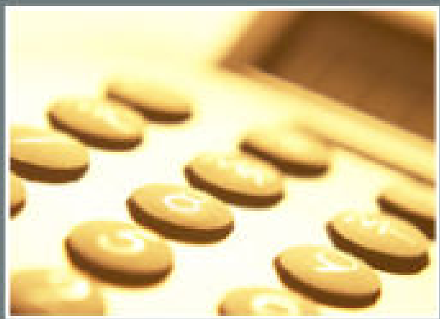
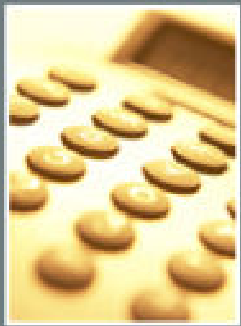



Finance 301

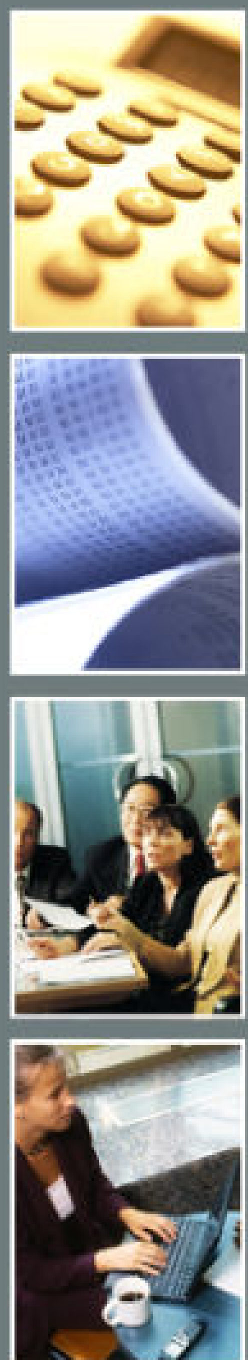
Recent Issues Impacting the Tax-Exempt Market

Kevin L. Boyce, Ohio Treasurer of State



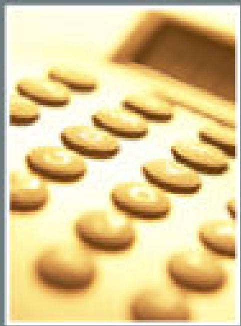

Tax-Exempt Interest Rates

- Tax-exempt rates are derived from the combination of taxable interest rates and investor demand.
- Investors generally base their decisions on their marginal tax rates. If not, there is an advantage for purchasing one security over the other (i.e. an arbitrage).



Tax-Exempt Interest Rates

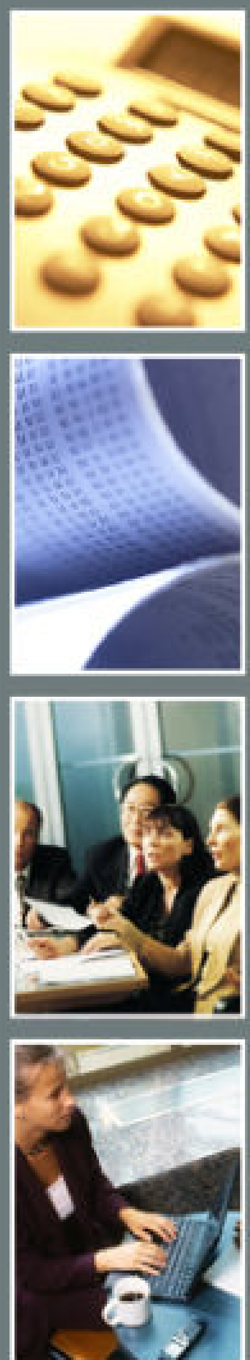
- The relationship between tax-exempt and taxable rates is expressed as a ratio.
- The greatest value of tax-exemption is generally at the short-end of the yield curve.

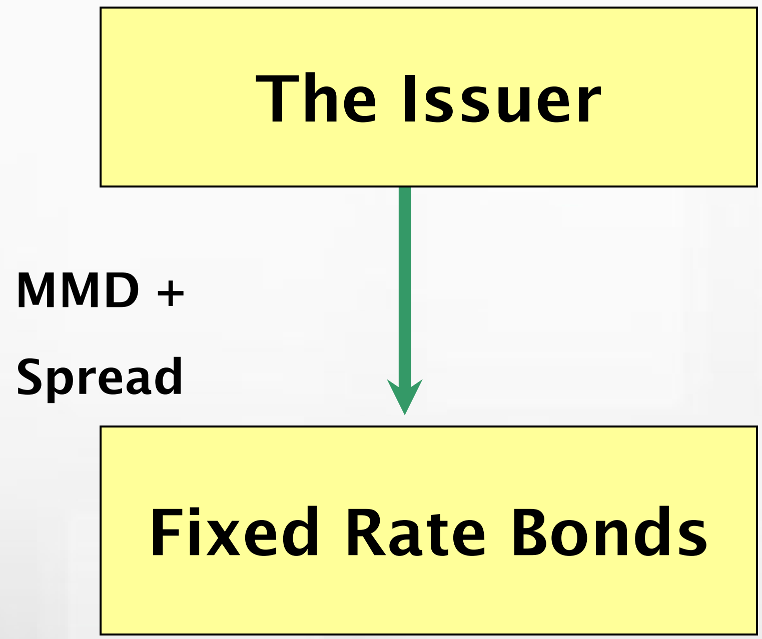


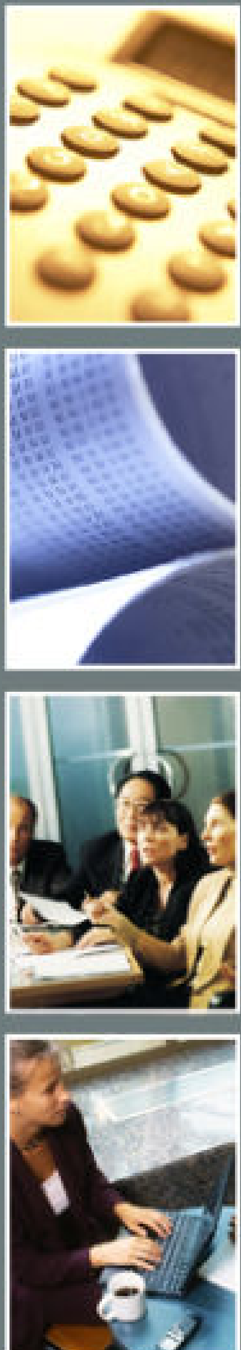

Long-term Municipal Market Rates

- The baseline indices or benchmarks for long term tax–exempt and taxable markets are MMD (Municipal Market Data) and Treasury yields, respectively.

Fixed Rate Bond Structure

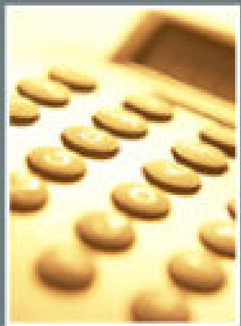






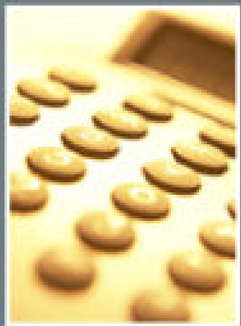
Short-term Municipal Market Rates

- The baseline indices or benchmarks for short term tax-exempt and taxable markets are SIFMA (formerly BMA) and LIBOR, respectively.




SIFMA Index

- The SIFMA index is a weekly high grade market index comprised of 7-day tax exempt variable rate demand notes produced by the Municipal Market Data Group.
- Actual issues are selected from Municipal Market Data's database of more than 10,000 active issues based on several specific criteria.
- SIFMA resets every Thursday.



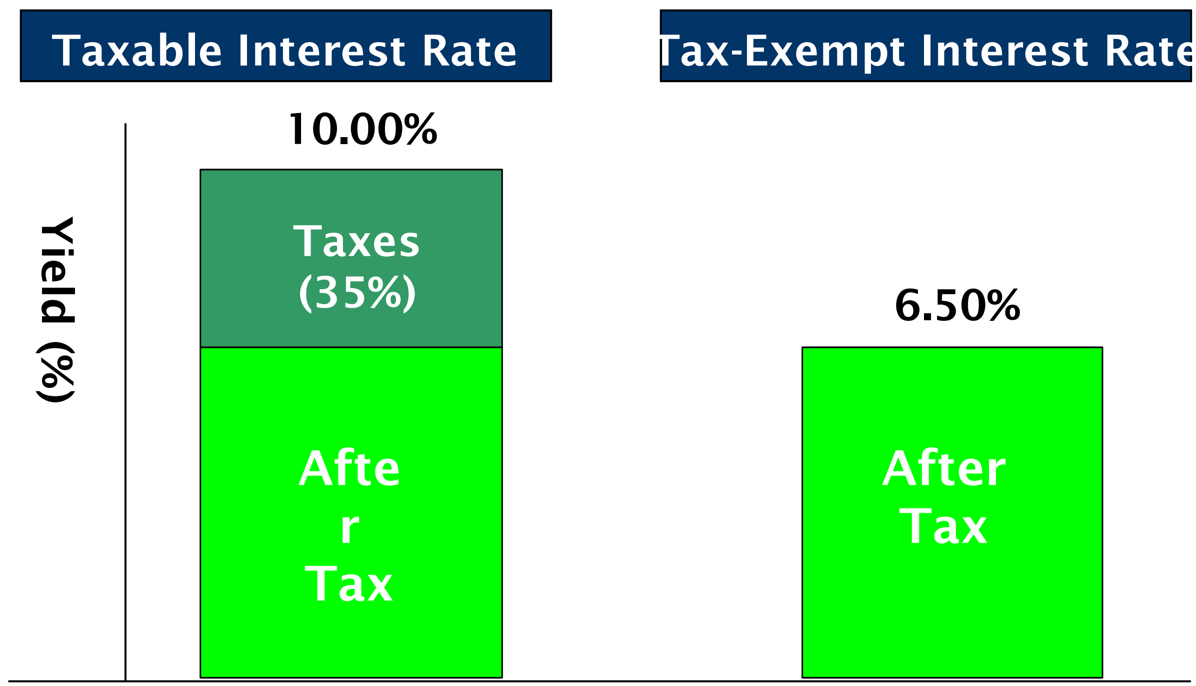

LIBOR

- This rate is applicable to the short-term international interbank market, and applies to very large loans borrowed from one day to five years. This market allows banks with liquidity requirements to borrow quickly from other banks with surpluses.

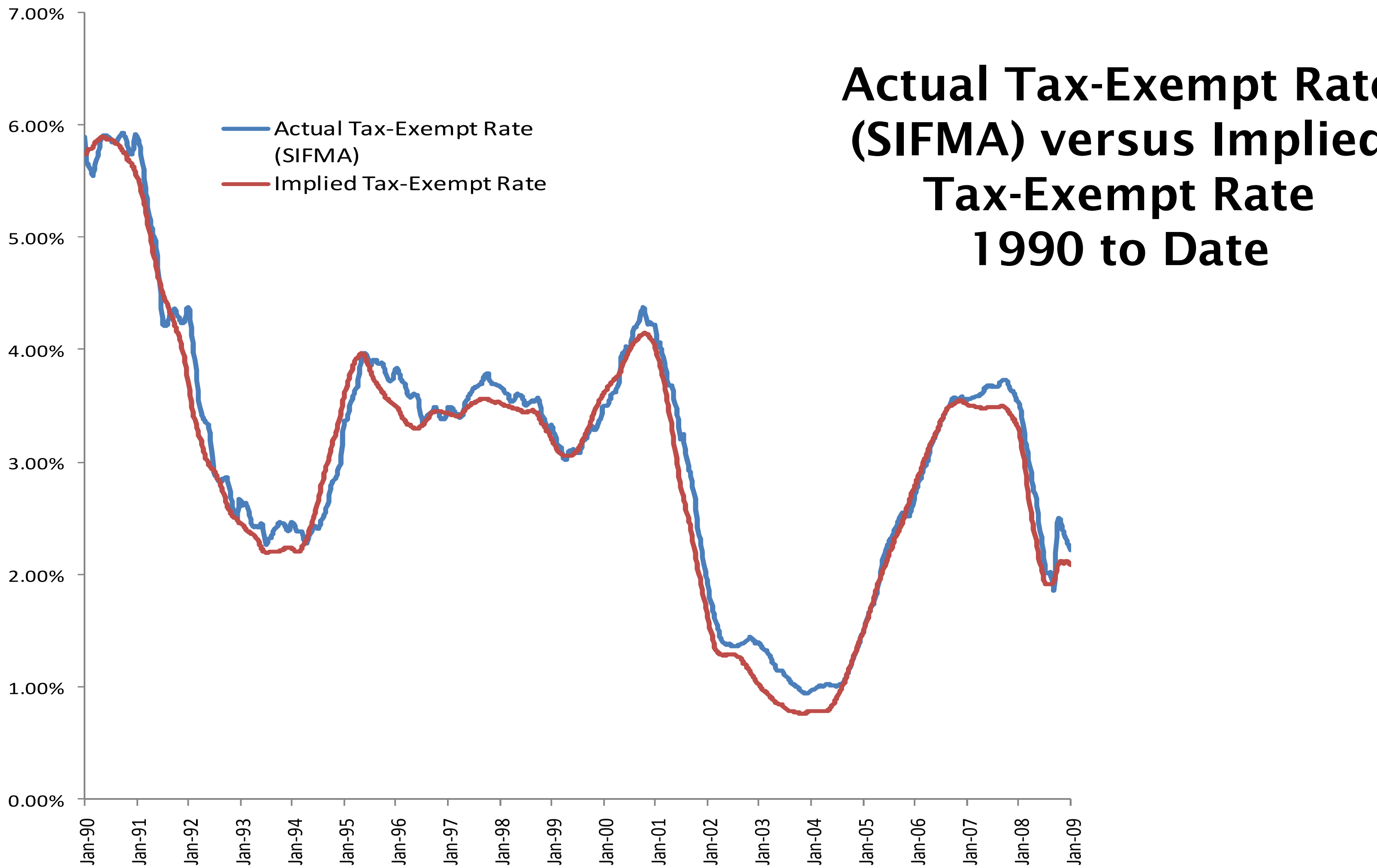
- LIBOR is officially fixed by a small group of large London banks, but the rate changes throughout the day. LIBOR is the primary bench-mark used by banks, securities houses and investors to fix the cost of borrowing in the money, derivatives and capital markets around the world.

Investment Decision Criteria

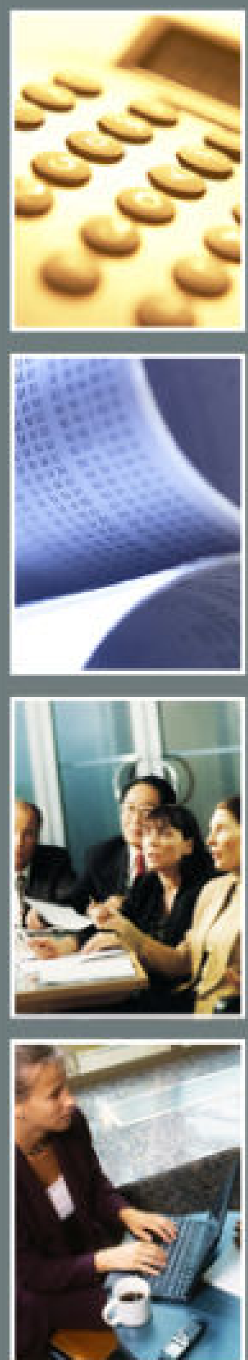
Tax-exempt and taxable interest rates should be equal ***after*** taxes.



Correlation of SIFMA/LIBOR Ratio to Marginal Tax Rates



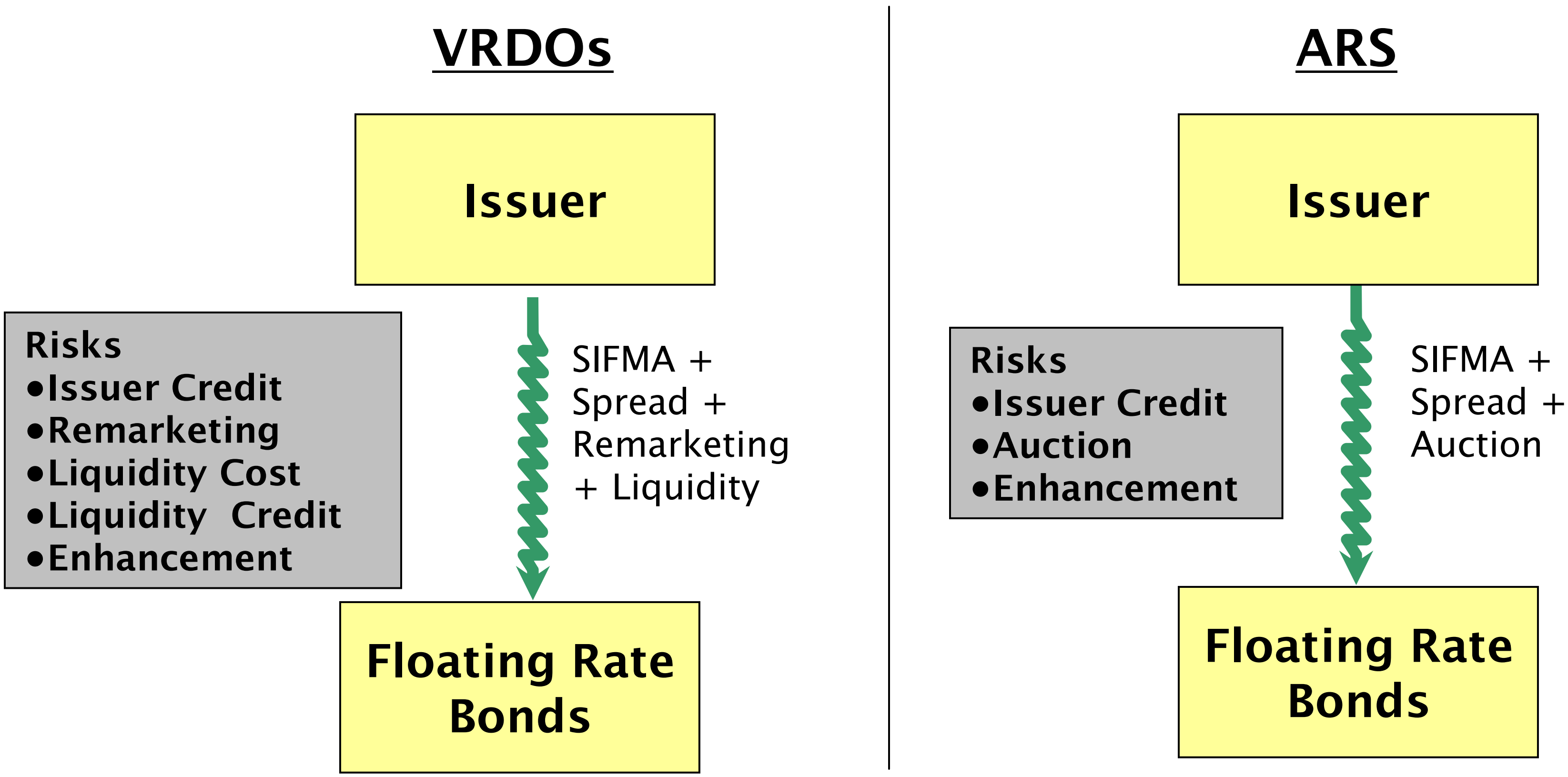
Actual Tax-Exempt Rate (SIFMA) versus Implied Tax-Exempt Rate 1990 to Date



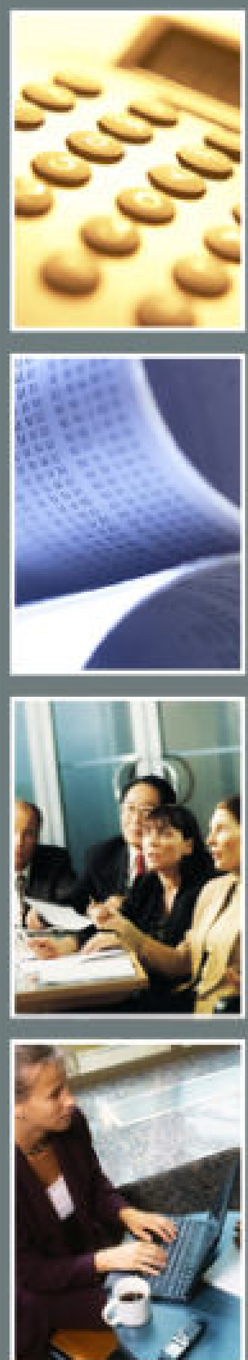
Variable Rate Notes

- Historically, variable rate structures have provided a lower cost of funds compared to fixed rate bonds.
- Variable Rate Demand Notes (VRDNs) and Auction Rate Securities (ARS) are common forms of variable rate securities.
- The added complexity of traditional variable rate obligations can create challenges for issuers (i.e. credit enhancement, remarketing, etc.)

Variable Rate Debt Alternatives: Mechanics

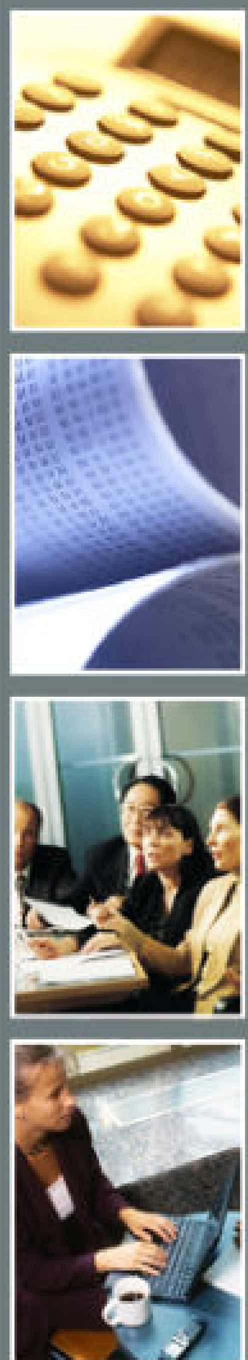


Spread can vary based on bond maturity and issuer credit.



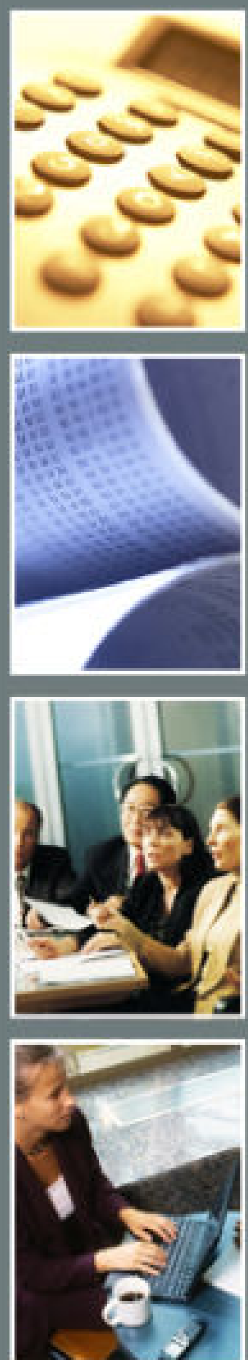
The Sub-Prime Mortgage Market

- Low interest mortgage products were created (ARMs, Interest Only, etc.).
- Documentation and credit standards were relaxed.
- Mortgages were securitized into collateralized debt obligations (CDOs).
- CDOs were insured by AAA rated monoline insurance companies (bond insurers) in order to obtain higher ratings and attract a wider investor base.



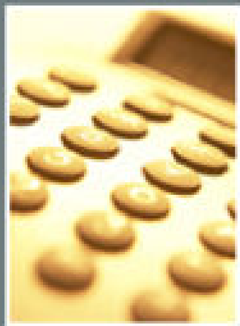
The Sub-Prime Mortgage Market

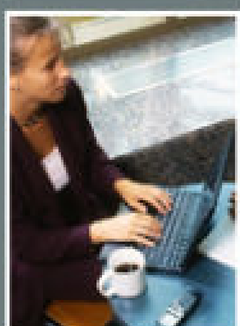
- Interest rates increased.
- Other costs were incurred.
- Defaults and foreclosures increased.
- Property values declined.
- CDO payments in jeopardy.
- CDOs downgraded.
- Bond insurers were downgraded.
- Banks and investors stuck with “toxic assets” that must be written down.



The Credit Crisis

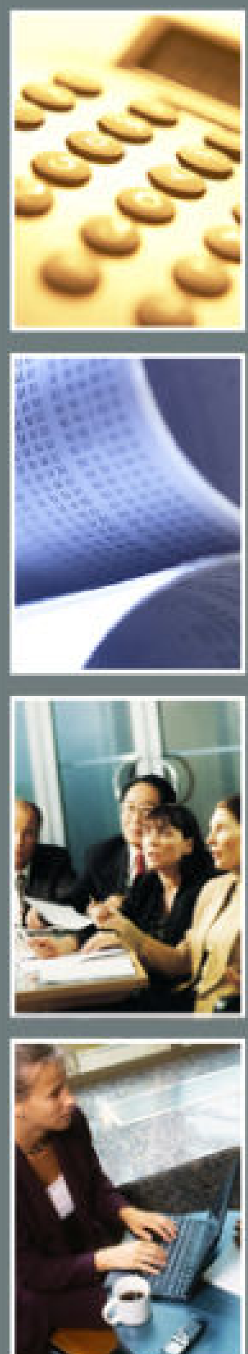
- Banks and other financial institutions had to write-down “toxic assets.”
- Reduced asset base restricted lending and the availability of credit.
- Credit became extremely expensive when/where available.
- Unused credit facilities closed.



Impact on the Municipal Market

- Bond Insurers downgraded.
- Lack of liquidity.
- Investor market dried up ARS Market Defunct.
  - Failed auctions
  - Increased interest costs
- Issuers unable to refund ARS.



Impact on the Municipal Market

- VRDNs
  - Failed remarketings
  - Increased interest costs
  - Increased liquidity costs
- Dislocation between tax-exempt and taxable interest rates (even high grade municipals).
- Investor base shift from institutional to retail.
- Major market “sell off” (flight to quality?).

Bond Insurers Continue to Face Major Challenges

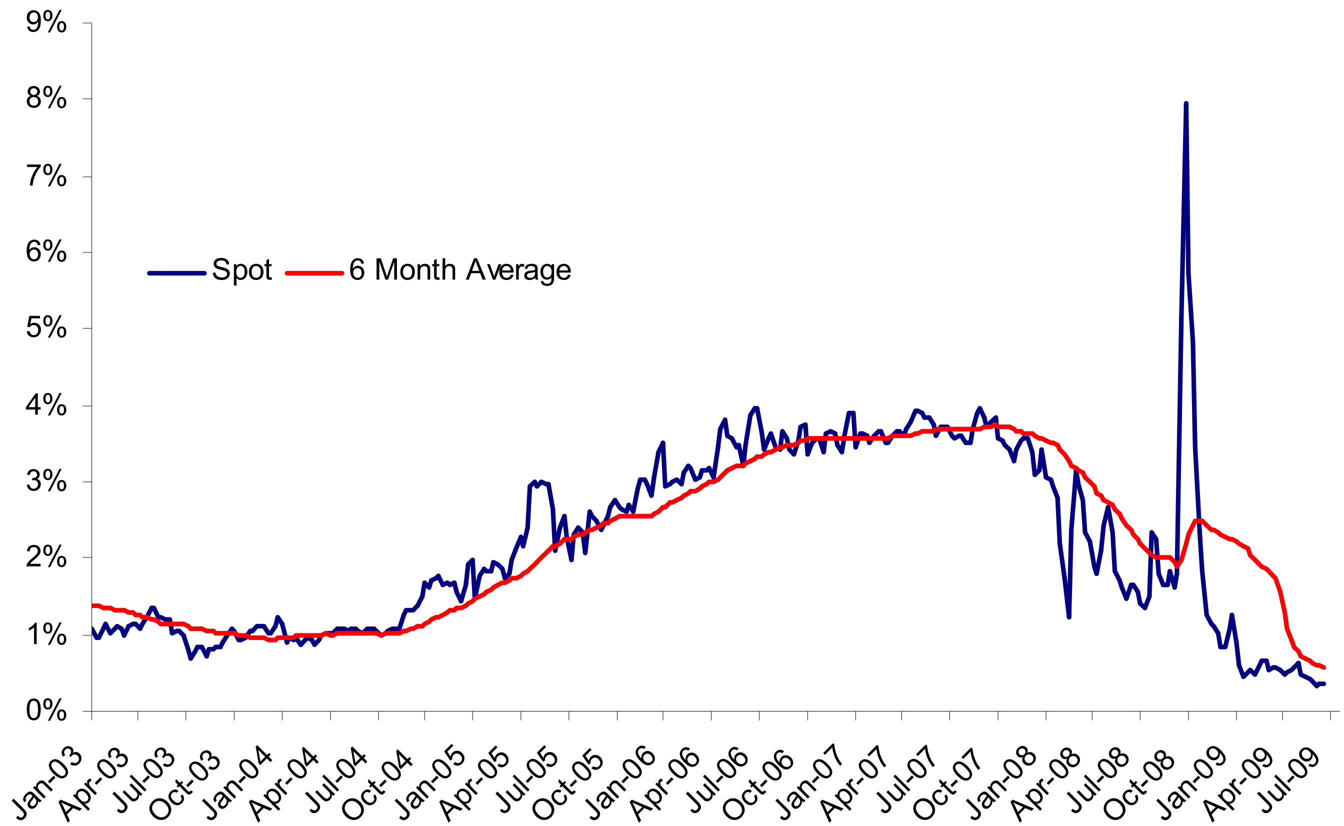
- The sub-prime debt crisis has had its greatest impact on the monoline bond insurers—nearly all have been downgraded or are at risk of a downgrade.
- Most companies have effectively ceased to offer new insurance policies.
- The ability to solicit cost effective bids from the insurers, while monitoring trading spreads for both insured and uninsured bonds has become increasingly important.
- This credit market dislocation has also placed greater focus on the underlying credit quality of municipal issuers.
- Insurance is much less prevalent in the municipal market. Where available, it is much more expensive with more restrictive covenants.

Summary of Bond Insurer Ratings

	Moody's		Standard & Poor's		Fitch	
Insurer	**Rating**	**Status**	**Rating**	**Status**	**Rating**	**Status**
Berkshire Hathaway	Aaa	Stable outlook	AAA	Stable outlook	NR	-
Assured Guaranty	Aa2	Stable outlook	AAA	Stable outlook	AAA	Stable outlook
FSA	Aa3	Outlook developing	AAA	Negative watch	AAA	Negative watch
Radian	A3	Under review for downgrade	BBB+	Negative outlook	NR	-
Ambac	Baa1	Outlook developing	A	Negative watch	NR	-
MBIA	Baa1	Under review for downgrade	AA	Negative outlook	NR	-
FGIC	Caa1	Negative outlook	CCC	Negative outlook	CCC	On "evolving" watch
CIFG	B3	Under review, direction uncertain	B	Developing watch	NR	-
ACA	NR	-	NR	-	NR	-
Syncora Guarantee Inc. *(formerly XL Capital Assurance)*	Caa1	Under review, direction uncertain	B	Developing watch	NR	-

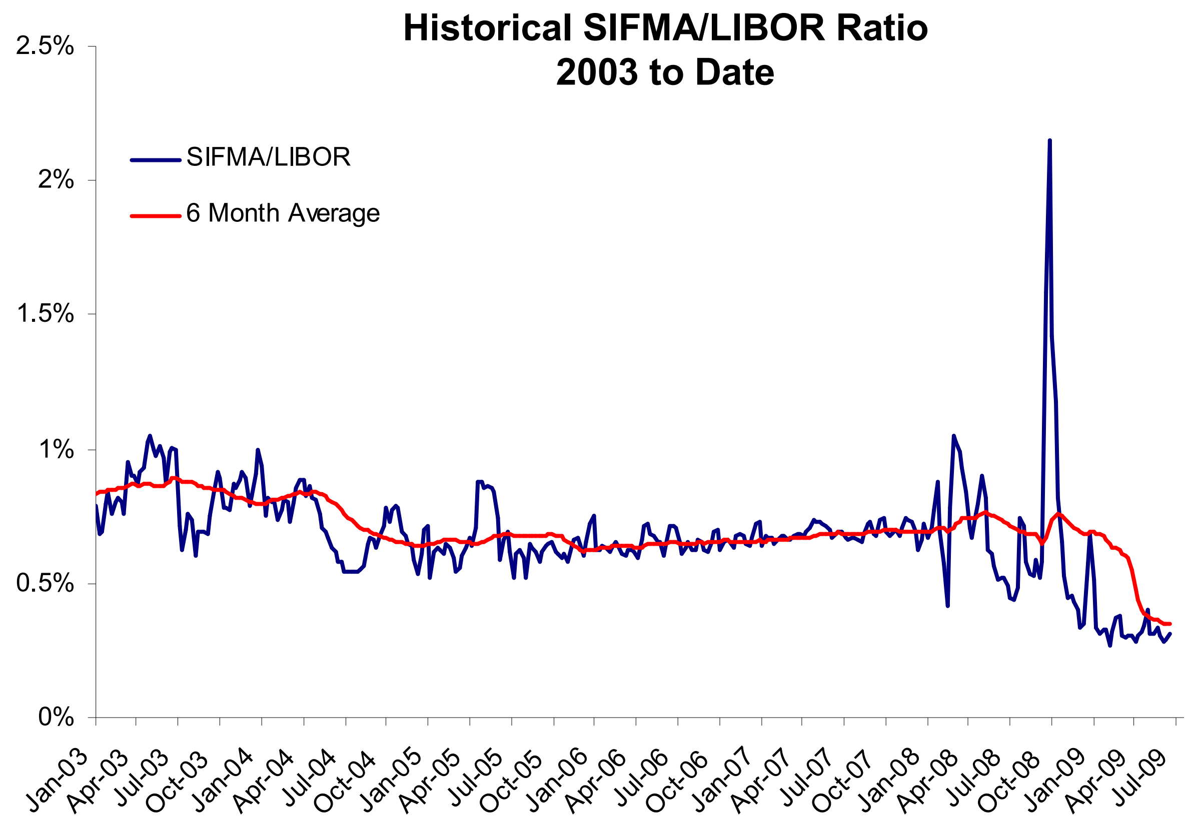
As of December 22, 2008

Historical SIFMA Rates

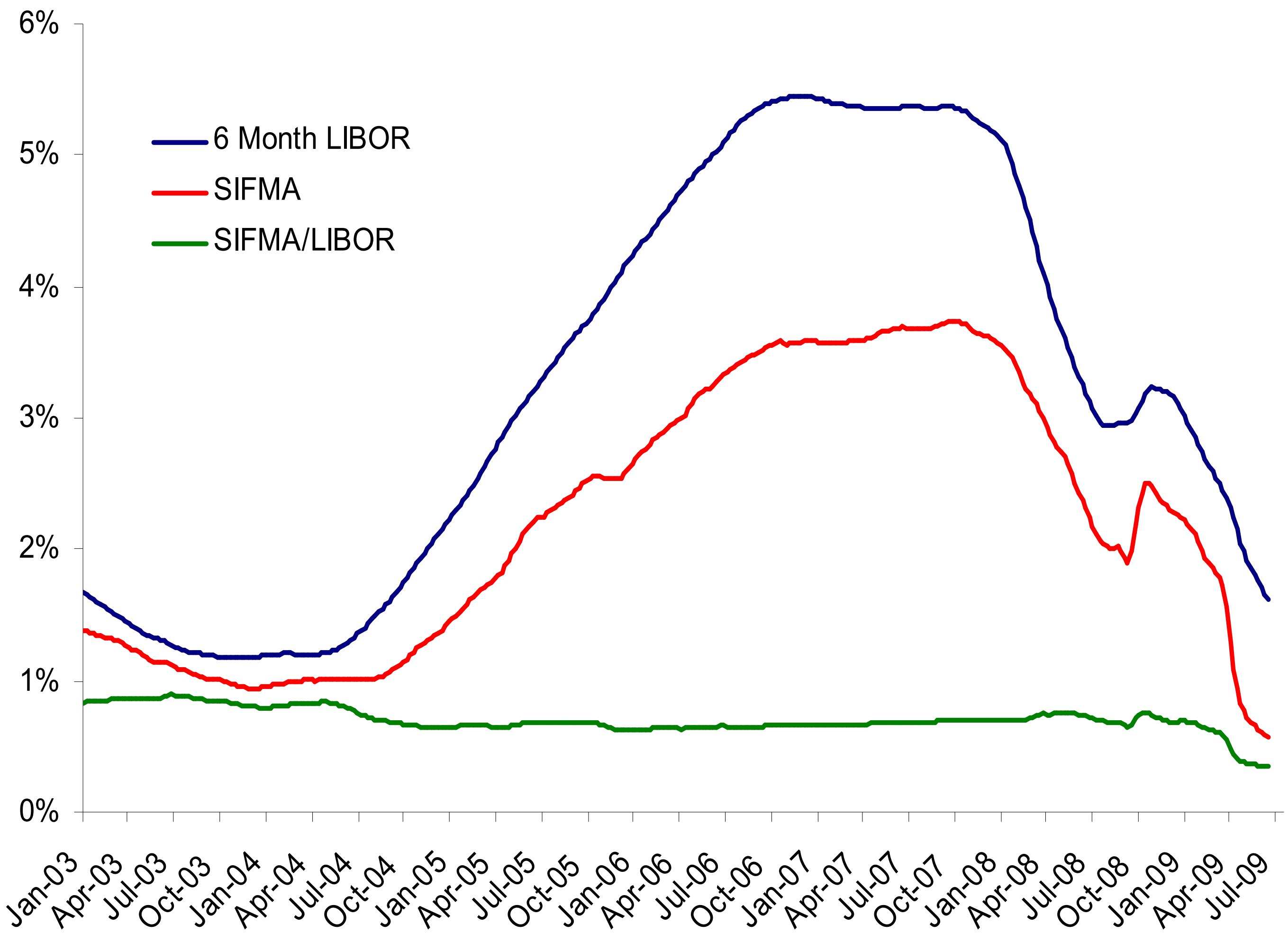


Historical SIFMA/LIBOR Ratio

The following graph depicts the actual SIFMA/LIBOR ratio and its six-month moving average since 2003. As the arbitrage fund participation in the municipal market increased due to the need for municipal bonds for Tender Option Bond Programs, the ratio volatility was significantly reduced from 2005 through mid 2007. At this point, the subprime mortgage crisis caused many arbitrage funds to leave the market which created greater day-to-day ratio volatility.



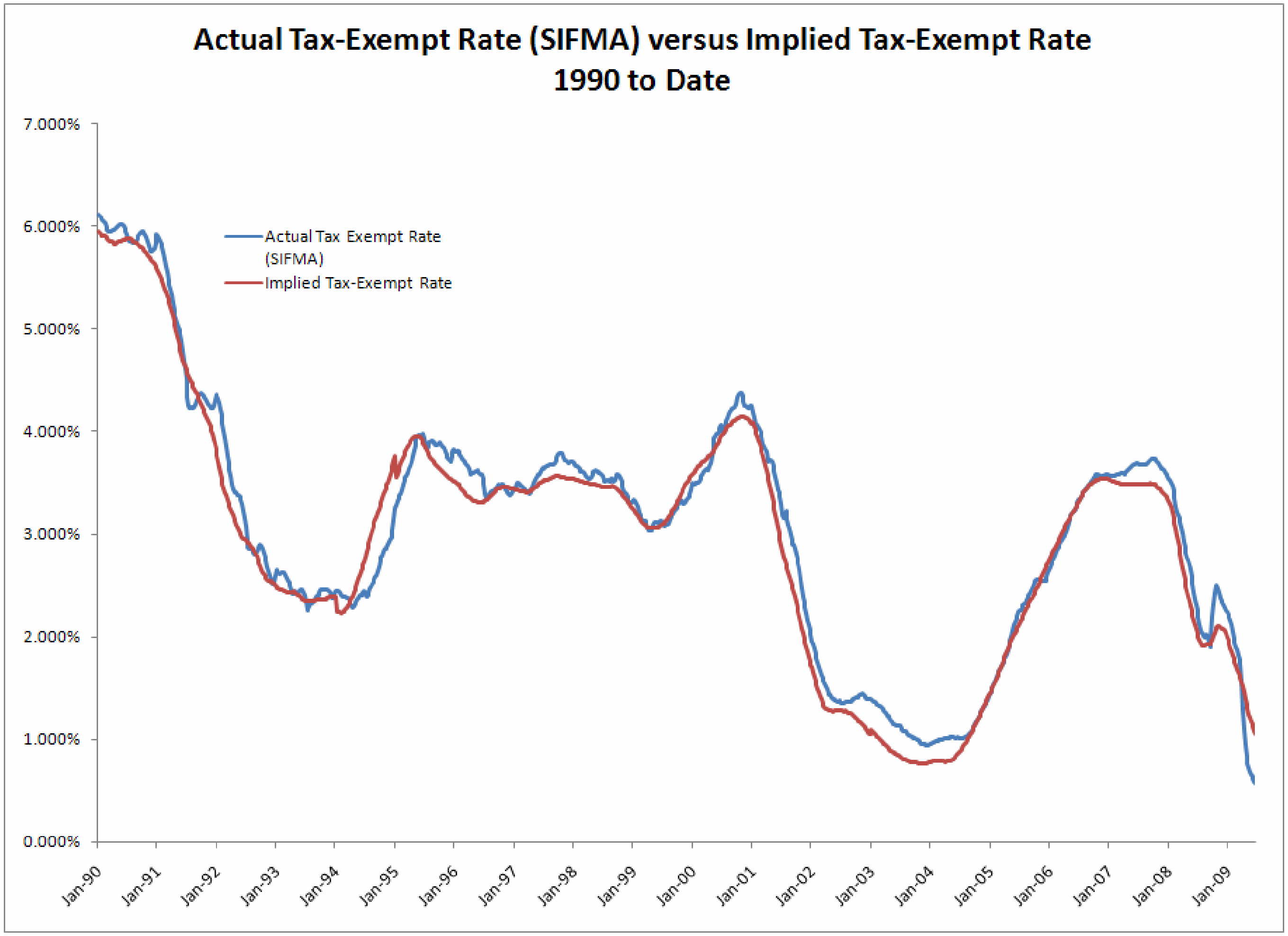
Historical SIFMA vs. 6M LIBOR Rates



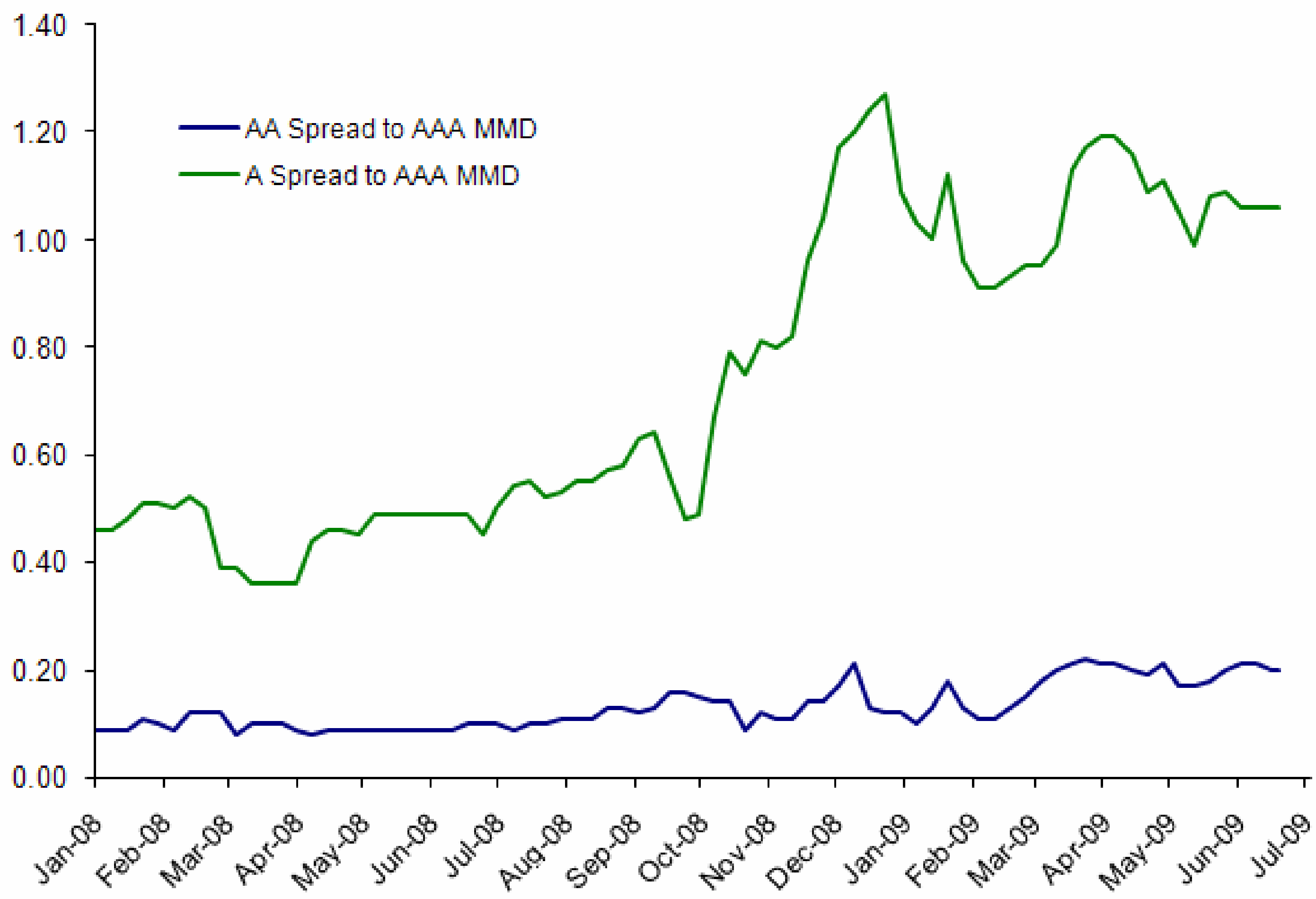
Assumes 6-month average

Correlation of SIFMA/LIBOR Ratio to Marginal Tax Rates

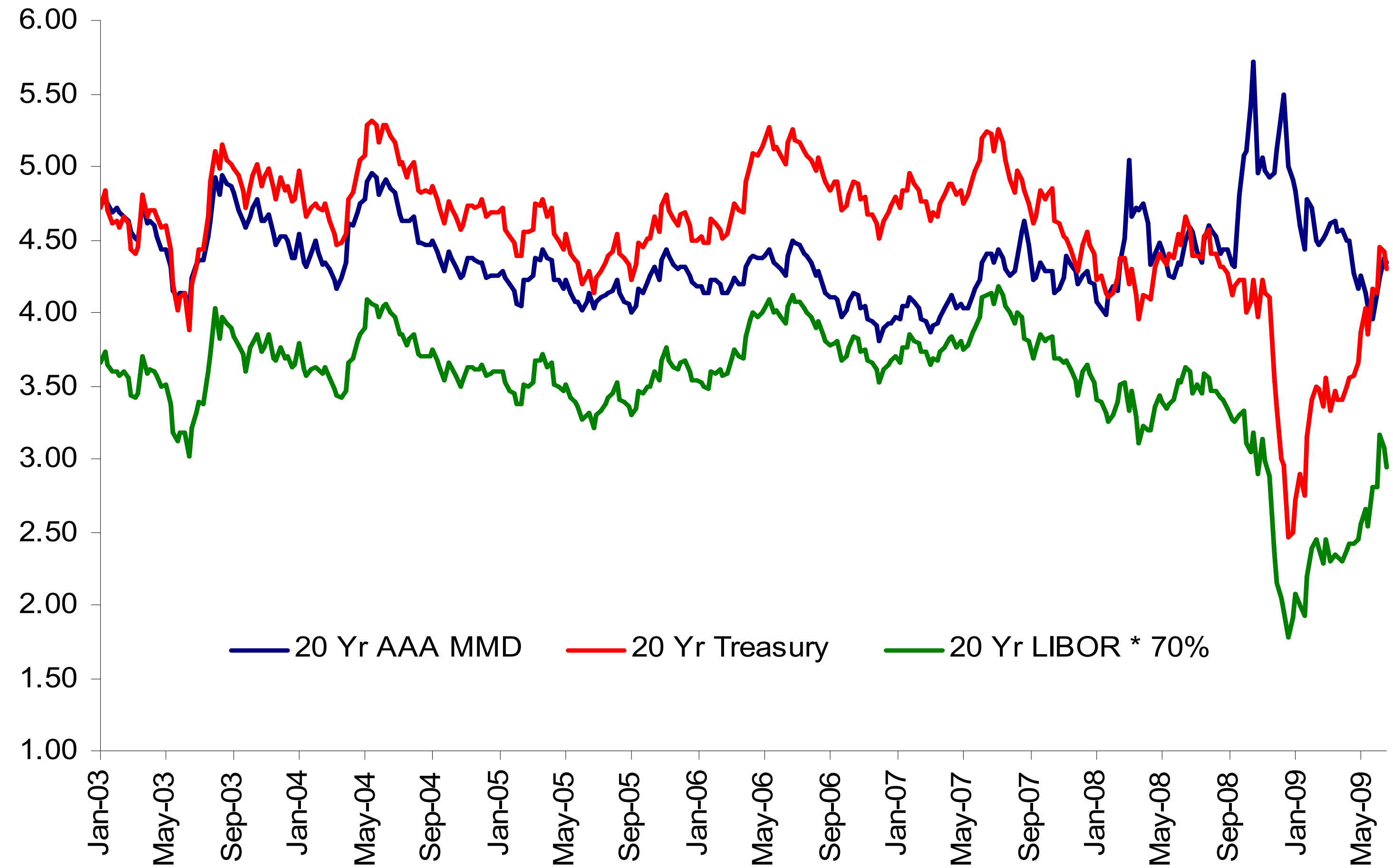
The relationship between SIFMA (tax-exempt) and LIBOR (taxable) short-term rates is largely determined by the Marginal Tax Rate. The correlation coefficient* of the actual tax-exempt rate (SIFMA Index) to the implied tax-exempt (LIBOR X [1 – Marginal Tax Rate]) is approximately 98% utilizing data from 1990 to present.

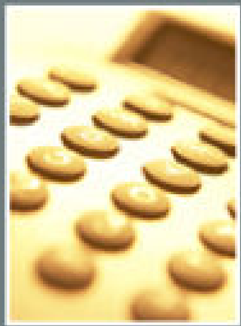


Historical MMD Spreads



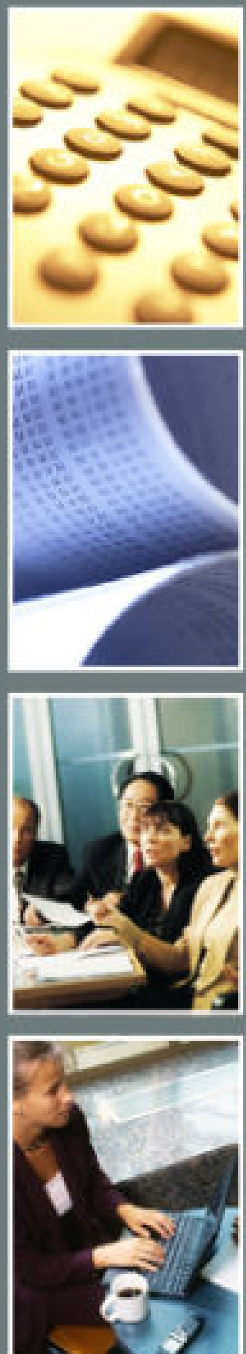
Historical 20- Year Indices (Treasury/ MMD/ 70%LIBOR)





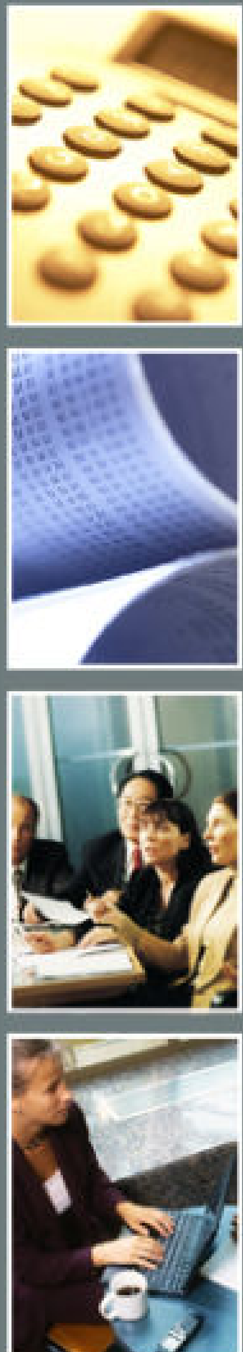

Impact on the Stock Market

- Financial institutions’ stock values declined precipitously.
- Some financial institutions face the possibility of bankruptcy.
- Consolidation of financial institutions.
- Money market fund “breaks the buck.”
- Major market “sell off” (flight to quality?).



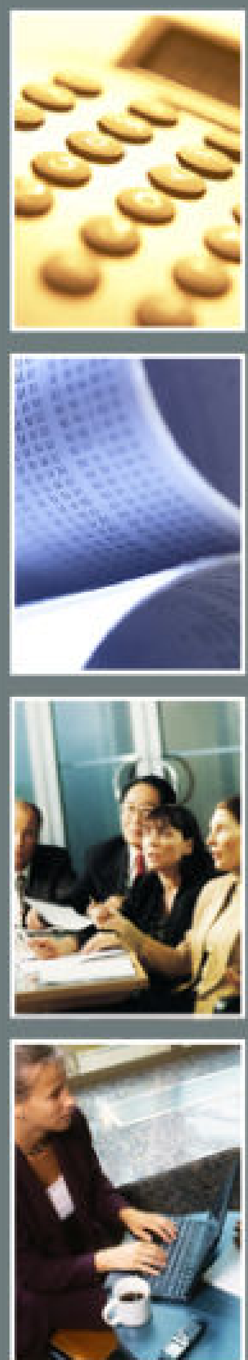
Impact on the Stock Market

- Investors lose trillions of dollars of value on their investments (retirement accounts, college tuition accounts, etc.).



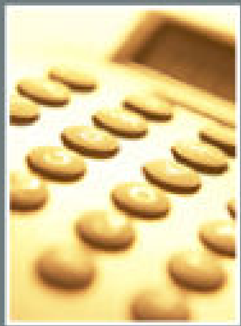
Impact on the Economy

- Consumer confidence decreased.
- Consumer spending decreased.
- Unemployment increased.
- Tax base eroded.
- Municipalities face severe budget deficits.
- Economy in a recession.



Federal Government Actions

- Fed stepped in to guarantee MMFs.
- FDIC insurance limits increased.
- FMOC lowered interest rates.
- Federal Government bailed out banks (with TARP money) to provide liquidity and “unfreeze” credit.




Federal Government Actions: What's Next?

- Federal Government __________ to address the banking crisis.
- Federal Government __________ to address the auto industry crisis.
- Federal Government __________ to address the mortgage crisis.
- Federal Government __________ to address the local government crisis.
- Federal Government __________ to address the unemployment crisis.
- Federal Government __________ to address the credit card crisis.