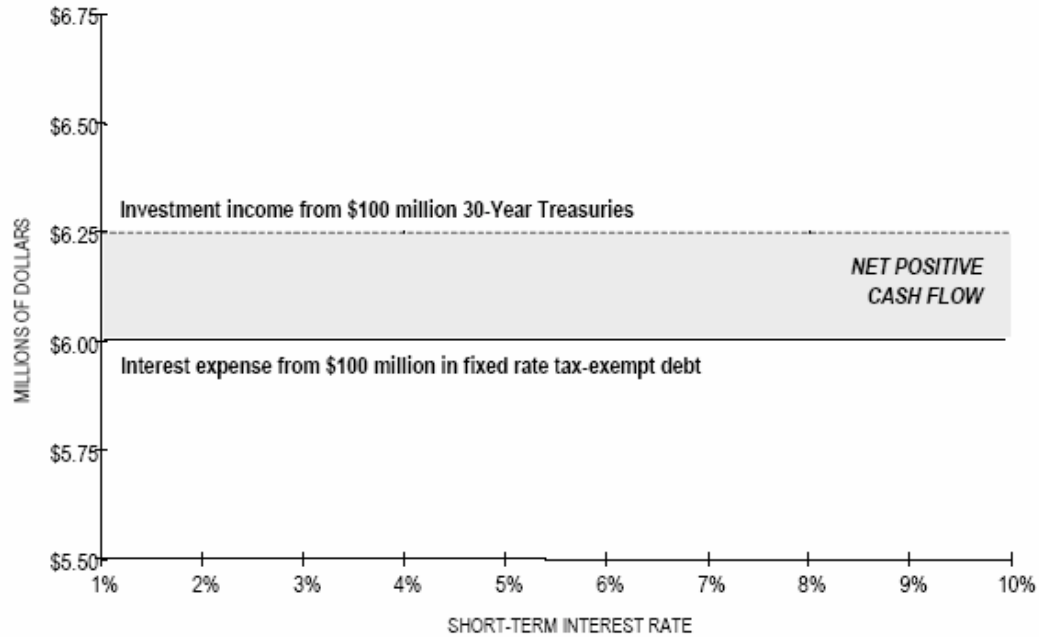
- Matched Fixed – Fixed Position
- Matched Variable – Variable Position



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## MATCHED FIXED - FIXED



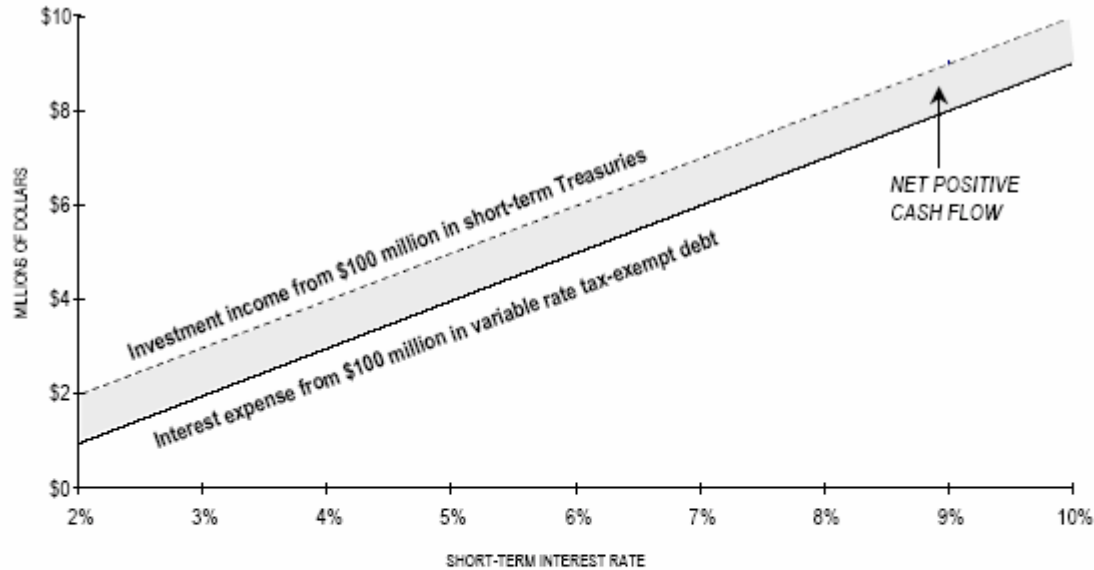
<b>Matched Book Fixed-Fixed</b>					
<b>Cash Flows as Short-term Interest Rates Change Over Time</b>					
<i>(Dollars in Millions)</i>					
Short-term Interest Rate	2%	4%	6%	8%	10%
Investment Income (Taxable)	\$6.25	\$6.25	\$6.25	\$6.25	\$6.25
Interest Expense (Tax-exempt)	\$(6.00)	\$(6.00)	\$(6.00)	\$(6.00)	\$(6.00)
Net Cash Inflow	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25



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## MATCHED VARIABLE - VARIABLE



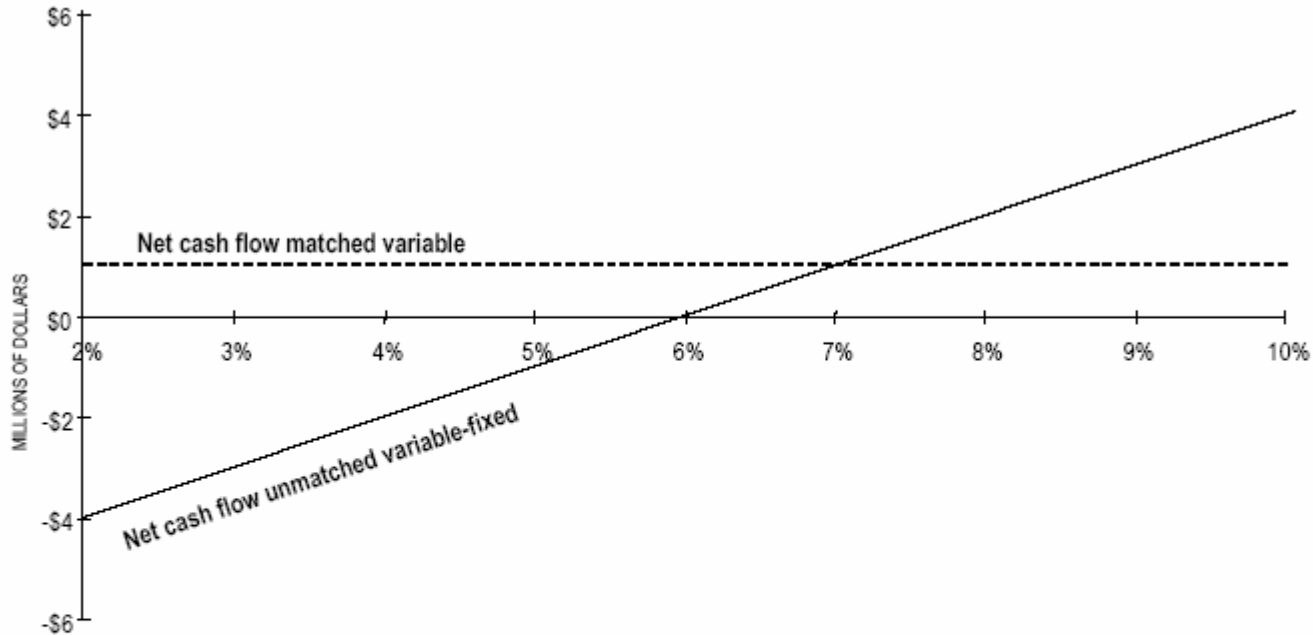
<b>Matched Book Variable-Variable</b>					
<b>Cash Flows as Short-term Interest Rates Change Over Time</b>					
<i>(Dollars in Millions)</i>					
Short-term Interest Rate	2%	4%	6%	8%	10%
Investment Income (Taxable)	\$2.00	\$4.00	\$6.00	\$8.00	\$10.00
Interest Expense (Tax-exempt )	\$(0.95)	\$(2.95)	\$(4.95)	\$(6.95)	\$(8.95)
Net Positive Cash Flow	\$1.05	\$1.05	\$1.05	\$1.05	\$1.05



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## Comparison of Unmatched to Matched Variable Across Different Short-Term Interest Rates



<b>Comparison of Matched Variable-Variable to Unmatched Position</b>					
<b>Cash flows as Short-term Interest Rates Change Over Time</b>					
(Dollars in Millions)					
Short-term Interest Rate	2%	4%	6%	8%	10%
Matched Variable-Variable (Net Cash Flow)	\$1.05	\$1.05	\$1.05	\$1.05	\$1.05
Unmatched Variable-Fixed (Net Cash Flow)	\$(4.00)	\$(2.00)	\$0.00	\$2.00	\$4.00
Matched vs. Unmatched	\$5.05	\$3.05	\$1.05	\$(0.95)	\$(2.95)



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## ROLE OF THE ASSET AND LIABILITY PLAN ADVISOR

- Episodic Approach
- On going Opportunities Approach
- Internal vs. External Management
- On going Monitoring and Communications



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## TRENDS AND COMPLEXITY

Debt:

Short-Term

Intermediate Term

Long Term

Structure:

Variable vs. Fixed Rate

Callable

Potable

Equity