

Beyond Tax Exempt

The Impact of Other Markets on Institutional Risk Management



Today's panel

J.P.Morgan

James Adams
Managing Director
J.P. Morgan



Glen Klein
*Director, Investments &
Financial Management*
Michigan State University

J.P.Morgan

Charlie Giffin
Vice President
J.P. Morgan



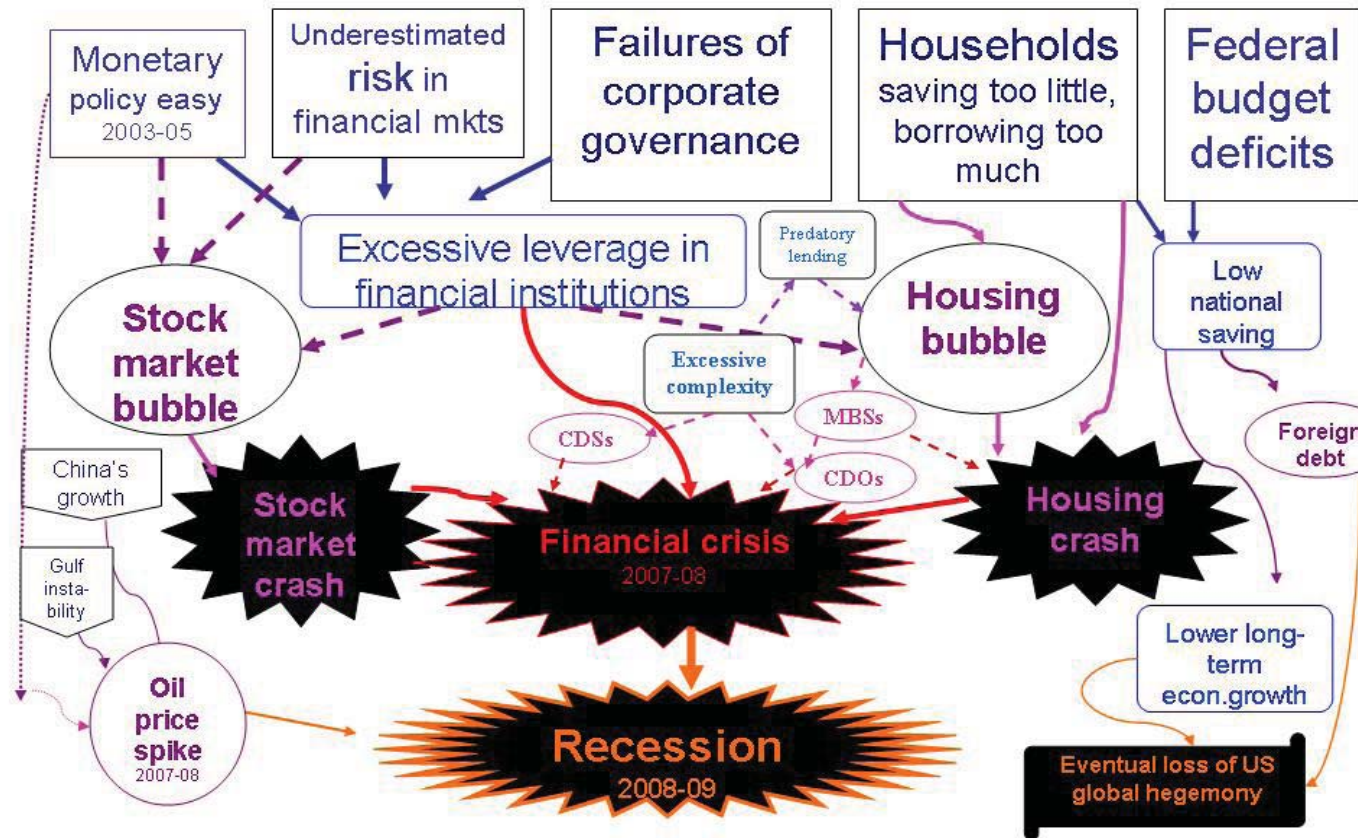
Washington
University
in St. Louis

Amy Kweskin
*Associate Vice Chancellor for
Finance and Treasurer*
Washington University in St. Louis



How did we get here?

Origins of the financial/economic crises



Source: Professor Jeffrey Frankel's slide from a December 2008 briefing for newly elected Members of Congress



Broad market impact

Dow and S&P 500 performance (2008YTD)



S&P 500 Volatility Index and HG CDS Index performance



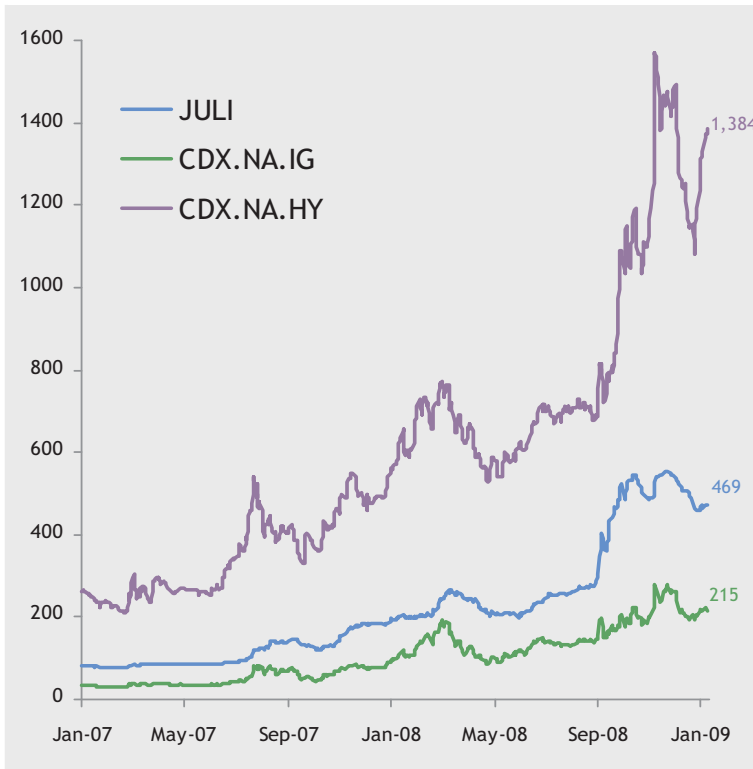
Source: Bloomberg, as of 01/22/08
 Note: CDX refers to the CDX North American High Grade index

Timeline of events

Date	Event
March 2008	■ Bear Stearns acquired by JPMorgan Chase
September	<ul style="list-style-type: none"> ■ Treasury takes control of Fannie Mae & Freddie Mac ■ Lehman Brothers files for Chapter 11 ■ Merrill Lynch & Bank of America agree to merge ■ \$85Bn bailout of AIG by the Federal government ■ Morgan Stanley and Goldman Sachs convert to bank holding companies ■ Warren Buffett makes \$5Bn investment in Goldman Sachs ■ JPMorgan Chase acquires WaMu after FDIC seizure
October	<ul style="list-style-type: none"> ■ Warren Buffett makes \$3Bn investment in GE ■ Wells Fargo acquires Wachovia ■ House passes \$700Bn TARP plan on second try ■ TARP morphs into direct investment by U.S. govt. in selected banks ■ Wachovia reports record \$27Bn loss ■ Current forecasts predict \$300-600Bn more in financial services losses
November	<ul style="list-style-type: none"> ■ Treasury rejected direct purchase of bank assets ■ Government injects an additional \$27Bn into Citigroup ■ Fed and Treasury announces \$800Bn in new loan plans
January 2009	<ul style="list-style-type: none"> ■ Segmentation of Citigroup into Citicorp and Citi Holdings ■ BofA receives additional capital infusion of \$20Bn ■ Congress debates new legislative Stimulus package

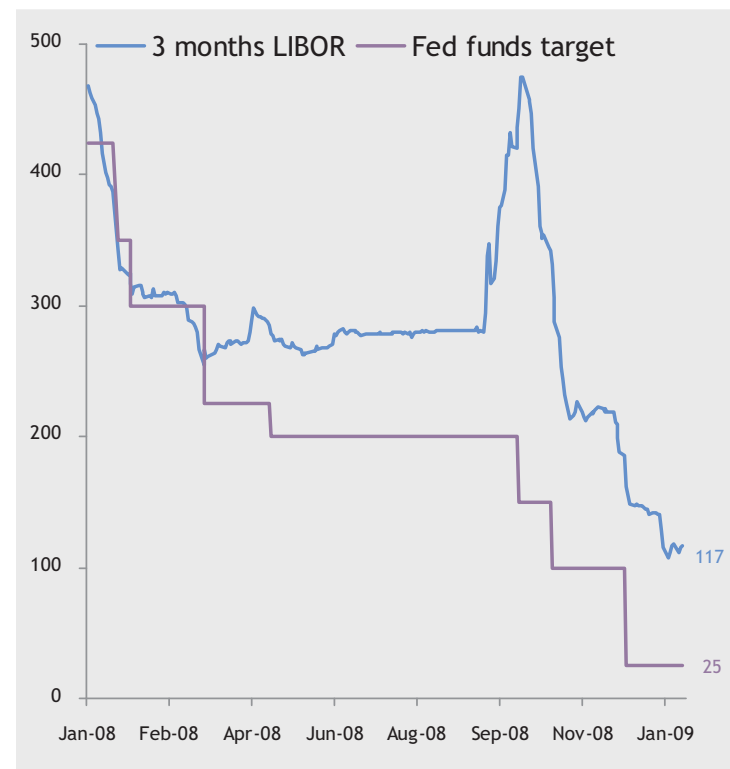
Leading to a re-pricing of risk

HG bond and CDS spreads have widened dramatically (bps)



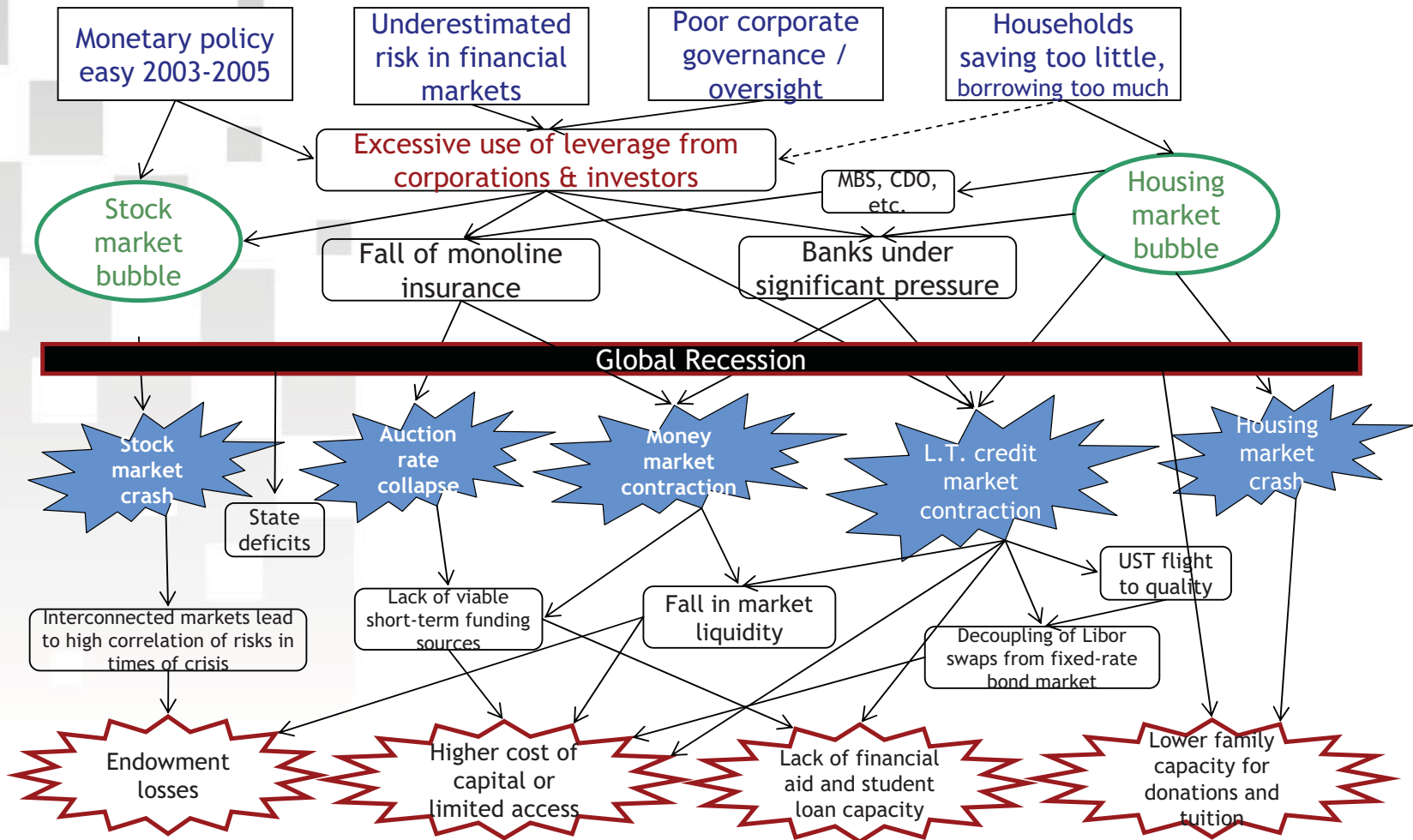
Source: J.P. Morgan
 Note: JULI refers to JPMorgan US Liquidity Index;
 CDX.NA.IG refers to the CDX North American High Grade index;
 CDX.NA.HY refers to the CDX North American High Yield index

LIBOR vs. Fed Funds (bps)



Source: Bloomberg

Impact on higher education



...across the institution

Component

Endowment

Working Capital

Operations

Debt Portfolio

Pension/OPEB

Contributing Factors

Global recession, overuse of leverage creating an asset bubble, housing crash, increased use of illiquid investments, higher volatility and repricing of risk, unreliable correlations, among other factors

Liquidity issues can arise if working capital was invested in endowment units, credit sensitive instruments, Commonfund, etc. Traditionally, annual giving or endowment was a source of liquidity, which may be diminished

Full effect of recession, housing crash, and stock market crash to be determined on families' ability to support tuition and annual charitable giving, especially given conditions in the student loan market. Extent of endowment support now also a risk factor

Swap mark-to-market volatility and the potential for collateral posting are the most tangible risks, however the risks of uncommitted funding (put risk) on variable rate debt represent the greatest concentration of risk. Market access may be difficult or very costly for fresh capital

For defined benefit plans, the combination of falling asset prices with increased liabilities due to the sharp fall in long-term rates can create a serious ongoing risk, despite being traditionally off balance sheet



Different schools have different impact

Washington University in St. Louis

- Private University; approximately 12,000 FTEs half undergrad/half grad
- \$5.4 billion endowment at 6/30/08; down approximately 25%
- FY08 Revenue \$1.9 billion
- 33% patient care/affiliated hospitals
- 25% grants and contracts
- 17% endowment and gifts
- 13% tuition and fees

Michigan State University

- Land Grant Public Research University, ~ 43,000 FTEs, 80% undergrad
- ~ \$1.1 billion endowment at 10/31/08; down ~ 20% from 6/30/08
 - Less than 3% of operating budget from endowment
- FY08 Revenue \$1.8 billion
 - 26% tuition and fees
 - 24% auxiliary and departmental operations
 - 22% state appropriations
 - 18% grants and contracts
- Switched from FFELP school as lender to direct lending fall 2008



Key themes in response to the financial crisis

Strong Leadership

- Bring everyone together to work as a team

Keep stakeholders informed

- Understand who key stakeholders are and their concerns: students, faculty, staff, board, donors, community, investors, bankers, and rating agencies. President/Chancellor sent out letters to reinforce that the university is still “ok”
- For students focused on financial aid: “you will be able to stay and you will graduate”
- Transparency is key

Focus intently on liquidity needs

- Traditional sources of liquidity may be unreliable
 - Cash from operations
 - Liquidity from the endowment and annual giving
 - Operating lines of credit

Stay focused on your strategy and core mission

- Planning and cash forecasting essential tools may have to be modified
- Have a plan A, B, and C!



Liquidity strategies

Liquidity management fundamentals

- In the current market, a disciplined approach to optimal liquidity management is both prudent and fundamental
 - Understand cash needs and the cyclical nature of those needs
- An optimal liquidity framework can identify potential needs for raising liquidity in the capital markets or via other contingent sources
 - Takes into account the critical value of liquidity in light of the constrained capital markets and potential risk of insolvency
- Evaluation of liquidity management should increase focus on safety, diversity, and accessibility of cash and short-term investments
 - Select investments that provide accessibility and principal protection, then focus on yield

Maintaining an optimal liquidity program



■ Sources of liquidity:

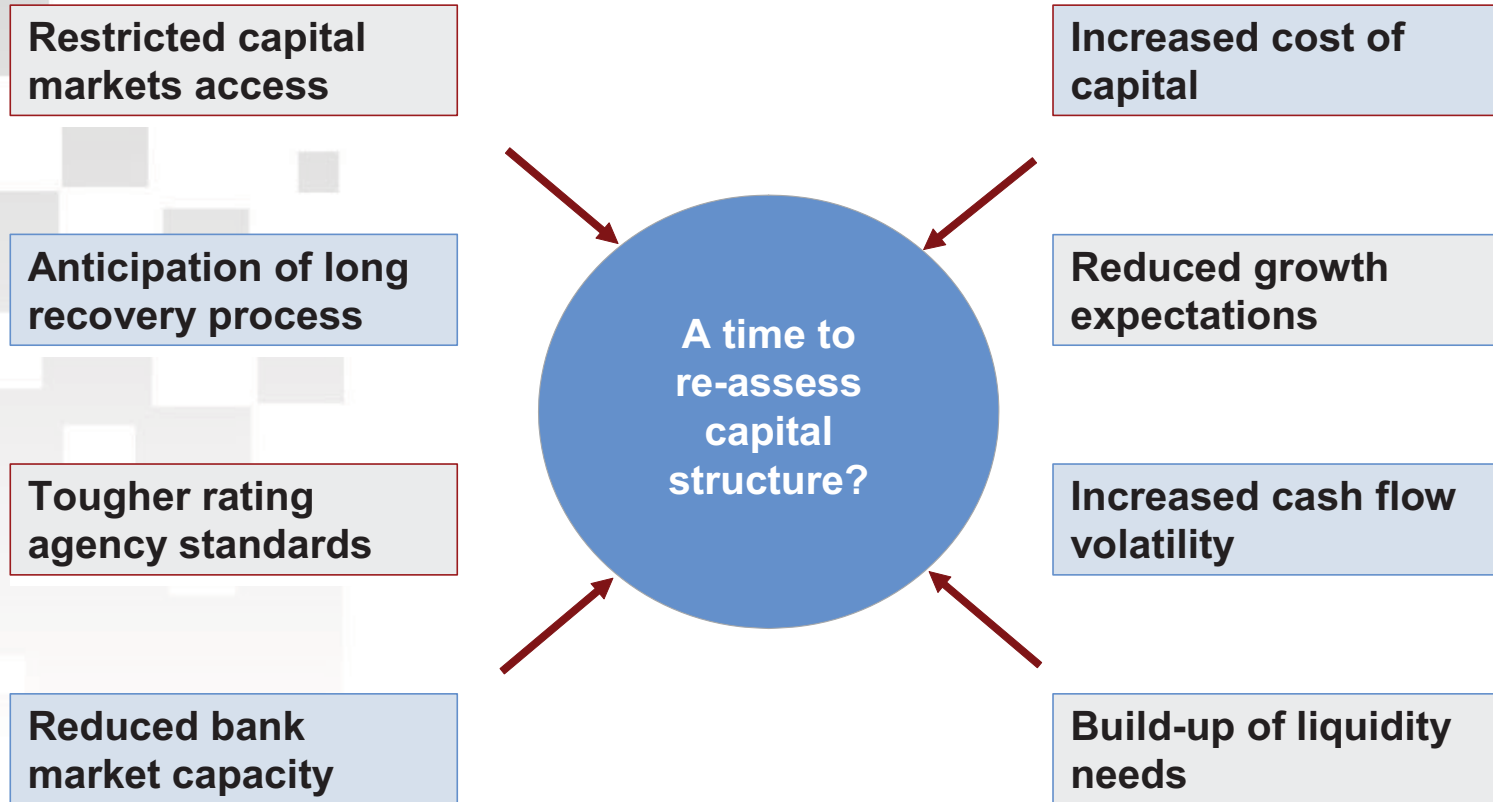
- Endowment
- Operating cash flow
- Backstop liquid assets
- Operating lines
- Capital markets

Liquidity can be fungible across categories, but all are under stress

→ **Including taxable debt**

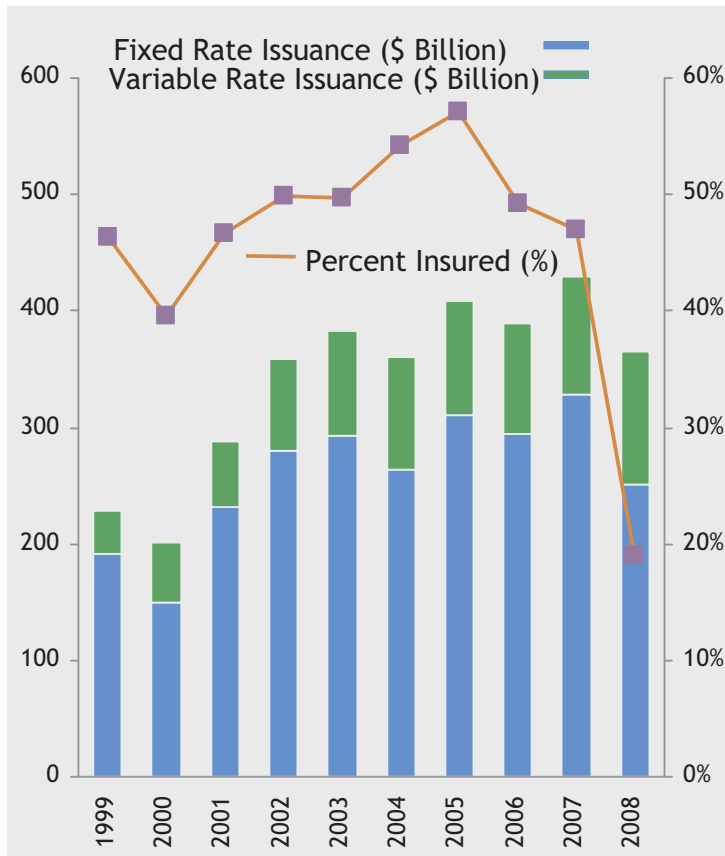


Re-assessing capital structure



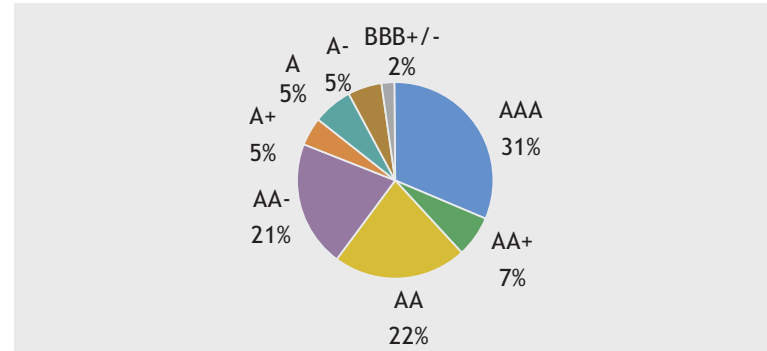
Fixed rate bond market update

Muni Issuance and Percent Insured



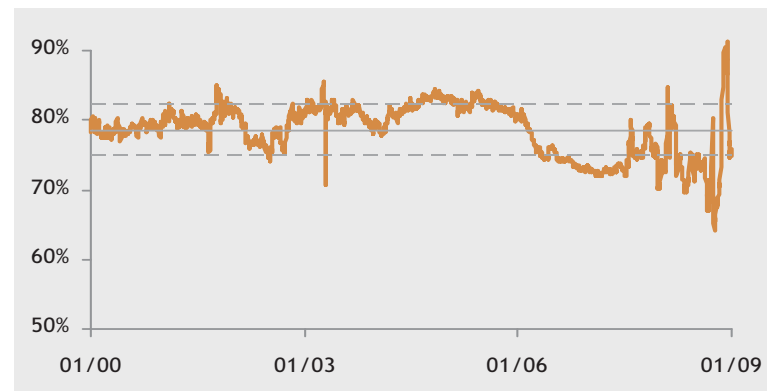
Source: Bond Buyer

Rating Distribution for Fixed Rate New Issuance (Since 9/15/08)



Source: SDC, Thomson Financial
Note: S&P long-term rating. Excludes new issues without an S&P rating.

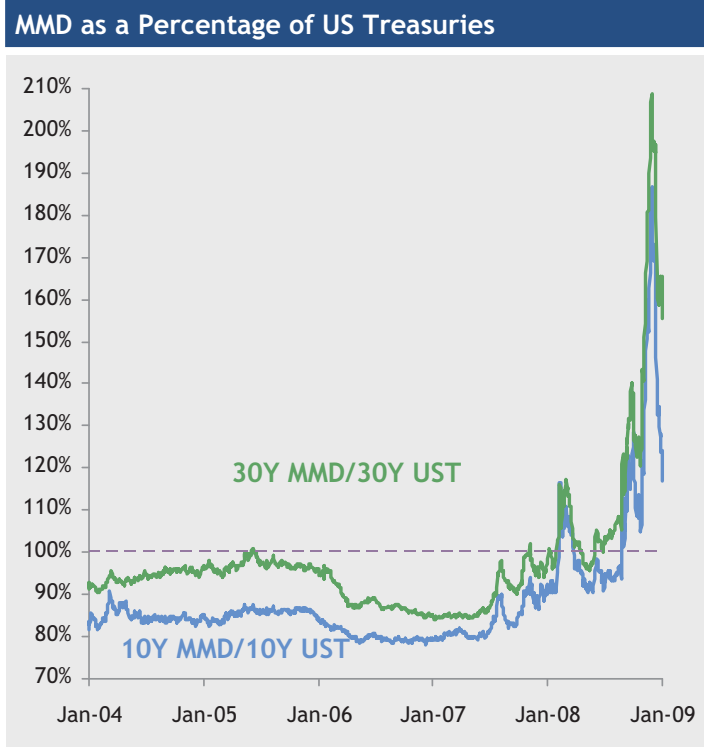
Historical 30Y MMD / High Grade Taxable Bonds



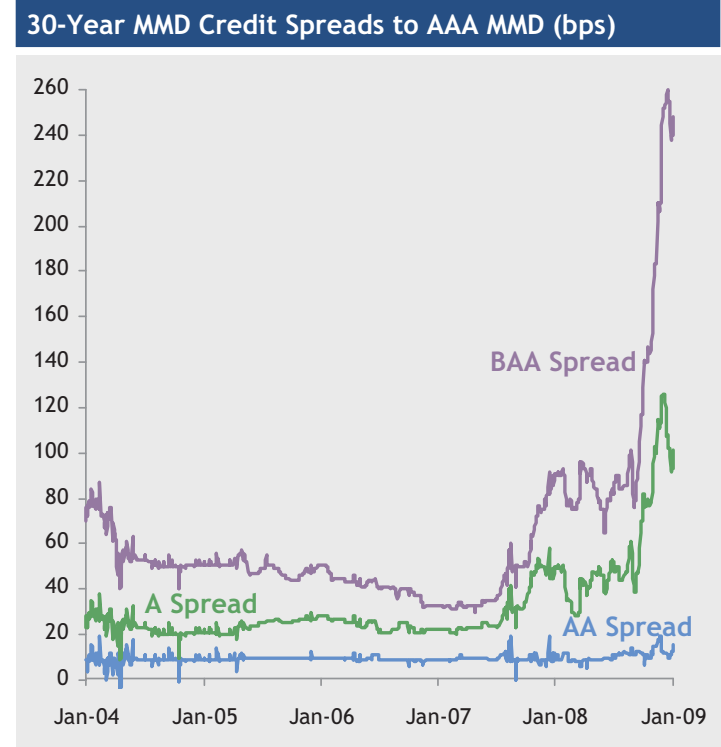
Source: J.P. Morgan, as of January 22, 2009

Soaring credit spreads and shrinking demand

- Capital has shifted across credit markets from more structured and less well-rated investments to highly-rated and simple structures in a flight to quality
- In a market environment with a more compressed rating spectrum, single-notch rating changes have a more significant pricing impact



Source: J.P. Morgan as of January 22, 2009



Source: J.P. Morgan as of January 22, 2009

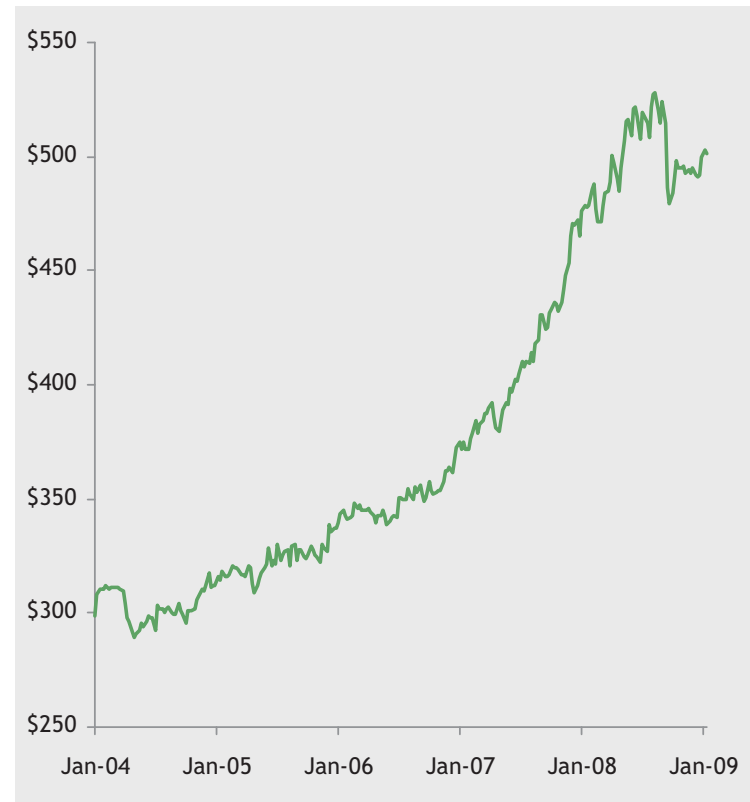
“Flows” may be driving the tax-exempt market

Long-Term Tax-Exempt Mutual Fund Flows 4 wk avg (\$mm)



Source: J.P. Morgan and AMG Data, as of January 21, 2009

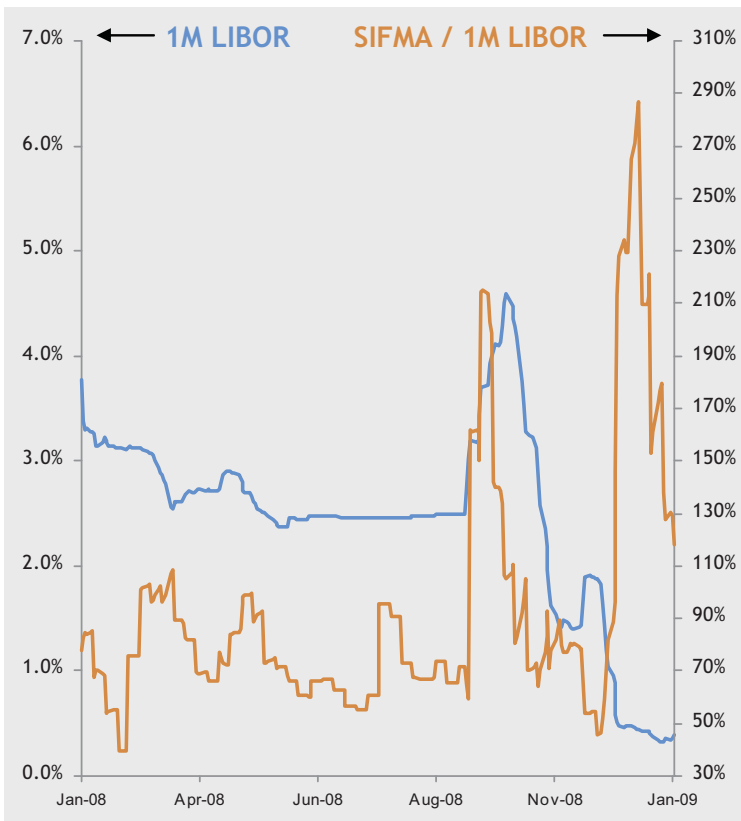
Tax Exempt Money Fund Assets (\$bn)



Source: J.P. Morgan and iMoneyNet, as of January 20, 2009

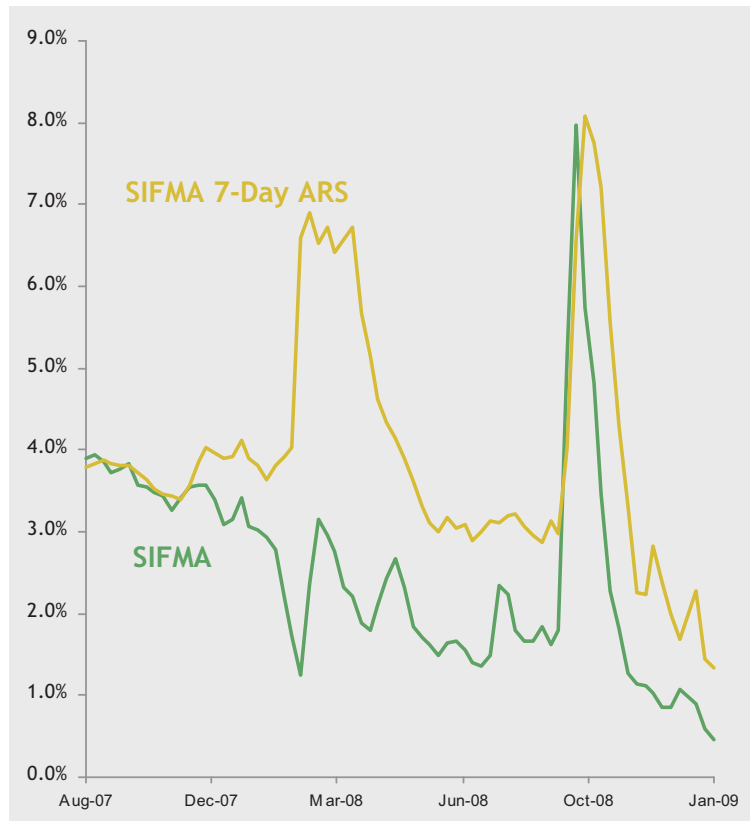
Floating rate market update

Spot SIFMA/1 Month LIBOR vs. 1 Month LIBOR



Source: J.P. Morgan, as of January 22, 2009

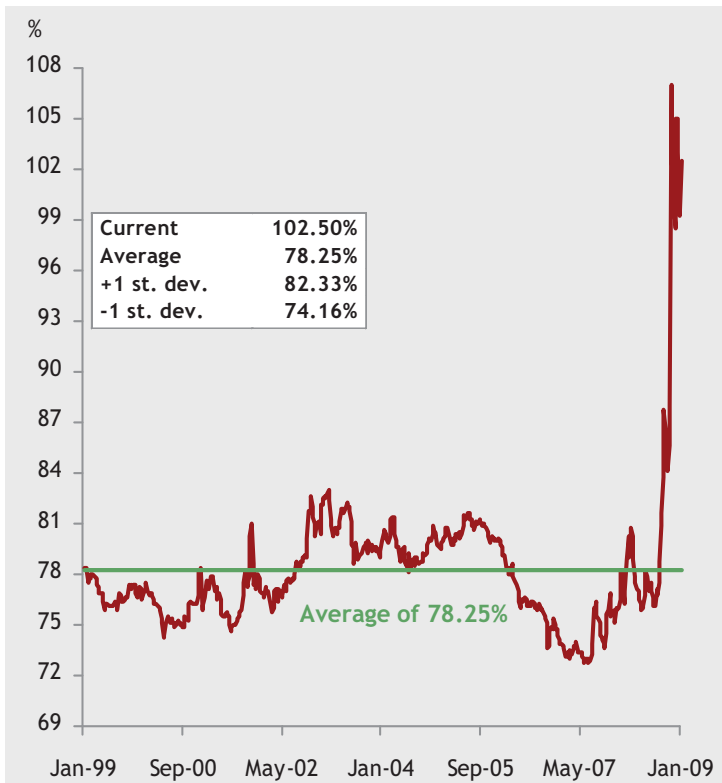
SIFMA 7-Day Auction Rate Index Spread over SIFMA



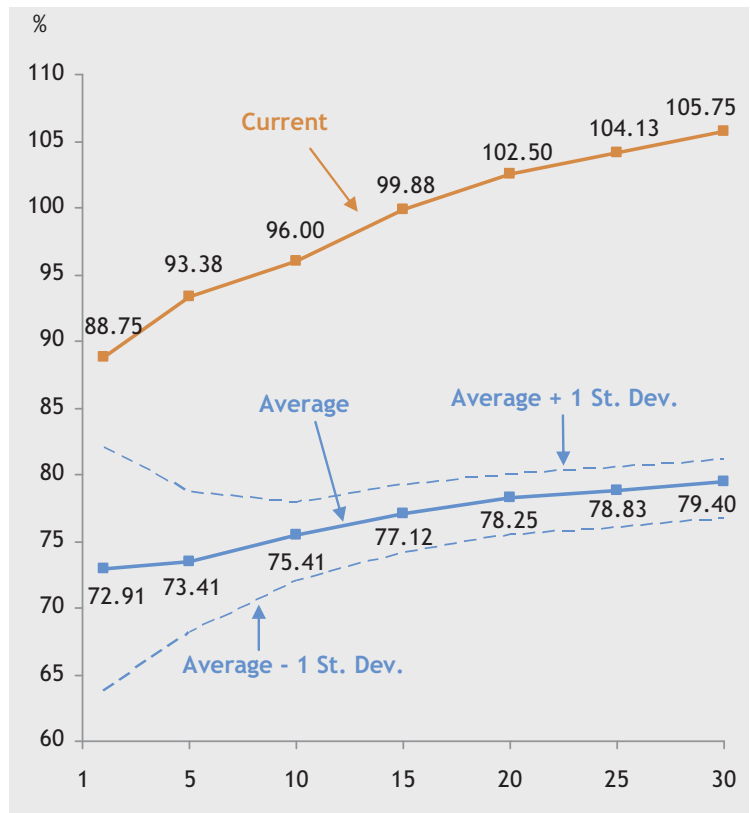
Source: J.P. Morgan and SIFMA, as of January 22, 2009

SIFMA/LIBOR ratio market

SIFMA / LIBOR ratio -- 20-year maturity¹ (%)



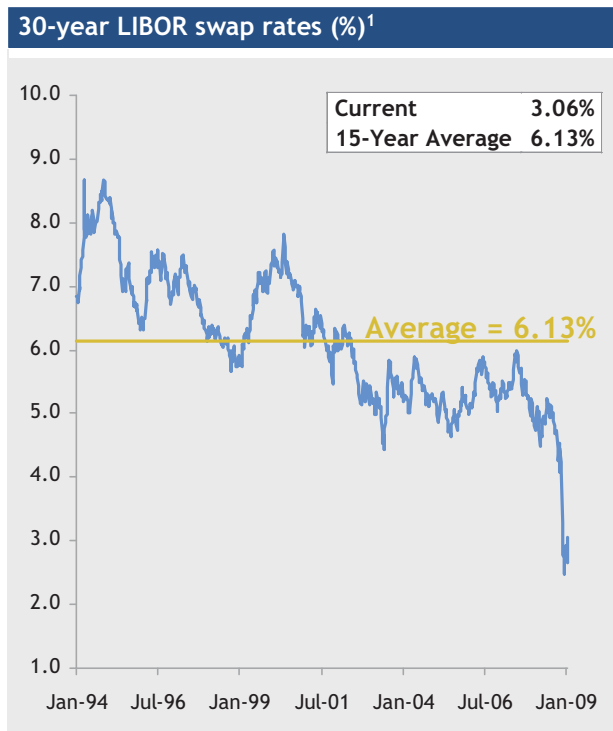
SIFMA percentage curve¹ (%)



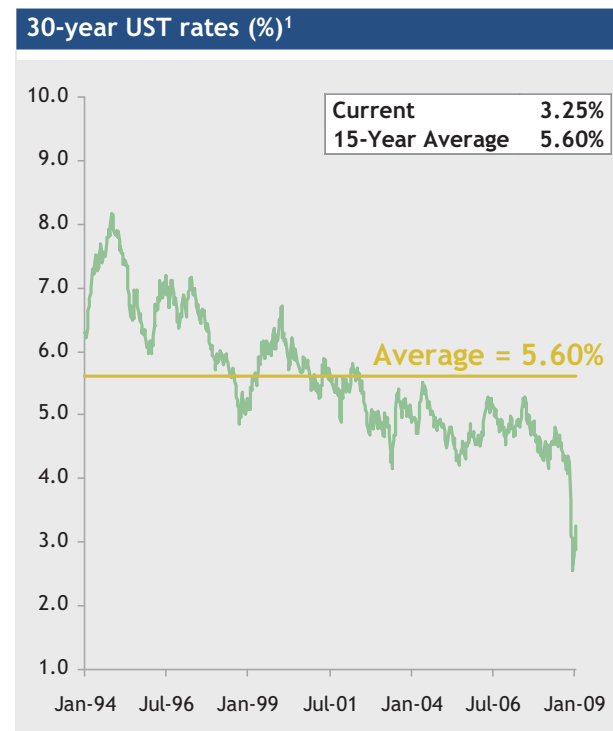
¹ Reflects market conditions as of January 22, 2009. Statistics calculated over a 10-year period

LIBOR swap rates are near all-time lows

- Can create significant negative market-to-market for fixed payer swaps
 - Create a liquidity problem from potential collateral posting
 - Highlights potential issues around counterparty risk (e.g. bankruptcy)



¹ Reflects market conditions as of January 22, 2009



¹ Reflects market conditions as of January 22, 2009

New viewpoints...

These changes may lead to new viewpoints as well as continuing challenges and opportunities managing the capital structure

Washington University in St. Louis

- Accessed the fixed rate market in November 2008
 - \$194 million transaction, one of the first deals after the significant market contraction in September and October
- Managed renewal process of lines of credit and SPBA (liquidity) agreements
- Assessed banking partners; critical to have strong relationships

Michigan State University

- Managed numerous administrative changes:
 - Change in liquidity provider
 - Change in remarketing agent
 - Change in swap providers
- Delay of commercial paper issuance
- Public Tender Offer



And new approaches

How have issuers altered their approach to accessing the market in the current environment?

- Little to no reliance on bond insurance
- Less reliance on bank liquidity
- Use speed to the market when demand is there
- For high grade credits (AA or better)– fixed-rate market, taxable CP, self liquidity
- For high lower credits (A or lower) – limited market access outside of LOC support; obtain a rating and increase investor relations / disclosure
- Accessing capital markets to build liquidity:
 - Focus on committed (fixed) tax-exempt funding
 - Taxable issuance
 - Bank alternatives where available



Changes in debt risk management strategy

Low risk perception in pre-crisis markets supported practices including:

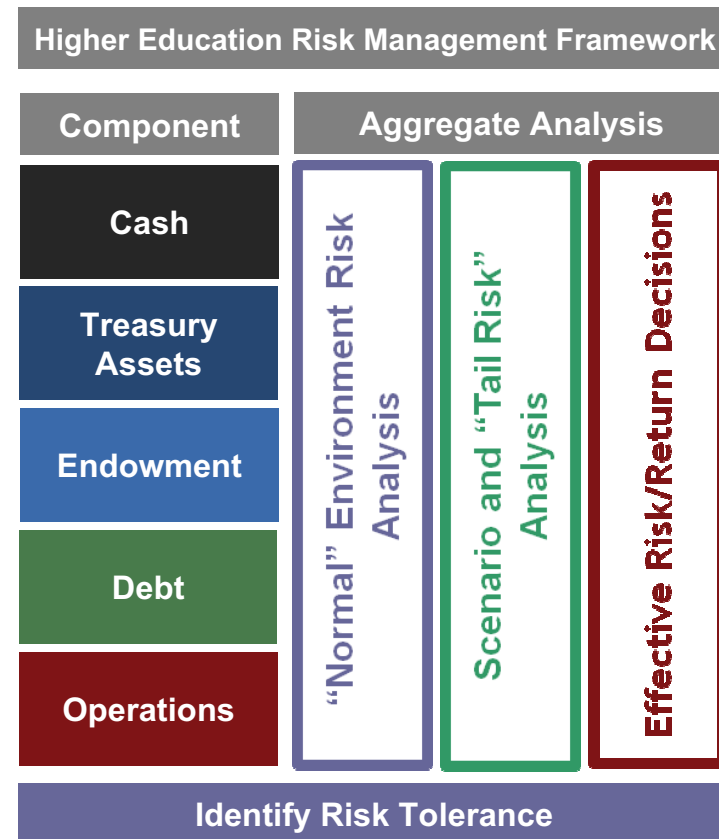
- Heavy use of floating issuance, which on a swapped basis often compared favorably to standard fixed-rate bonds
- Structured debt dependent on factors vulnerable to crisis such as:
 - Ready access to bank liquidity
 - Bond insurer rating stability, and
 - Robust short-term tax-exempt investor demand
- Competitive bid processes resulting in best price, but banking partners with little relationship commitment
- Reliance on ratings as a sole indicator of risk

Risk management best practices

- Establish a broad, comprehensive approach to liquidity, debt and risk management
 - Define policies consistent with the institution’s mission, objectives and risk tolerance
 - Capitalize on tactical market opportunities, but do so within a pre-defined long-term strategic framework
 - Diversify your liquidity and debt structures “don’t put all your eggs in one basket”
- Reduce reliance on long-term, liquidity-dependent structured issuance
- Plan ahead to address potential cash or financing needs early
 - Approach standby liquidity or letter of credit renewal in a timely manner
 - Quantify and monitor changes in hedge values as well as cash implications
- Know your counterparty
 - Monitor metrics beyond ratings such as credit default swap spreads
 - Understand issues related to derivative product companies
 - Consider exposure diversification where appropriate

Implementing a broad risk management framework

- Risk management tools have long used statistical concepts around managing the distribution of potential future outcomes, including investment portfolio theory and ALM platforms
- The theories and best practices of risk management can be extended the entire university balance sheet, often called Enterprise Risk Management (ERM)
- While statistical tools can provide powerful insights into risk exposures and management decisions, we must recognize the shortfalls of such techniques and know that there is simply no replacement for good judgment and strong oversight
- Modern risk management is moving towards a convergence of statistical risk measures and an evaluation of unpredictable course variations to determine an organization's overall tolerance for risk and make sound management decisions

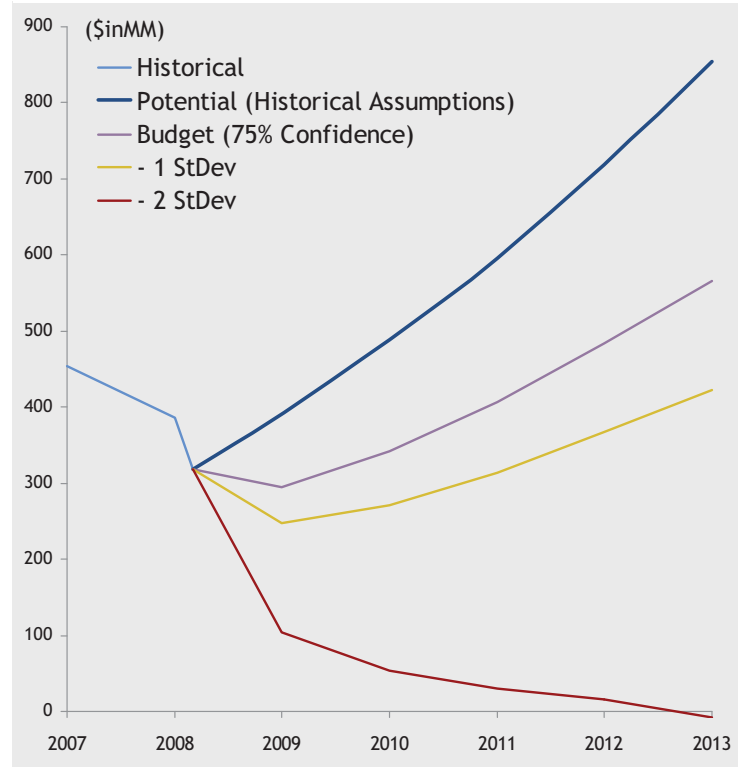


Various ways to value risk

Key takeaways:

- Markets are increasingly interconnected from diversification, so that one problem can easily spread to other markets
 - During times of turmoil one problem will usually lead to other problems (correlations increase among asset classes)
- Mismatch of long-term assets financed with short-term debt is a form of leverage that can create turmoil in periods of reduced liquidity
 - Committed fixed rate funding is the best source of long-term capital flexibility and internal liquidity
- Higher education should adopt an institutional culture of risk management that relies on sound judgment that is informed by the quantitative tools of risk management
 - Speed of information from different aspects of the university can help identify problems before they have the potential to impact the mission of the institution

Sample: Potential Future Unrestricted Net Assets



Source: J.P. Morgan



Lessons learned

	Do	Do not
Leadership	<ul style="list-style-type: none"> ■ Provide transparency to key stakeholders ■ Boards and chief executives should proactively test management on current balance sheet/liquidity ■ Focus on long-term value creation over problems in accounting treatment or short-term ratings impact 	<ul style="list-style-type: none"> ■ Avoid the difficult messages. You must convey them to senior management ■ Be paralyzed by the fall in endowment assets over the last twelve months ■ Rely on the action or inaction of peers
Core Strategy	<ul style="list-style-type: none"> ■ Stay focused on core strategic plan <ul style="list-style-type: none"> ■ Financial engineering can create temporary patches, but operations hold the key to growth 	<ul style="list-style-type: none"> ■ Try to address operational weakness with financial engineering <ul style="list-style-type: none"> ■ Financial engineering is a poor substitute for core operations growth
Communication	<ul style="list-style-type: none"> ■ Promote clear communication <ul style="list-style-type: none"> ■ Engage in continued dialogue with Boards, senior management, creditors, rating agencies, regulators, banks, and other stakeholders 	<ul style="list-style-type: none"> ■ Send a message that you may have to reverse ■ Wait to announce bad news expecting things to get better
Capital Structure	<ul style="list-style-type: none"> ■ Consider a fortress balance sheet as a strategic asset <ul style="list-style-type: none"> ■ Maintain flexibility for downturns as the best opportunities often arise then and downturns may last longer than expected ■ Understand the relationship between liquidity and capital structure 	<ul style="list-style-type: none"> ■ Lever up because debt is “cheap” ■ Insist on a rating that is not consistent with your long-term strategic and financial objectives

Lessons learned (cont'd)

	Do	Do not
Capital Raising	<ul style="list-style-type: none"> ■ Access markets when they are available ■ Enjoy the first mover advantage, if it presents itself ■ Consider taking more than you think you need when it is available 	<ul style="list-style-type: none"> ■ Try to time the market to save a few basis points ■ Significantly mismatch the maturity of assets and funding ■ Rule out any source of financing
Risk Management	<ul style="list-style-type: none"> ■ Think about contingency plans in downside scenarios that are not part of the traditional models <ul style="list-style-type: none"> ■ During down cycles, bad events typically lead to other bad events 	<ul style="list-style-type: none"> ■ Rely exclusively on traditional statistical risk management models ■ Confuse risk management with speculation
Liquidity	<ul style="list-style-type: none"> ■ Focus on various definitions of liquidity, including cash only, cash plus undrawn bank lines, and unrestricted net assets ■ Gauge how you could operate without a bank line 	<ul style="list-style-type: none"> ■ Focus on the negative carry of liquidity, that cost is significantly smaller than the cost of too little liquidity ■ Rely on just one source of liquidity ■ Take cash, liquidity, banks, and capital market access for granted
Cash Management	<ul style="list-style-type: none"> ■ Know what you're buying <ul style="list-style-type: none"> ■ Focus on safety, liquidity, diversity, and yield 	<ul style="list-style-type: none"> ■ Forget that higher returns most likely imply higher risk or lower liquidity ■ Trust the carry trade

Some institutional changes in the works:

- Changes in frequency and types of monitoring for different risks
- Changes to operating environment in anticipation of budget constraints
 - Strong operating performance may be the best risk management tool available in 2009
- Changes in project timelines and resulting impact on the strategic plan
- Use of extensive stress testing at the university level and for individual budgets, including contingency planning
- More careful evaluation of low price vs. quality when evaluating bank products and other counterparties

In closing:

- The scope of the Treasury function has greatly increased as financial decisions center around budgets, liquidity, capital structure, strategic initiatives and other inter-related areas
- We find ourselves using the word “never” a lot less in 2009 as compared to 2007

We welcome your questions

