

Cash vs. Limited Term Assets

How to more effectively manage your operating assets

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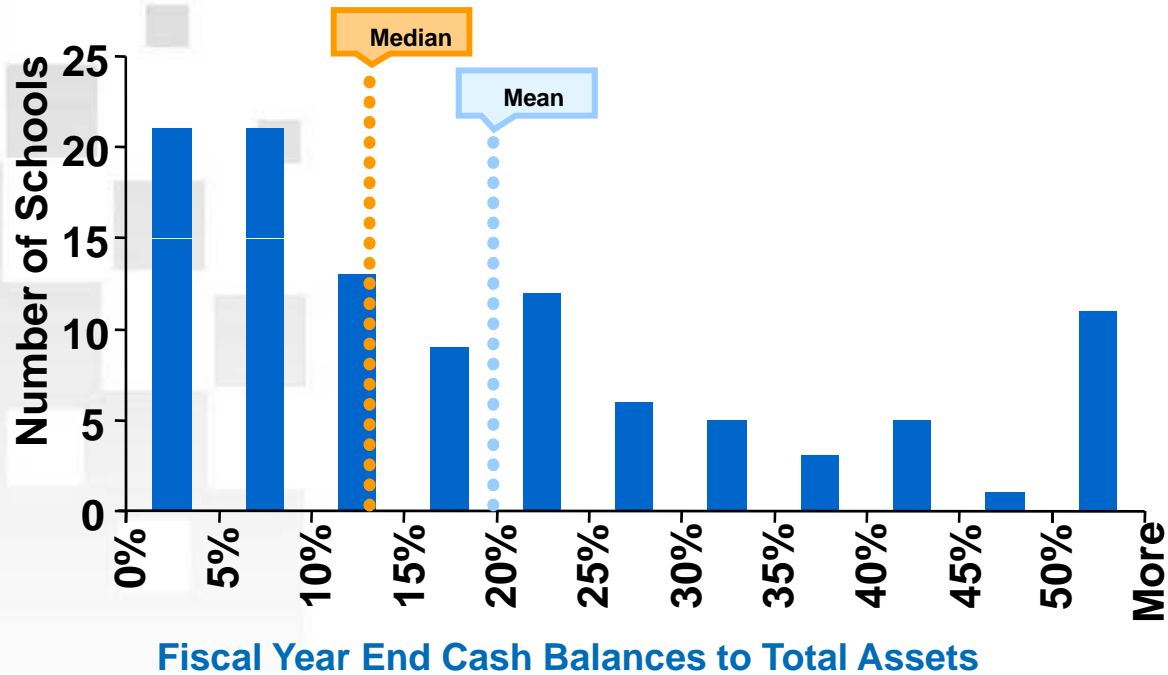
February 13th, 2006



Treasury Institute
for Higher Education

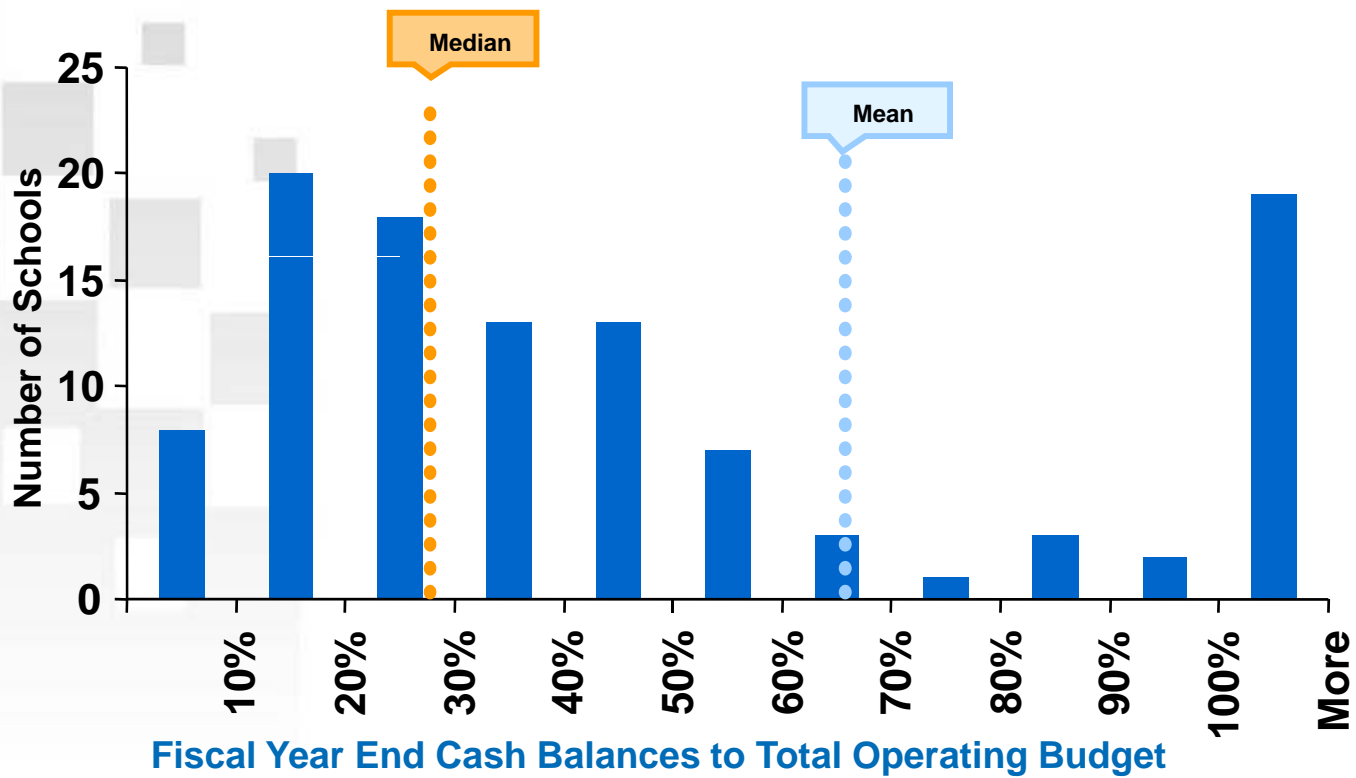


Is Higher Education Too Liquid?



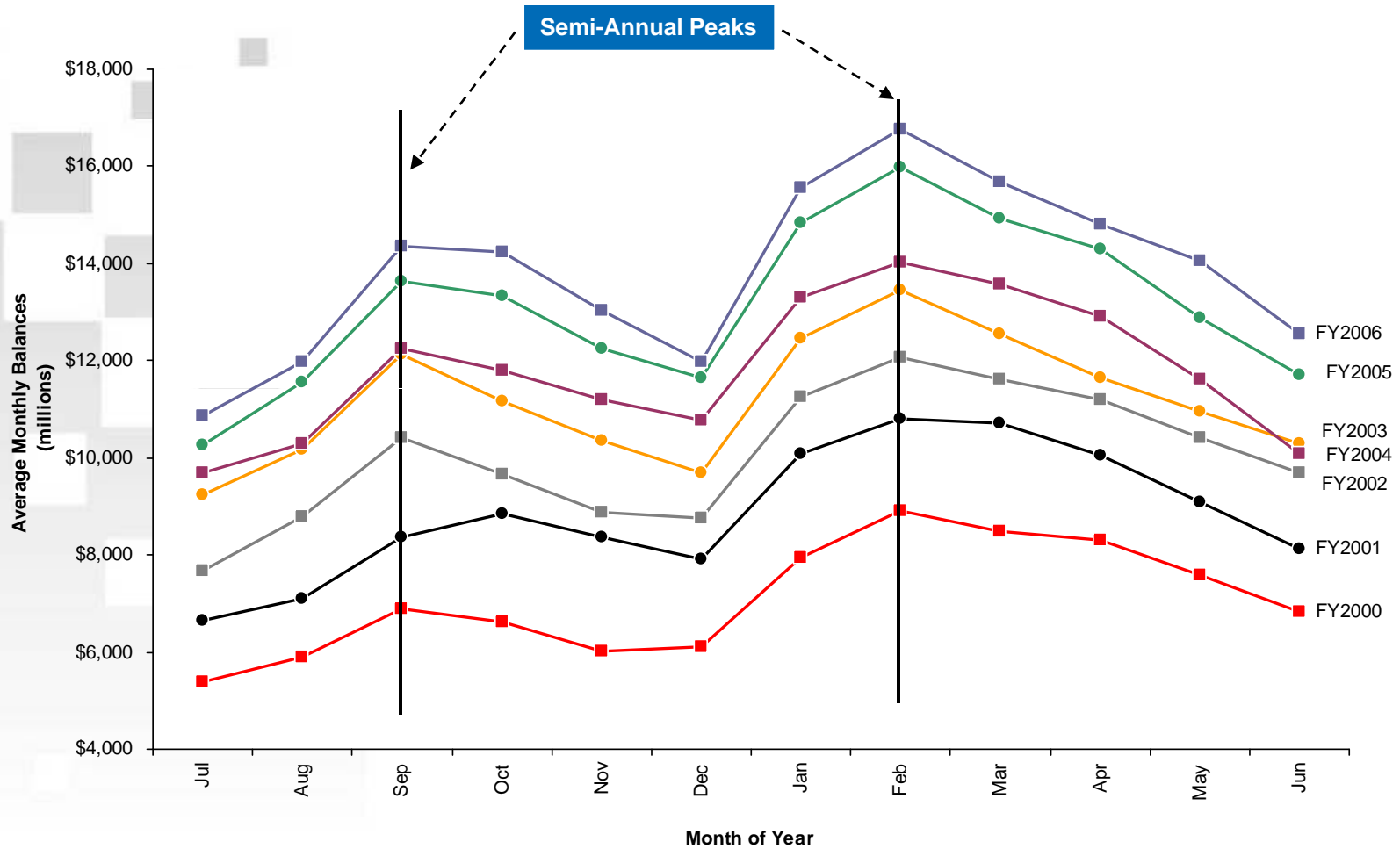
Source: Commonfund Research 2006 (Sample size = 107 large universities, private universities = 64, public universities = 43, financial data from June 30, 2005 statements)

Excess Liquidity in Higher Education



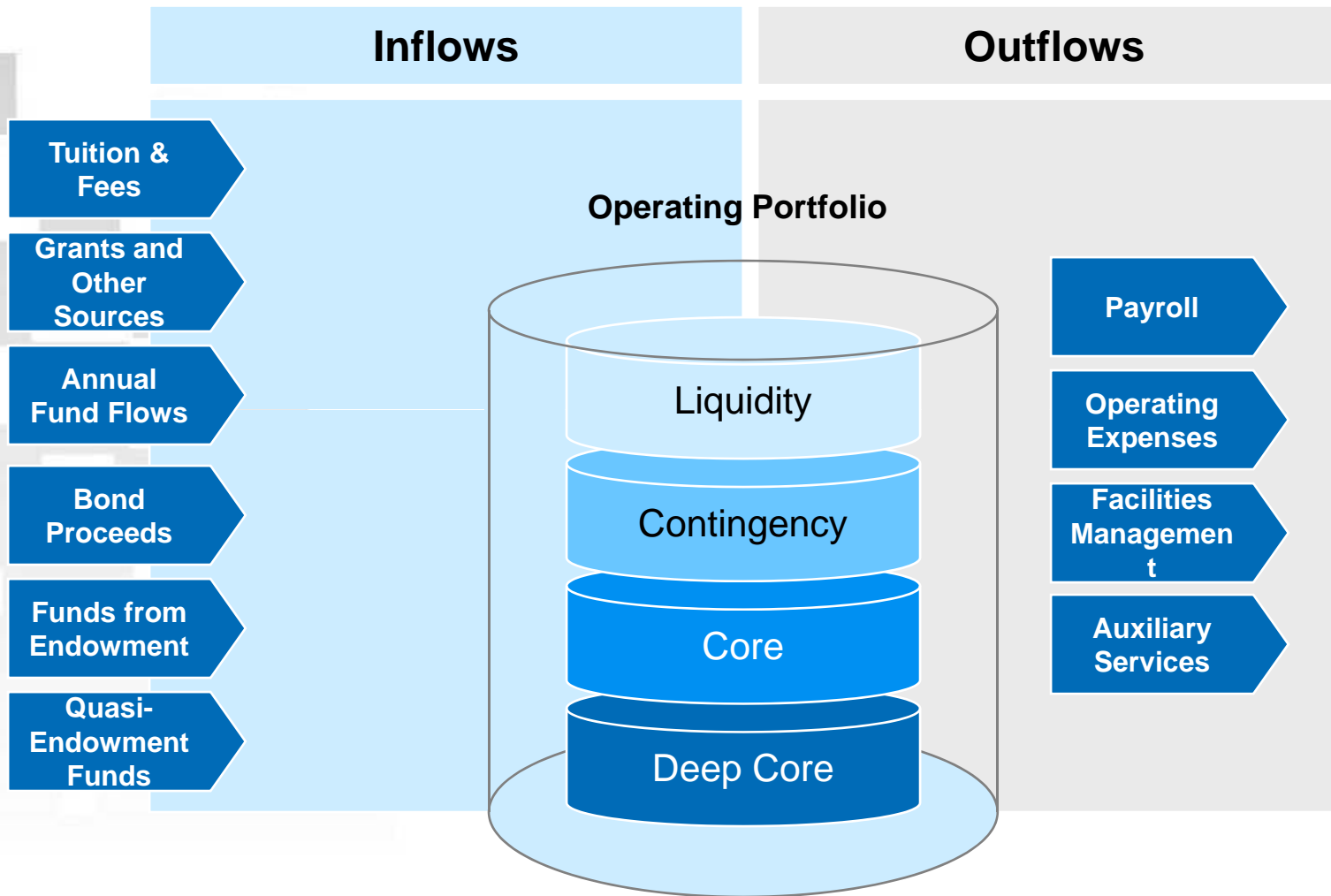
Source: Commonfund Research 2006 (Sample size = 107 large universities, private universities = 64, public universities = 43, financial data from June 30, 2005 statements)

Predictable and Consistent Cash Flows



Source: Commonfund Short Term Fund Average Daily Collected Balances

Liquidity Flows



Liquidity – assets that are accessed on a routine basis

Contingency Assets – assets unlikely to be accessed in the next 1 to 3 years

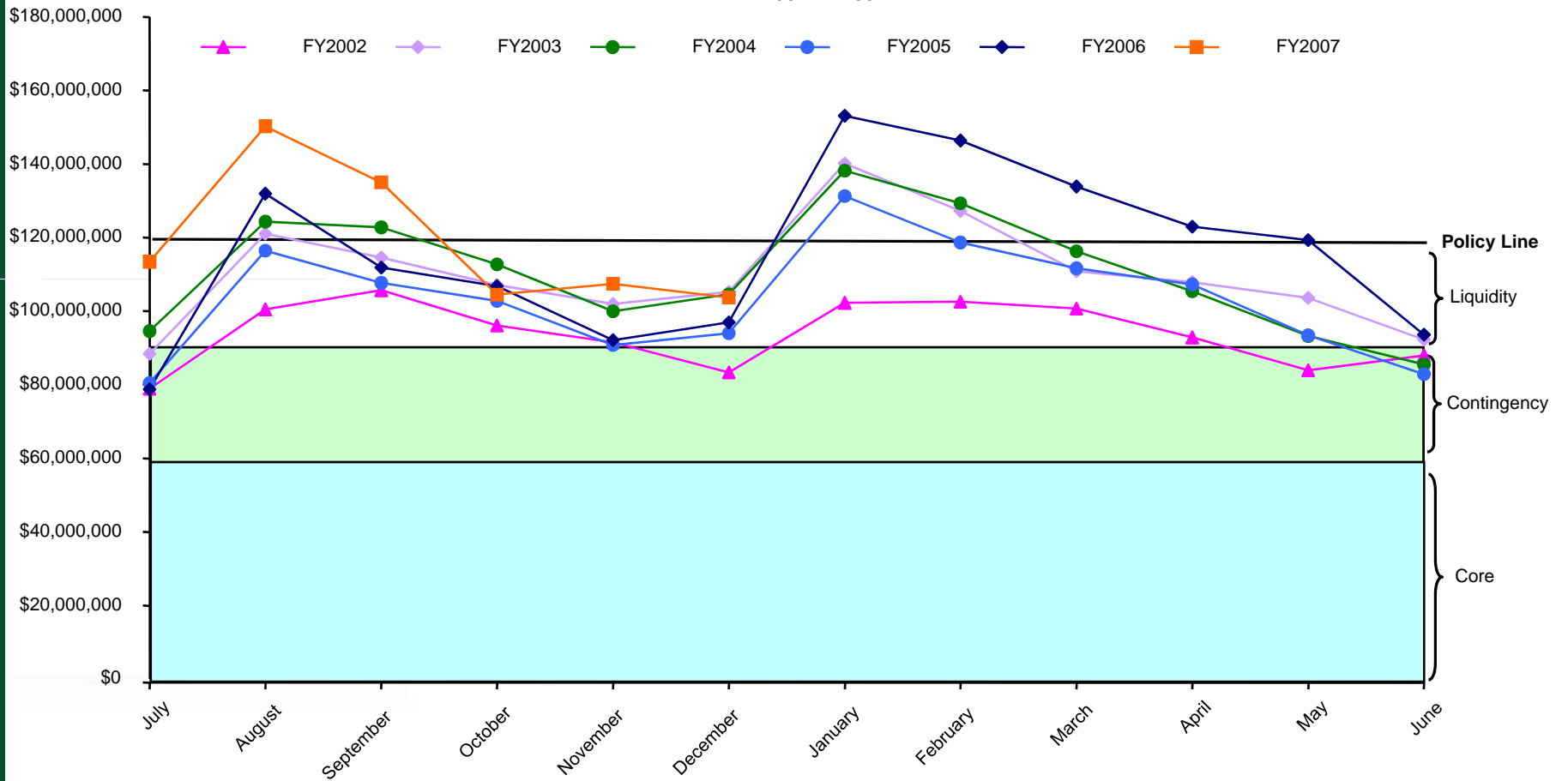
Core Cash – assets not likely to be accessed in the next 3 to 5 years

Deep Core Cash – assets almost never needed

University of Vermont | Identifying Liquidity Needs

University of Vermont

Month End Balances for the Operating Account
FY2002-FY2007



University of Vermont | Cash Flow Analysis and Forecasting

- ◆ Monthly cash flow forecasting since February 2006
 - Projection: first-half and second-half of following month
 - Prepared by 3rd Tuesday of the month
- ◆ Ongoing analysis of liquidity needs
- ◆ Monthly liquidity and asset management discussion

Cash Flow Analysis & Forecast | Inflows

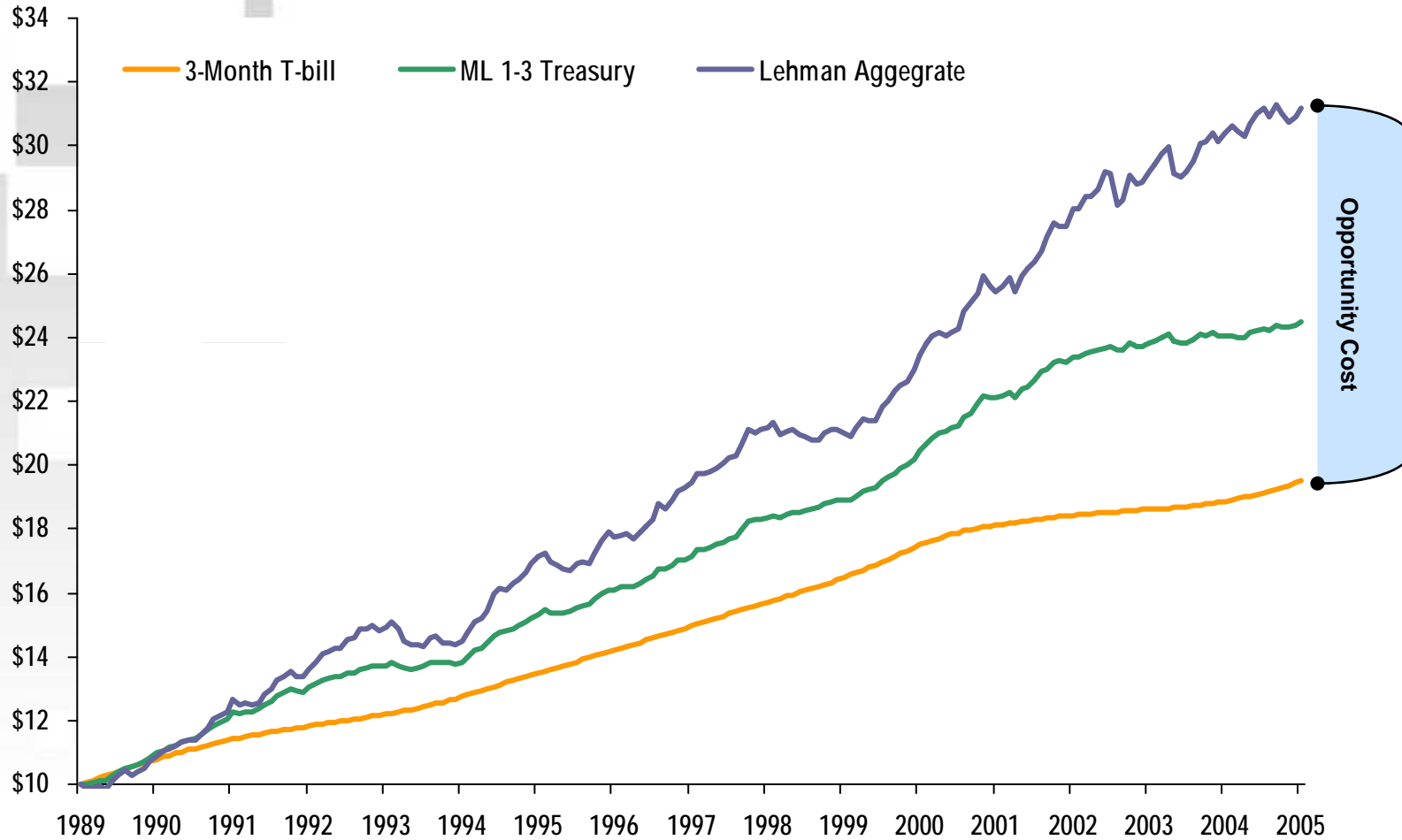
University of Vermont Cash Flow Projection		Inflows Dec 1 – 14	Inflows Dec 15 – 31	December Total
Student Financial Services	Lockbox: Tuition & Fees	1,676,487	12,026,034	13,702,521
	VT Student Assistance Corp	311,508	2,372,374	2,683,882
	Tuition Payment Plan	107,800	2,412,557	2,520,357
	Student Loan Repayments	0	346,020	346,020
	E-Payment: Tuition & Fees	60,166	102,718	162,834
	Federal Aid	0	0	0
General	Bond Project Reimbursement	50,000	6,500,000	6,550,000
	State Appropriation	0	3,403,517	3,403,517
	Commercial Paper Project Reimbursement	0	1,500,000	1,500,000
	Credit Card Bank Transfer	0	720,000	720,000
	Common paymaster - FICA	0	179,815	179,815
G&C Administrative Services	Grants	5,096,894	2,216,452	7,313,346
Endowment Accounting	Endowment	450,000	408,706	858,706
	Investors Bank	119,000	0	119,000
	Distributions	200,000	173,484	373,484
TOTAL IN - FLOWS		8,071,805	32,361,677	40,433,482

Cash Flow Analysis & Forecast | Outflows & Net

University of Vermont Cash Flow Projection		Outflows Dec 1 – 14	Outflows Dec 15 – 31	December Total
Treasury	Accounts Payable	8,843,200	7,713,363	16,556,563
	Net Payroll EFT & Checks	825,671	11,903,840	12,729,511
	Payroll Taxes	229,175	6,505,700	6,734,875
	Blue Cross/Blue Shield	0	3,042,000	3,042,000
	Student Refunds	569,813	1,798,714	2,368,527
	Purchasing Card	1,700,000	0	1,700,000
	Retirement	64,700	1,335,115	1,399,815
	Commercial Paper Interest	88,539	0	88,539
	Workers Comp Claims	24,530	36,450	60,980
	Flexible Spending Claims Reimbursement	43,100	11,700	54,800
	Union Dues	26,900	0	26,900
	USPS Postage Meter	0	23,000	23,000
	Thrift Savings	8,700	8,700	17,400
	Am Ex Travelers Checks	10,000	0	10,000
Arch & Eng Services	Capital Project Expenses	394,000	7,524,000	7,918,000
Endowment Accounting	Endowment	481,562	400,000	881,562
	Capital Calls	190,000	0	190,000
Student Financial Services	VT Student Assistance Corp	8,231	27,400	35,631
TOTAL OUT - FLOWS		13,508,121	40,329,982	53,838,103
NET CASH FLOWS		(5,436,316)	(7,968,305)	(13,404,621)

Opportunity Cost of Liquidity

Growth of a Dollar through December 2005



Source: Commonfund Research 2006

Note – this chart depicts the growth of the specified indices and does not reflect the impact of any fees.

How to Measure Risk

January 1996 through December 2005

	Actual Incidence of Negative Returns Over Period			Min / Max Returns over the Period							
	1-Mo	1-Qtr	1-Yr	1-Mo		1-Qtr		1-Yr		3-Yr	
				Min	Max	Min	Max	Min	Max	Min	Max
3 Month T-Bill Yield	0%	0%	0%	0.1%	0.5%	0.2%	1.6%	1.0%	6.2%	1.3%	5.5%
ML 1-3 Yr US Treasury Index	20%	8%	2%	(1.0)%	1.7%	(1.1)%	3.4%	(0.3)%	10.8%	1.5%	7.5%
Lehman Aggregate Bond Index	28%	21%	5%	(3.4)%	2.7%	(3.0)%	5.8%	(1.9)%	14.6%	3.6%	10.9%

Source: Commonfund Limited Term Assets Report, Bloomberg

Note – This chart depicts historical risk data that may not be indicative of future results, and does not reflect the impact of fees.

Risk/Return Metrics

Metric	Formula	Metric Objective
<p>Sharpe Ratio</p> <p>A risk-adjusted measure, calculated using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe ratio, the better the fund's historical risk-adjusted performance.</p>	$\frac{(\text{Rate of Return}) - (\text{T-Bills})}{\text{Standard Deviation}}$	<p>Focuses on total risk in portfolio.</p>
<p>Sortino Ratio</p> <p>A ratio used to measure risk-adjusted return, with the risk metric being downside deviation.</p>	$\frac{(\text{Rate of Return}) - (\text{T-Bills})}{\text{Downside Deviation}}$	<p>Focuses on <i>downside volatility</i> as a key measure of risk.</p>
<p>Calmar Ratio</p> <p>A risk measure that relates maximum drawdown to annual return.</p>	$\frac{\text{Compounded Annual Return}}{\text{Maximum Drawdown}}$	<p>Focuses on <i>maximum drawdown</i> as key risk metric.</p>

Moving Out The Yield Curve

Historical Scenarios

<i>As of December 31, 2005</i>	1-Year Minimum	Average of 5-year net returns annualized	1-year Maximum	Annual Standard Deviation	Sharpe Ratio	Sortino Ratio	Calmar Ratio
3 Month T-bill Yield	1.0%	3.8%	6.2%	0.5%	-	-	-
Merrill Lynch 1-3 Yr U.S. Treasury Index	(0.3)%	5.5%	10.8%	1.6%	0.67	1.23	4.50
Lehman Aggregate Bond Index	(1.9)%	6.9%	14.6%	3.7%	0.66	1.01	1.73
	Asset Allocation						
	Hypothetical Scenario 1	Hypothetical Scenario 2	Hypothetical Scenario 3				
3 Month T-bill Yield	100%	66.5%	33.3%				
Merrill Lynch 1-3 Yr U.S. Treasury Index	-	33.5%	33.3%				
Lehman Aggregate Bond Index	-	-	33.4%				
Total	100%	100%	100%				
	1-Year Minimum	Average of 5-year returns annualized	1-year Maximum	Annual Standard Deviation	Sharpe Ratio	Sortino Ratio	Calmar Ratio
Hypothetical Scenario 1	1.0%	3.8%	6.2%	0.5%	-	-	-
Hypothetical Scenario 2	0.8%	4.4%	7.2%	0.7%	0.53	1.33	15.03
Hypothetical Scenario 3	0.4%	5.4%	9.8%	1.7%	0.68	1.11	3.75

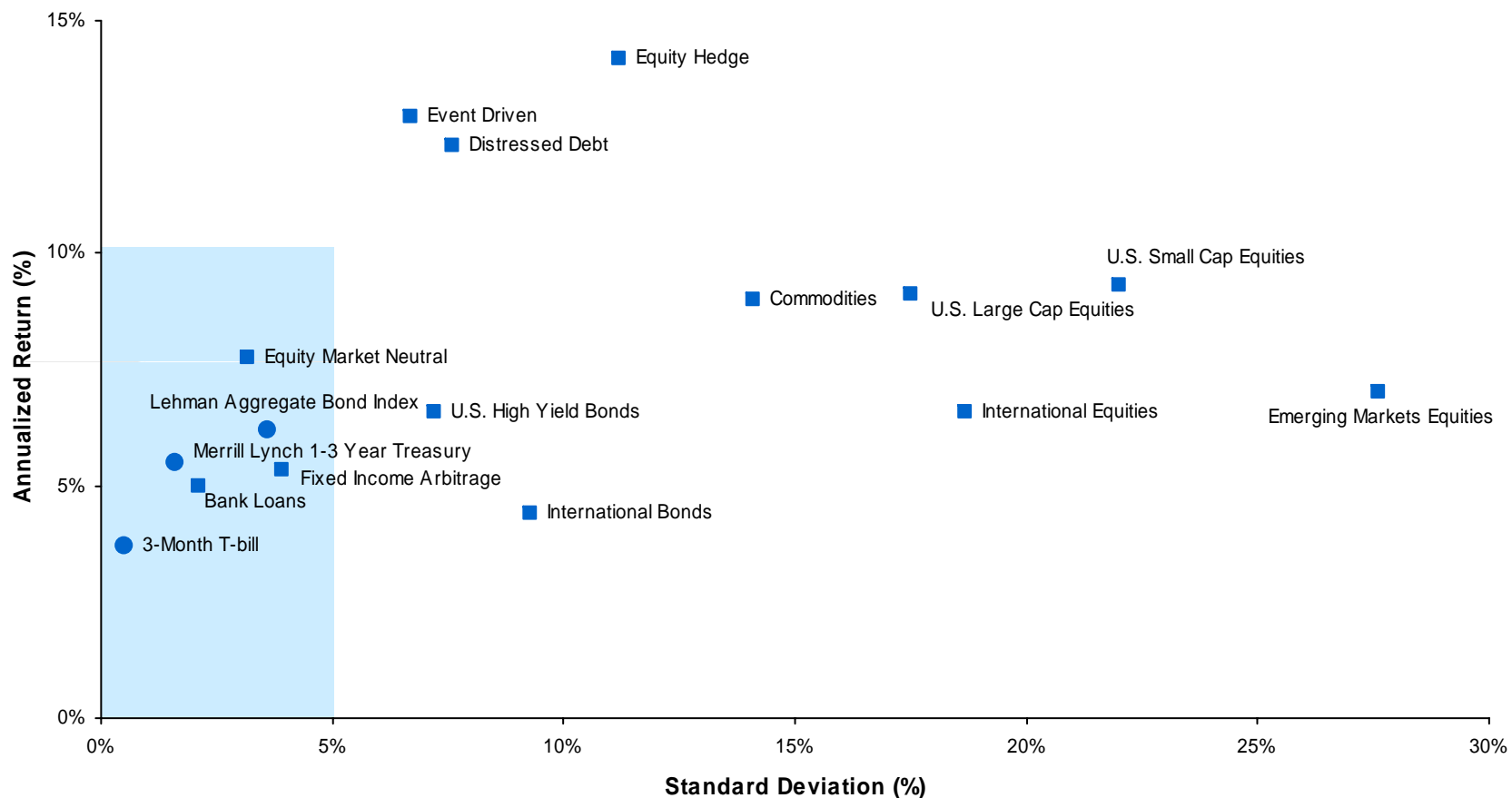
Source: Bloomberg, Commonfund Limited Term Asset Allocation Review. See Limited Term Asset Allocation Review – Important Notes at the end of this presentation. This report reflects historical performance for the period between January 1, 1996 and December 31, 2005, and may not be indicative of future results.

Power of Diversification

As of December 31, 2005	5-Year Rolling Averages		10-Year Annualized			
	5-Year Return (Annualized)	Annual Return in Excess of 3-Mo T-Bill	Annual Standard Deviation	Sharpe Ratio	Sortino Ratio	Calmar Ratio
Merrill Lynch 1-3 Yr U.S. Treasury Index	5.5%	1.8%	1.6%	0.67	1.23	4.52
CSFB Leveraged Loans	5.0%	1.3%	2.1%	0.90	1.26	1.27
Hypothetical Scenario: 50% ML 1-3 and 50% CSFB	5.3%	1.5%	1.1%	1.35	2.51	9.34

Source: Commonfund Limited Term Asset Allocation Review. See Limited Term Asset Allocation Review – Important Notes at the end of this presentation. This report reflects historical performance for the period between January 1, 1996 and December 31, 2005, and may not be indicative of future results.

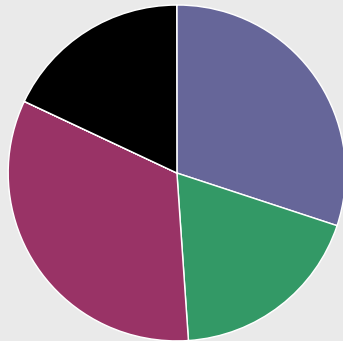
Broadening the Opportunity Set



Source: Style Advisor; Altvest, From January 1996 to December 2005. This chart is for illustrative purposes only, and may not be indicative of future results. The following are the indices used by asset class: U.S. Government Bonds, Lehman Aggregate Bond Index; U.S. High Yield Bonds, Merrill Lynch High Yield Master II; International Bonds, Citigroup World Govt' Bond Index; U.S. Large Cap Equities, S&P 500 Index; U.S. Small Cap Equities, Russell 2000 Index; International Equities, MSCI World Ex-US Index; Emerging Markets Equities, MSCI EMF Index; Distressed Debt, HFRI Distressed Securities Index; Hedge Strategies, HFRI Equity Hedge Index; Commodities, Dow AIG Commodity Index

University of Vermont | Evolution of the Operating Portfolio

Old



Holdings 9/30/2005

Asset Allocation Operating Fund

Fund	Market Value	Current
Short Term Fund	\$33,401,399	30%
Intermediate Term Fund	\$20,882,485	19%
Enhanced Short Duration Fund	--	--
Multi-Strategy Bond Fund	\$37,379,724	33%
Absolute Return Investors Co.	--	--
Bank Account	\$20,183,047	18%
TOTAL	\$111,846,655	100%

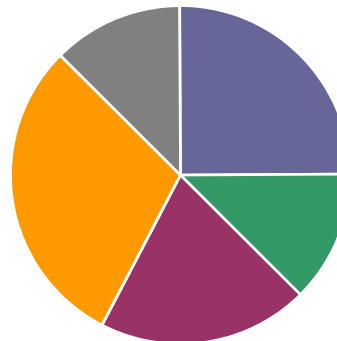
New

Strategic Policy

Asset Allocation Operating Fund

Fund	Market Value	Policy
Short Term Fund	\$30,000,000	25%
Intermediate Term Fund	\$15,000,000	12.5%
Enhanced Short Duration Fund	\$15,000,000	12.5%
Multi-Strategy Bond Fund	\$24,000,000	20%
Absolute Return Investors Co.	\$36,000,000	30%
TOTAL	\$120,000,000	100%

} Liquidity
 } Contingency
 } Core



Holdings 12/31/2006

Asset Allocation Operating Fund

Fund	Market Value	Current
Short Term Fund	\$26,529,137	25%
Intermediate Term Fund	\$4,786,411	5%
Enhanced Short Duration Fund	\$10,184,411	10%
Multi-Strategy Bond Fund	\$23,883,009	23%
Absolute Return Investors Co.	\$38,097,648	37%
TOTAL	\$103,480,923	100%

} Liquidity
 } Contingency
 } Core

Short Term Fund
 Intermediate Term Fund
 Multi-Strategy Bond Fund
 Absolute Return Investors Co.
 Enhanced Short Duration Fund
 Bank Account

Source: Note – this page depicts policy allocations of the University of Vermont and does not constitute a recommendation to any other investor.

University of Vermont | Lessons Learned

- ◆ Even simple cash flow projections add value
- ◆ Concept of Limited Term Asset POOL vs. Operating Cash
 - Flexibility of “Policy”
 - Liquidity / timing access to funds (daily, wkly, mthly)
 - Impact on Short-Term Rate Comparisons
 - Authority to develop Pool of Limited Term Assets
- ◆ Rating agencies’ Liquidity assessments differ
 - What % of each fund is considered liquid?
 - Impact of Liquidity provider arrangement
- ◆ Return on operating assets has a REAL impact on budget

Limited Term Assets Allocation Review | Important Notes

The returns for the hypothetical scenarios assumes a fixed allocation to each asset class that is rebalanced monthly which may not necessarily depict the actual rebalancing process currently taking place at the institution.

The quarterly, yearly and 3-year calculations are based on rolling 3-month, 12-month and 36-month periods.

These hypothetical scenarios are presented for illustrative purposes only, and are not intended as recommendations to any investor.

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