

MSU FINANCIAL ADMINISTRATION: A SYSTEMS APPROACH

Financial Resource Management

Presented by:

Office of Treasury and Financial Management

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Agenda

- **Liquidity**
- **Operating Cash Investments**
- **Cash Management and Banking**
- **Endowments**
- **Debt**

Financial Goals

- **Maintain sufficient cash to meet payroll and spending obligations (liquidity)**
- **Invest operating cash to yield a competitive investment return while bearing minimal principal risk**
- **Maintain debt capacity to meet future borrowing needs**

Office of Treasury & Financial Management



Photo By: Broadcast/Photo, University Relations

Mission Statement:

Provide effective Treasury services including:

- Maximize risk-adjusted returns on investments
- Minimize the risk-adjusted cost of capital
- Administer endowments in accordance with established guidelines
- Provide cash management oversight

www.ifm.msu.edu

MSU's Two Different Liquidity Needs

Operating Liquidity

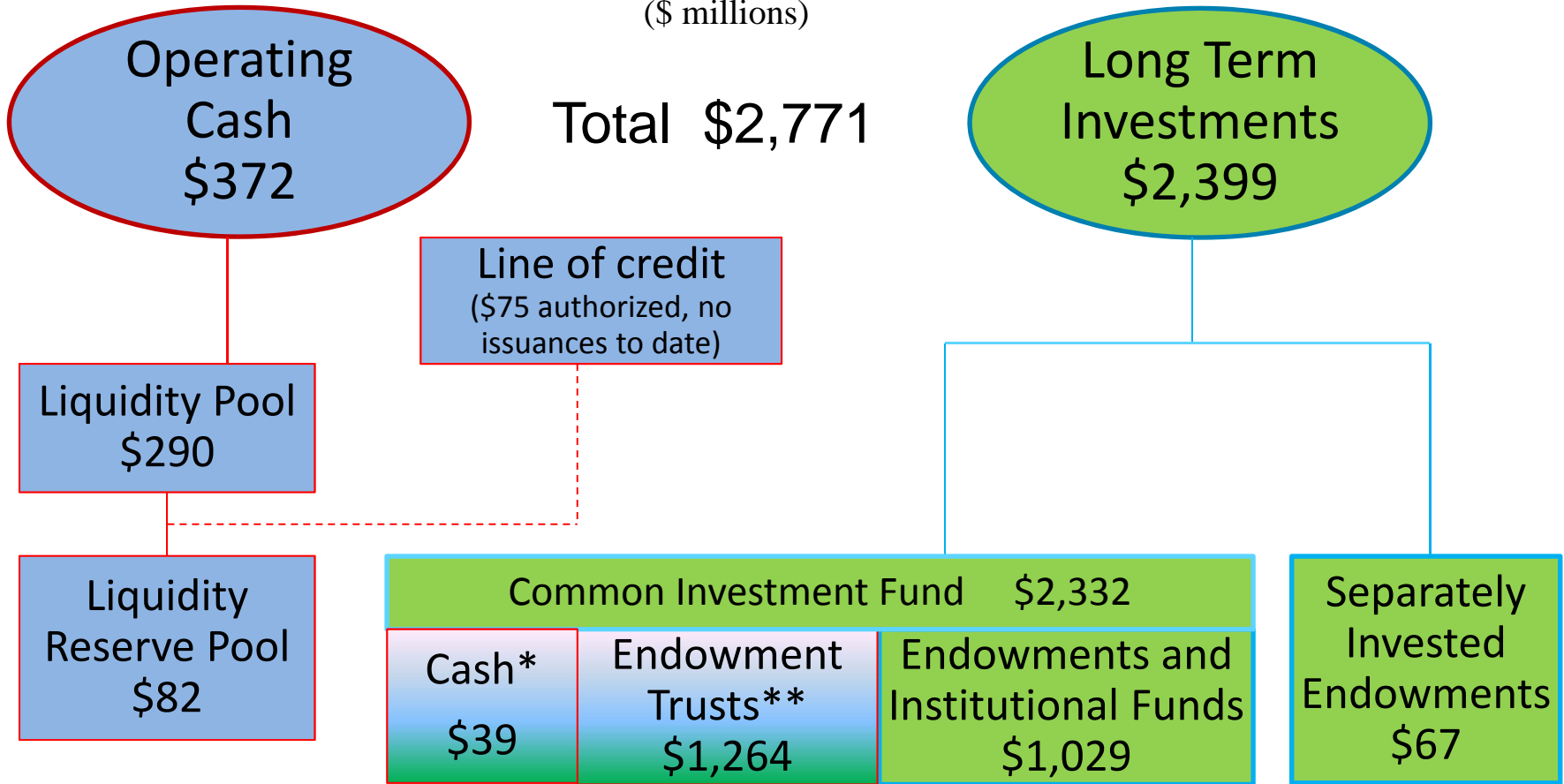
- Comprised of:
 - Liquidity Pool (LP - MSU's checkbook)
 - Liquidity Reserve Pool (LRP – MSU's backup liquidity fund)
- Used for meeting the University's daily cash requirements

Common Investment Fund (CIF) Liquidity

- MSU's long-term investment pool (primarily endowments)
- Administered by MSU's Investment Office effective 1/1/16
- Used for funding CIF capital calls and endowment spending policy distributions

MSU's Cash and Investments Overview at 6/30/16

(\$ millions)



* CIF cash invested in Liquidity Pool pending reallocation to equity and/or fund endowment spending distributions

** Operating cash in excess of liquidity needs invested in CIF long term.

MSU's Cash and Investments As of June 30, 2016

(\$ millions)

Invested In	Total	Purpose	Purpose		
			Long-Term Investments	Short-Term Liquidity	LP & LRP Liquidity Target
Liquidity Pool (30-60 days of Op. Cash)	\$ 290 ⁽¹⁾	-	\$ 290	165-\$331	Within Range
Liquidity Res. Pool (30 days of Op. Cash)	82 ⁽²⁾	-	82	90	(8)
Common Investment Fund CIF	2,332 ⁽³⁾⁽⁴⁾	2,332	-	n/a	n/a
Separately Invested LT Investments	67	67	-	n/a	n/a
Total	\$ 2,771	\$ 2,399	\$ 372	255-\$421	Within Range
Operating Line of Credit	75 ⁽²⁾	-	75	75	-
Total with Operating Line of Credit	\$ 2,846	\$ 2,399	\$ 447	330-\$496	Within Range

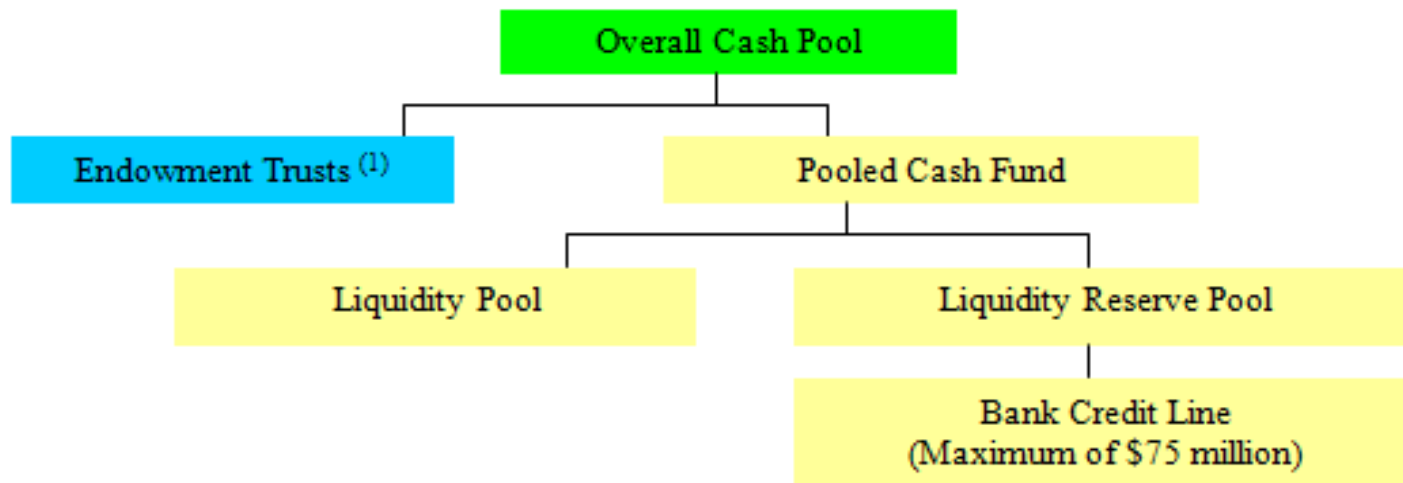
(1) \$30M scheduled for transfer from the LP to the CIF effective quarterly through CY16.

(2) Liquidity Reserve Pool comprised of investments and operating line of credit.

(3) Preliminary balance including internal cash. Certain private investments valued as of 3/31/16 adjusted for cash flows.

(4) As of 7/1/16 the market value of operating cash in excess of liquidity needs and invested long-term in the CIF approximated \$1.3B or 54% of the CIF.

Overall Cash Pool Investment Structure



(1) Invested on a long-term basis with other Institutional Funds in the CIF.

Operating Cash Pool Structure

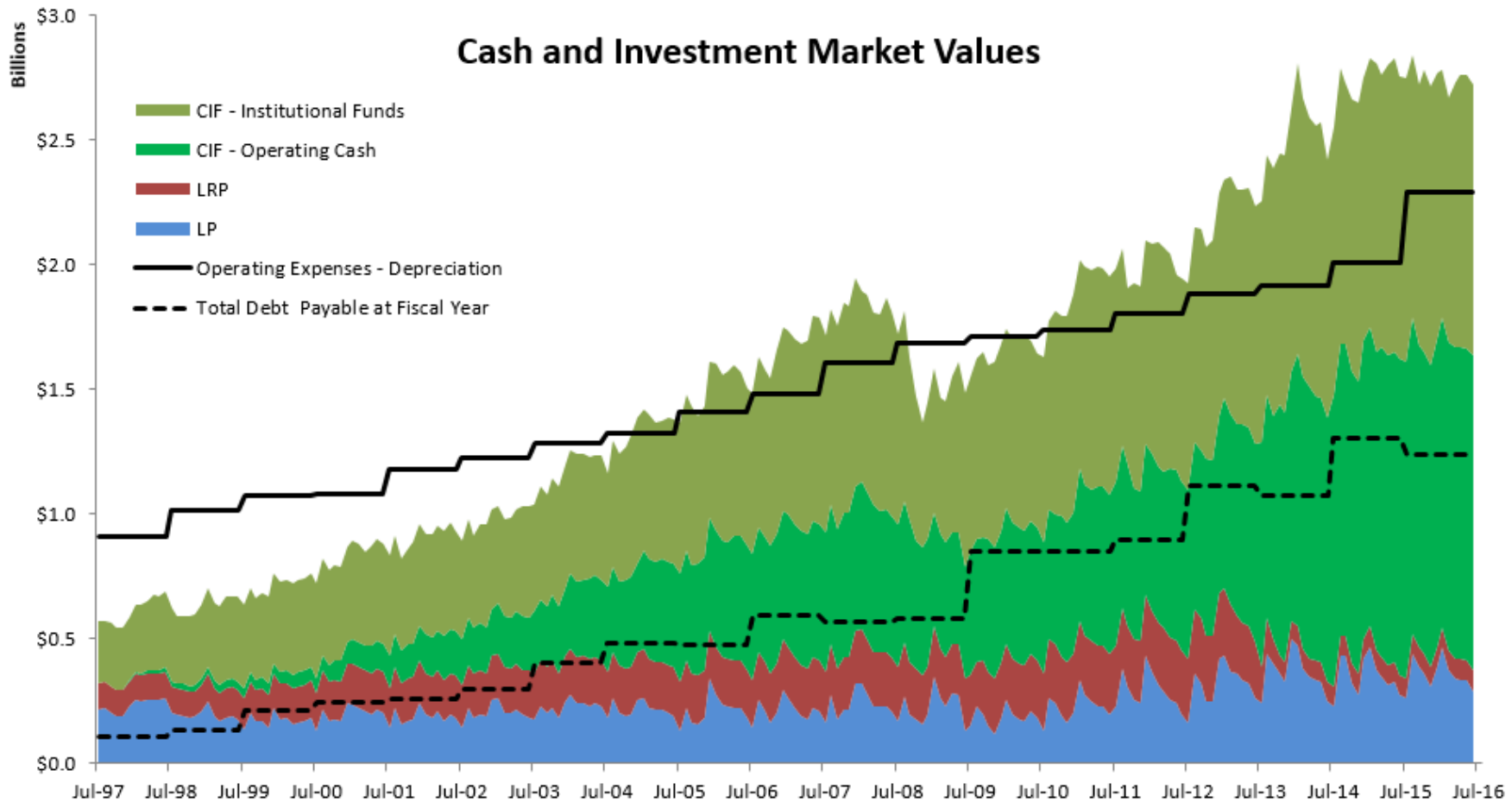
Overall Cash Pool Component		Target Allocation	
		Minimum Amount	Target Amount/Range
Pooled Cash Fund	Liquidity Pool	The greater of (1) 45 days of operating cash or (2) the minimum daily liquidity to support 5 days of maximum commercial paper maturities	30-60 days of operating cash
	Liquidity Reserve Pool		30 days of operating cash ⁽¹⁾
Endowment Trusts	Endowment Trusts	Not applicable	Overall cash pool amounts in excess of the Pooled Cash Fund targeted amount.

- Up to \$75 million of this amount may be represented by a bank line of credit or its equivalent. Any Liquidity Reserve Pool target amount for which the bank line of credit would substitute would count towards satisfying the PCF minimum amount.

Overall Cash Pool Investment Structure

- **Liquidity Pool** (i.e. check book)
 - The primary objective is to provide a liquid source of funds to meet the University's daily cash requirements.
 - A secondary objective is to yield a competitive investment return while bearing minimal principal risk.
 - Current target balance is 30 – 60 days of operating cash.
- **Liquidity Reserve Pool** (i.e. backup liquidity fund)
 - The primary objective is to provide a source of funds in the event the Liquidity Pool is insufficient to meet the University's cash needs.
 - A secondary objective is to earn a higher investment return than the Liquidity Pool.
 - Current target balance is 30 days of operating cash.
- **Endowment Trusts** (i.e. liquidity not required for daily operations)
 - Operating cash in excess of 60 days of operating cash invested on a long-term to indefinite basis with other Institutional Funds in the CIF.

Cash & Investment Structure Through 6/30/16



1) Book values used for CIF operating cash 7/1/1997 - 9/30/2000. Market values used following these dates

Liquidity Pool

- Objectives:
 - Provide a liquid source of funds to meet the University's daily cash requirements.
 - A secondary objective is to yield a competitive investment return while bearing minimal principal risk.
- Amount invested at 6/30/16: \$290 million
- Amounts invested vary with MSU cash flows – ranged from \$260 million to \$470 million in fiscal year 2016
- Payden & Rygel is the investment manager

Liquidity Reserve Pool

- Objectives
 - Provides a source of funds in the event the Liquidity Pool is insufficient to meet the University's operating cash needs.
 - A secondary objective is to earn a higher investment return than the Liquidity Pool.
- Amount invested at 6/30/16: \$82 million (balance augmented by a \$75 million operating line of credit implemented 10/1/13)
- Wells Capital and Brandywine are the investment managers

Endowment Trusts

- Objective
 - Provide higher long-term investment return for “base” operating cash
 - Base operating cash is
 - the amount in excess of the Liquidity Pool and Liquidity Reserve Pool not expected to be needed for day-to-day operations
 - comprised of numerous departmental working capital balances; unexpended restricted gift and grant balances; committed reserves for self-insurance and Plant expansion, replacement and maintenance
- Amount invested at 6/30/16: \$1.3 billion
- Invested in MSU’s Common Investment Fund

Operating Cash Pool Returns

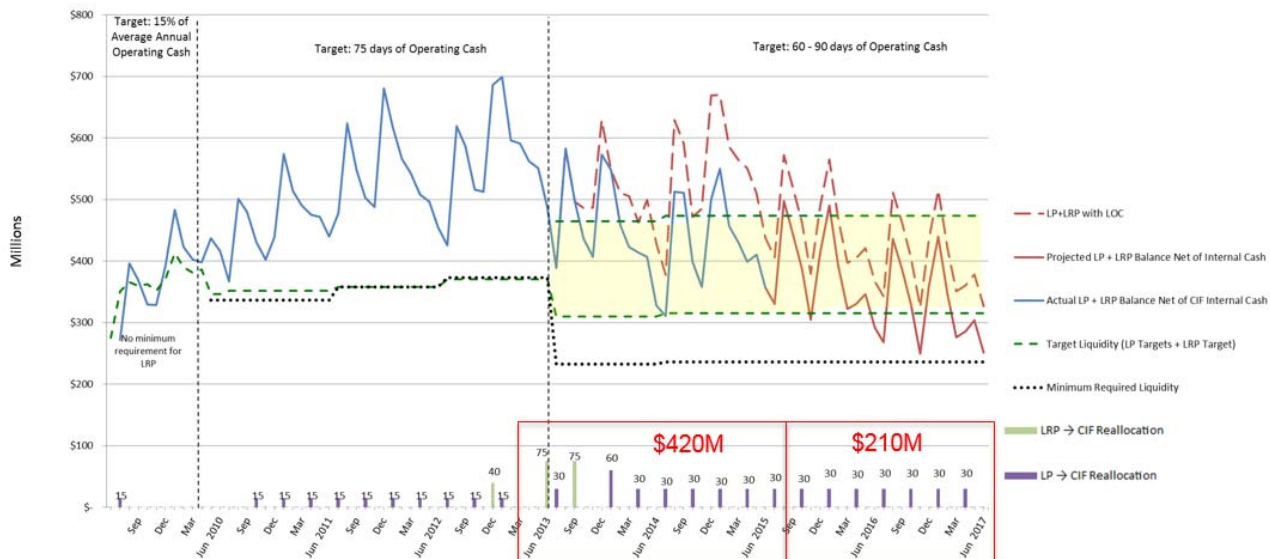
	Net Returns through 6/30/2016			
	For the year	Annualized three year	Annualized five year	Annualized ten year
<i>Overall Cash Pool Components</i>				
Liquidity Pool (Payden & Rygel only)	1.2%	1.0%	1.0%	3.3%
<i>Benchmark: Bank of America Merrill Lynch 1-3 yr. Treasury Index</i>	1.3%	1.0%	0.8%	2.5%
Liquidity Reserve Pool (Brandywine, Wells Capital)	2.8%	2.6%	2.9%	4.1%
<i>Benchmark: Barclays Aggregate Bond Index</i>	6.0%	4.1%	3.8%	5.1%
Endowment Trusts	-4.3%	5.1%	4.7%	5.5%
<i>Benchmark: CIF Policy</i>	-1.6%	5.0%	4.9%	4.5%

Outcomes of Investing Operating Cash in CIF

- CIF excess earnings over the LP and LRP have been significant and have contributed meaningfully to the General Fund budget and infrastructure renovation funding.
- Pro forma CIF additional annual investment income (based on average annual 10 year LP, LRP and CIF returns and balances as of 6/30/16) approximate \$30M
 - LP (5.5% - 3.3% = 2.2% x \$1.3B) or ~ \$29M
 - LRP (5.5% - 4.1% = 1.4% x \$82M) or ~ \$1M
 - Alternatively, a pro forma withdrawal of \$100M of Liquidity Pool cash from the CIF reduces annual total investment income by ~ \$2.2M
- No operating cash principal has ever been withdrawn from the CIF including during the 2008-2009 downturn since the current operating cash investment structure was implemented 1/1/98.

We do a lot of modeling

- Annual Operating Liquidity Projections
 - How much cash will we have over the next 2-4 years?
 - Are we within the policy?
 - Can we invest any of it long-term?



- Investment Income Projections
 - What will our Liquidity Pool, Liquidity Reserve Pool, and Endowment Trust balances be over the next 10 years?
 - What are we expected to earn?
 - How much are we planning on distributing?
 - How much investment income will be available for the General Fund budget?

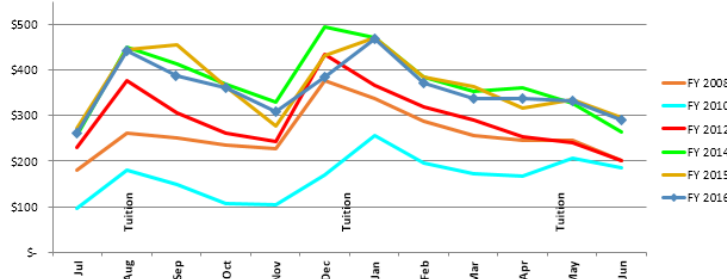
We monitor liquidity...every day

- Each month, we provide external managers with anticipated cash flows
- Then every day, we compare projections to actual cash flows
- Investigate any significant differences and continually update projections throughout the month

Of course, we report on it

Cash and Investment Liquidity
June 30, 2016 (all values in millions)

Liquidity Pool Month-End Balances (excludes CIF internal cash)



Liquidity Actual vs. Targets

Liquidity Pool (LP)

Actual Jun-16	Target Range		LP > (<) Range
	30 days	60 days	
\$ 290	\$165	\$331	Within Range

Liquidity Reserve Pool (LRP)

Actual	Target	LRP > (<) Target
	30 days	
\$ 82		
\$ 75	\$165	(\$8)

Operating Line of Credit

LRP with Line of Credit

\$ 447

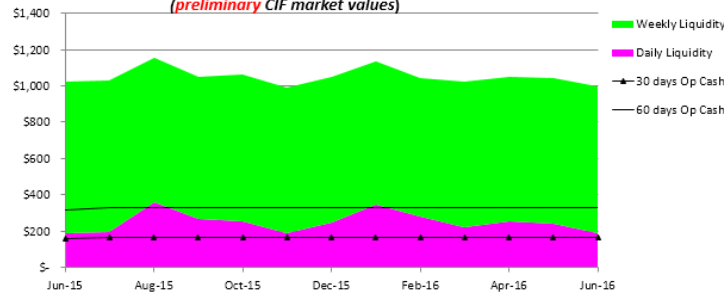
Pooled Cash Fund (LP + LRP)

LP is shown net of CIF internal cash and bond proceeds.

LP cash on deposit for swap collateral is included in Separately Invested LT Investments.

Minimum of Pooled Cash Fund is the greater of: 45 days of operating cash (\$248) or the minimum daily liquidity to support 5 days of maximum commercial paper maturities (\$150).

Daily and weekly liquidity of cash and investments as provided to Moody's
(preliminary CIF market values)

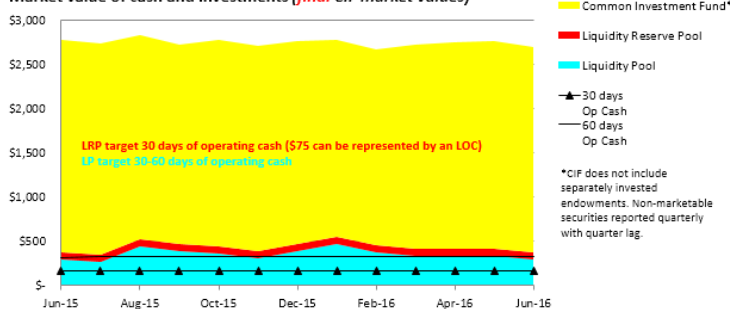


Market Value as of

	Jun-14	Jun-15	Jun-16	Jun-15/June-16 Change	
				\$	%
Liquidity Pool	\$ 263	\$ 296	\$ 290	\$ (6)	-2%
Liquidity Reserve Pool	79	80	82	2	3%
Common Investment Fund*	2,276	2,408	2,332	(76)	-3%
Separately Invested LT Investments*	53	53	67	14	26%
Total	\$ 2,671	\$ 2,837	\$ 2,771	\$ (66)	-2%

* Jun-16 is estimated

Market value of cash and investments (final CIF market values)



Assets	Fiscal Year Jun-16 To Date	Net Returns through 6/30/2016				
		Trailing 1 year	Trailing 3 year	Trailing 5 year	Trailing 10 year	
Liquidity Pool*	\$ 290	1.2%	1.2%	1.1%	1.1%	3.4%
<i>BofA ML 1-3 Yr Treasury Bond Index</i>		1.3%	1.3%	1.0%	0.8%	2.5%
Liquidity Reserve Pool	\$ 82	2.8%	2.8%	2.6%	2.9%	4.1%
<i>Barclays Aggregate Bond Index</i>		6.0%	6.0%	4.1%	3.8%	5.1%

* Overnight balances at Bank of America are not included in returns. Gross earning credit is currently 0.4%.

We are the liaison between MSU and its banking relationships

- Set up new bank accounts
- Establish new banking services
- Administer and maintain users of the bank's website
- Facilitate communications between departments and bank personnel



CashPro® Online



Debt Management - it all begins with capital projects



How will we pay for the project?

- Got any state or federal grants?
- Could we fundraise for it?
- How about paying with cash out of the current budget?
- Should we use the reserves we've saved?
- Do we borrow on our future expected revenues?

MSU shall incur debt to fund only capital projects that are consistent with MSU's mission and strategic priorities...

- From the Capital Projects Debt Policy, enacted June 2006

Who decides to use debt?

The Board of Trustees established the Capital Projects Debt Policy. See it at <http://trustees.msu.edu/policy-manual/01-07-03.html>

The Vice President for Finance, in consultation with the Provost, shall be responsible for analysis and recommendations to the President and the Board of Trustees ...

- From the Capital Projects Debt Policy, enacted June 2006



We have debt, who is managing it?

The Board has delegated authority to

- Vice President for Finance and Treasurer
- Director of Treasury and Financial Management



But we are not alone...

Our office is responsible for day-to-day management of debt.

We work with numerous external parties to issue and administer debt:

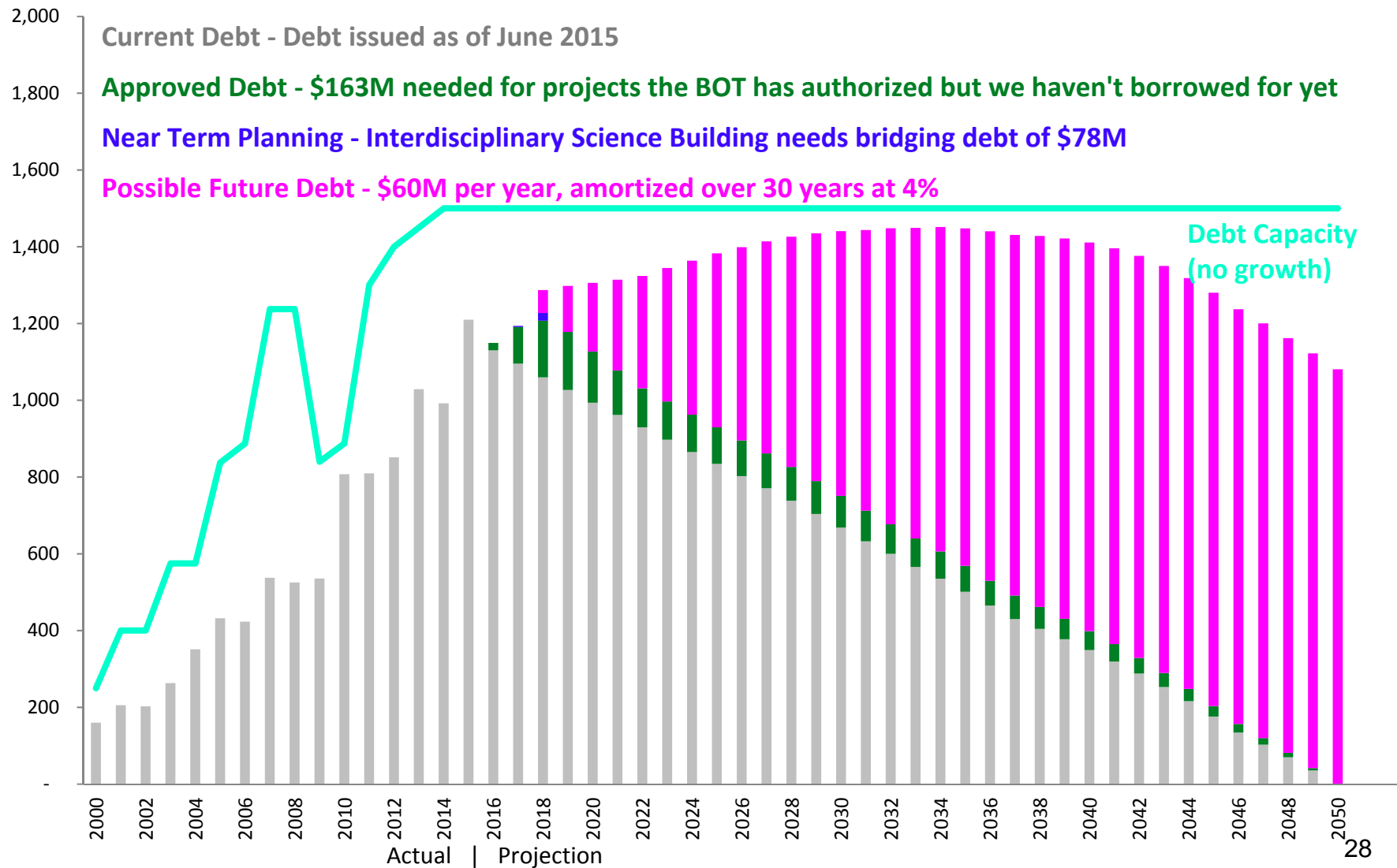
- municipal financial advisor
- bond counsel
- underwriters
- remarketing agents
- rating agencies
- swap counterparties
- liquidity providers
- trustees





























What does managing the debt involve?

- Compliance with applicable laws and with contractual covenants
- Payments of principal and interest
- Charging the internal borrowers for their portion of debt service
- Issuing debt as needed
- Reporting to the Board

We think about debt capacity

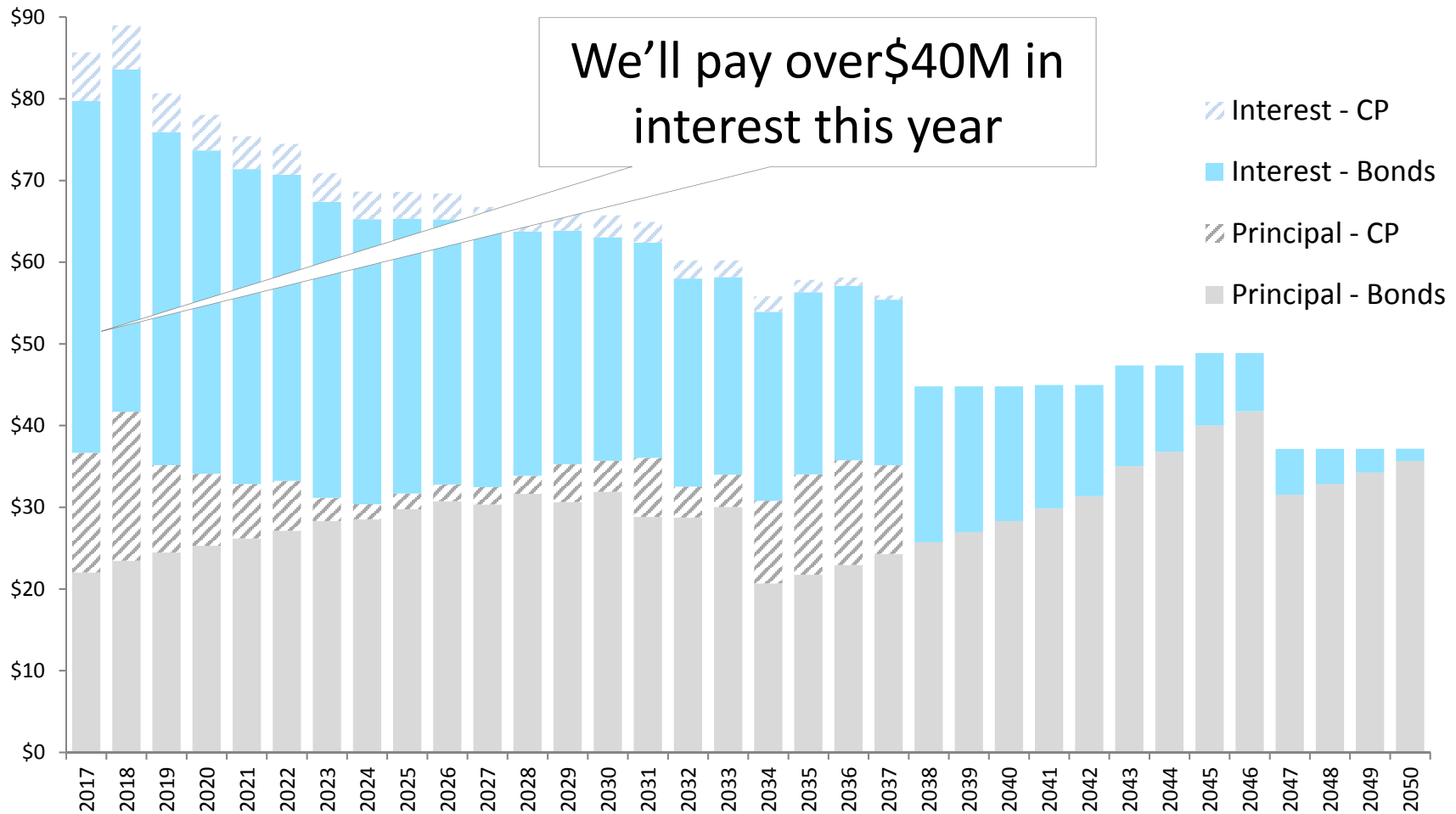


Credit ratings matter...

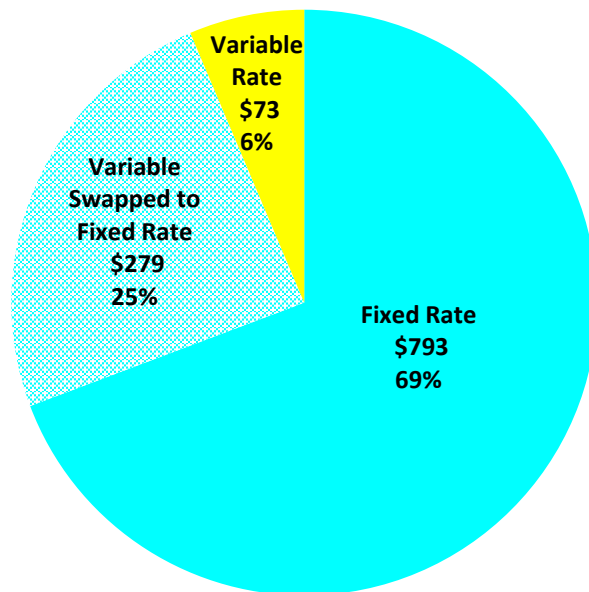
S&P		Moody's	
   	AAA	Aaa	   
 	AA+	Aa1	      
    	AA	Aa2	
	AA-	Aa3	 
	A+	A1	
	A	A2	
	A-	A3	

because the better your rating, the lower your interest rate.

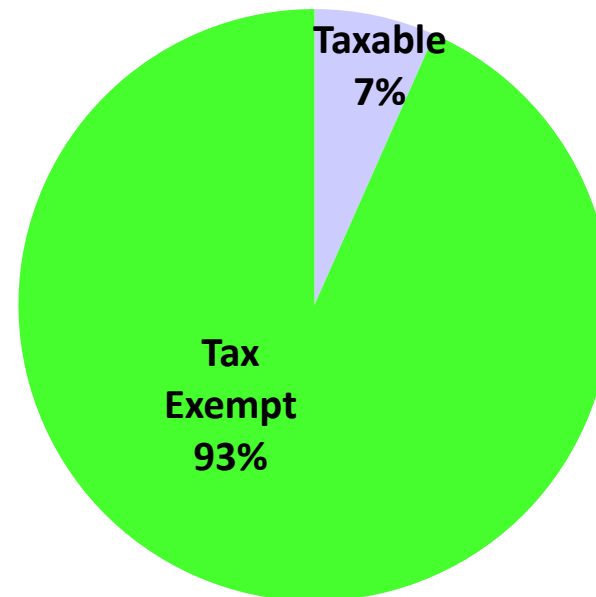
Speaking of interest...



Most of our debt is fixed rate



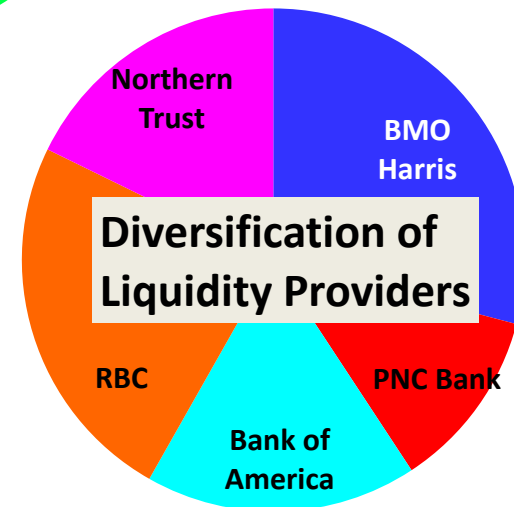
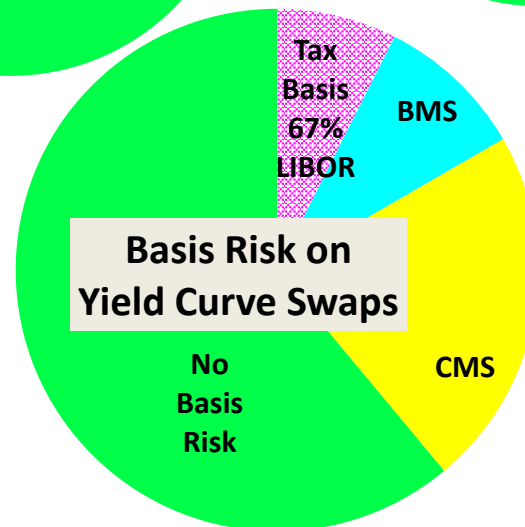
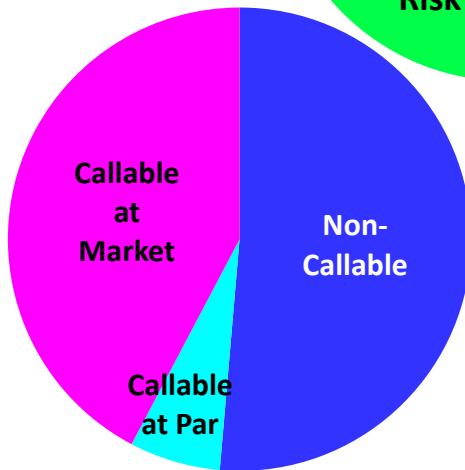
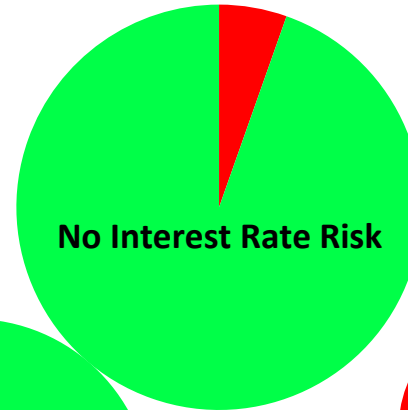
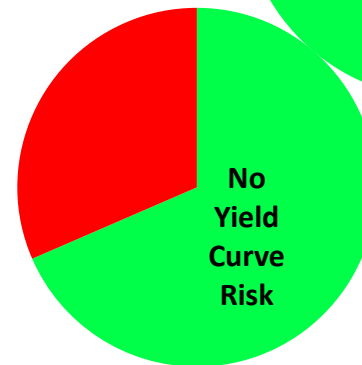
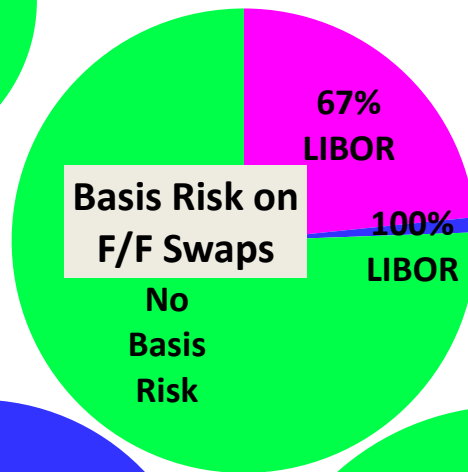
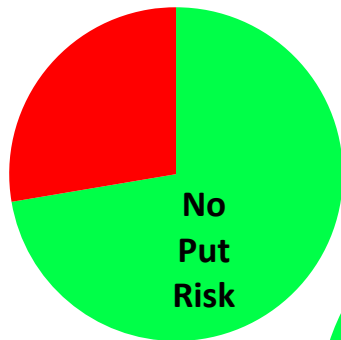
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...but we use various debt structures to diversify risks in the portfolio

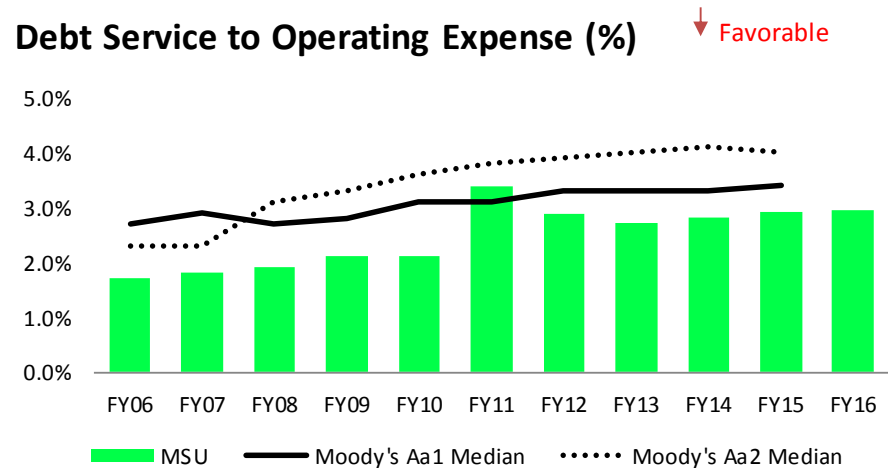
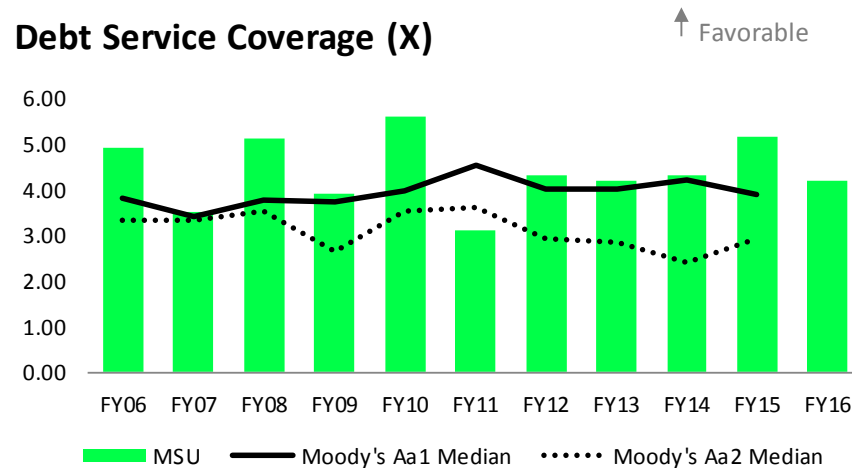
Debt Series					Notes and Bonds Outstanding	Fixed Rate	Fixed Rate via Swap	Variable Rate	Yield Curve Swaps
	VRDB	Libor Index Note	Fixed Rate Bonds	CP					
2000A	X				\$77		X	X	X
2003A	X				48		X		X
2005	X				54		X		X
2007A			X		8	X			X
2007B		X			25		X		X
2010A (BABs)			X		205	X			
2010C			X		223	X			X
2013A			X		164	X			
2015A			X		193	X			
Tax Exempt Notes				X	55		X	X	
Taxable Notes				X	93		X		X
Total	\$179	\$25	\$793	\$148	\$1,145	\$793	\$279	\$73	\$431
						69%	25%	6%	

Risks? What risks?



Having a diverse debt portfolio helps minimize our risk-adjusted cost of capital

	<u>FY 2016</u>	<u>FY 2015</u>	<u>FY 2014</u>	<u>FY 2013</u>	<u>FY2012</u>
MSU's All-In Cost of Capital	3.5%	3.4%	3.2%	3.1%	3.3%
Average Cost of Capital for Peers with Endowments > \$1B (source NCSE)	n/a	3.8%	3.8%	4.0%	3.9%



Where can I go to learn more about Endowments?

A Gift Accounting class is usually offered twice each year

GIFT ACCOUNTING
Thursday, September 15, 2:00 p.m. - 4:30 p.m.

Documenting a gift to MSU is only the start of the journey for those funds. As the fiscal officer for your unit, you are responsible for the tracking, reporting, and appropriately using gifts to MSU. In this session, you will learn about the flow of gifts from receipt through deposit and recording. The instruction provided on the university's donor system, Advance, and the Scholarship & Endowment System, and their relationship with each other and KFS, will prepare you to assist your administration in the use and reporting of gift funds.

Presenter: Sean Harwood, University Advancement
Investment: Free

It covers the endowment system including spending policy reports, year-end reversions, activity reports

Watch for it in the next Spartans Learn course catalog that HR emails periodically

What is an Endowment?

- An endowment is a non-expendable fund that is invested in perpetuity to preserve the purchasing power of the fund.
- Named endowments are established at a minimum of \$50,000, to be received within 5 years

- Each endowment has 2 accounts – one for principal and one for income

Endowment Sub-Funds

<u>Endowment Type</u>	<u>Principal Account</u>	<u>Income Account</u>
True Endowment - Restricted	NX	RT
True Endowment - Unrestricted	NG	DX
Funds Functioning - Restricted	NR	RH
Funds Functioning - Unrestricted	NB	DE
Term Endowment - Restricted	NM	RM
Term Endowment - Unrestricted	NE	DM

- Part of the investment income is distributed to support the endowed program at MSU with the balance retained to hedge against inflation
- The current programmatic endowment income distribution percentage (over the long-term) approximates 4.5% of the endowments market value
- The endowment income distribution percentage is reviewed annually by BOT

We manage endowments by...

- Reviewing and approving new endowment agreements
- Establishing new endowment accounts
- Monitoring accounts for proper transactions
 - No expenditures on principal accounts
 - No revenues on income accounts

We are responsible for getting the funds invested

- Invest endowments in the Common Investment Fund each quarter
- Reinvestment of unspent spending policy distributions
 - Responsible unit/fiscal officer updates the endowment information system prior to each June 30
 - Most reversions are done annually, but a few are done quarterly

And for determining and distributing the spending policy

- Prepare analysis for determining the next fiscal year's spending policy rate
- Distribute the spending policy quarterly to the endowment income accounts

FY17 Spending Policy Calculation

- Annual Spending Rate = 4.8% of 20 quarter average of CIF unit values
- Annual spending policy rate available at:
<http://ifm.msu.edu/>

Quarter	CIF Unit Value	
4/1/2011	\$	6.53958398
7/1/2011	\$	6.55912338
10/1/2011	\$	5.89086656
1/1/2012	\$	5.94146856
4/1/2012	\$	6.25306864
7/1/2012	\$	6.03421099
10/1/2012	\$	6.16289836
1/1/2013	\$	6.17574102
4/1/2013	\$	6.38488096
7/1/2013	\$	6.31014986
10/1/2013	\$	6.52717532
1/1/2014	\$	6.77256218
4/1/2014	\$	6.81707817
7/1/2014	\$	6.99343200
10/1/2014	\$	6.85368085
1/1/2015	\$	6.81946672
4/1/2015	\$	6.88985623
7/1/2015	\$	6.89607378
10/1/2015	\$	6.40757317
1/1/2016	\$	6.41342044
Average Unit Value- 20 Quarters	\$	6.48211556
Spending Percentage:		4.80%
Spending Rate (per unit):	\$	0.3111

Managing endowments requires some review

- Annual spending utilization review of endowment income accounts
 - Goals for endowment spending utilization review
 - To ensure endowment income distributions are being utilized timely
 - Cultivate donor relationships by timely usage of existing endowments revenues
 - Avoid audit issues regarding timely spending
- Minimum Balance Review (did the endowment reach the minimum to not become expendable?)

And some reporting

- Prepare the Endowment Fund for the Audited Financial Statements
 - Upload the endowment spending account activity to the Activity Reports in the Endowment System
 - Principal account activity available after 9/1
 - Income account activity uploaded after audited financial statements accepted by the BOT
- Assist units in their annual reporting requirements

Questions?

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