

## Money Market Mantra

Safety

LIQUIDITY

Yield

MMX 2007

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**Moody's Investors Service**

# Liquidity Environment

- ◆ Market awash in liquidity
- ◆ Many funds keeping elevated levels in “cash”
  - Attractive overnight rates, Yield inversion
  - Monetary policy at inflection point
- ◆ Corporate balance sheets elevated cash levels
  - \$2 Trillion in Commercial Paper
- ◆ New entrants to liquidity space



# Key Liquidity Considerations Different Vantage Points

- ◆ **Assets**, instrument considerations
- ◆ **Cashflows**, client redemptions
- ◆ **Portfolio structure** and investment process
- ◆ **Linkages to credit**



# Key Liquidity Considerations

◆ Asset level

◆ Cashflow, client redemptions

◆ Portfolio structure and investment process



# Legal Definition

- ◆ A liquid investment is one that can be sold or disposed of in the ordinary course of business within seven days at approximately the value at which the fund has valued the investment.



# Other Liquidity Drivers

- ◆ The frequency of trade, quote, and/ or valuation information.
- ◆ The number of available dealers and other investor.
- ◆ Whether or not those dealers would stand to make a market.
- ◆ The time needed to sell or dispose of the security and whether the mechanics of doing so are in accordance with industry standards.

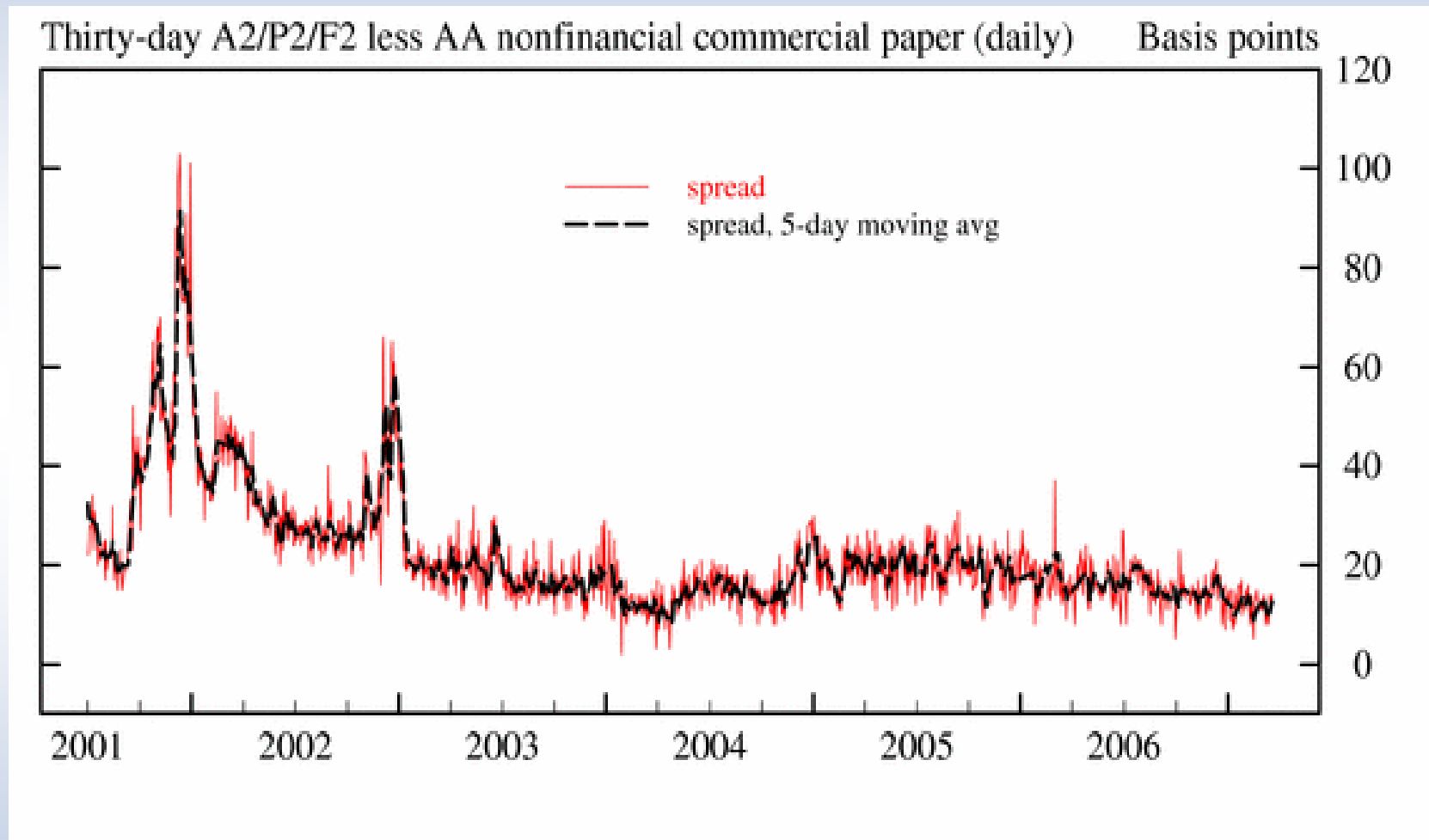


# Asset Class Considerations

- ◆ “Tying up” liquidity means that a fund “should be paid” for this
  - Spreads have compressed over time, time deposits “on top of” CDs
- ◆ Resource requirements, degrees of conservatism varied approaches to unique structures.
  - More specialization needed
- ◆ Illiquid and “less liquid” interpretations



# Risk premiums have declined and spreads remain compressed across the spectrum....unseen credit risks?



Derived from data supplied by DTC: March 20, 2007

# Liquidity Management is Specialized

## Sector Specialists

Treasury/Agency Securities



Money Market Technicals



Structured Products



Floating Rate Securities



Derivative Securities



## Environmental Considerations

- Technical markets
- Nature and extent of Credit linkages to US Government

- Compressed spreads
- Maturity management
- Cashflow challenges
- Interest rate resets
- Reinvestment

- Liquidity vs Credit
- Partial vs Fully Supported
- Obligor check

- Spread volatility
- Basis risk
- Reset Formulas
- Frequency
- Credit & Spread duration

- demand features
- swaps
- Termination events
- Early amortizations

Credit Research



Portfolio Construction

Compliance and Risk Control



# Asset Considerations

- ◆ Funding agreements
- ◆ Term time deposits
- ◆ Term repo
- ◆ Synthetic structures
- ◆ Credit linked notes
- ◆ Master Trusts, Master Notes



# “Liquidity”

- ◆ It’s there, until it is not.
- ◆ Know it when you see it.
- ◆ Too much liquidity can hurt performance and result in a fund requiring even more liquidity.



# Key Liquidity Considerations Different Vantage Points

- ◆ Asset level

- ◆ Cashflows, client redemptions

- ◆ Portfolio structure and investment process



# Cashflow considerations

- ◆ Large or small cashflows can be handled effectively without any detriment to performance as long as **good cashflow information** is available.
  - Cashflow calendars are well developed in bigger money fund complexes
  - Good communication linkages to distribution teams brings comp
  - Impact of portals
- ◆ Sizeable, unexpected cash flows create a situation where managers cannot get spent or raise enough cash to meet redemptions.



# Reinvestment risks

- ◆ selling securities at an inopportune time has its effects
- ◆ Credit events can cause “liquidity traps”
- ◆ “Lagging” performance where yield bandwidth is extremely tight.. Range of competition can be only 3-4 bps
- ◆ nature of shareholder base as well as concentration impacts fund profile in terms of asset allocation proclivities and risk



# Other considerations

- ◆ Impact of technicals more pronounced in certain markets, eg Treasurys
- ◆ Sponsors make sure that their approved lists are ready and sufficiently broad to deploy assets

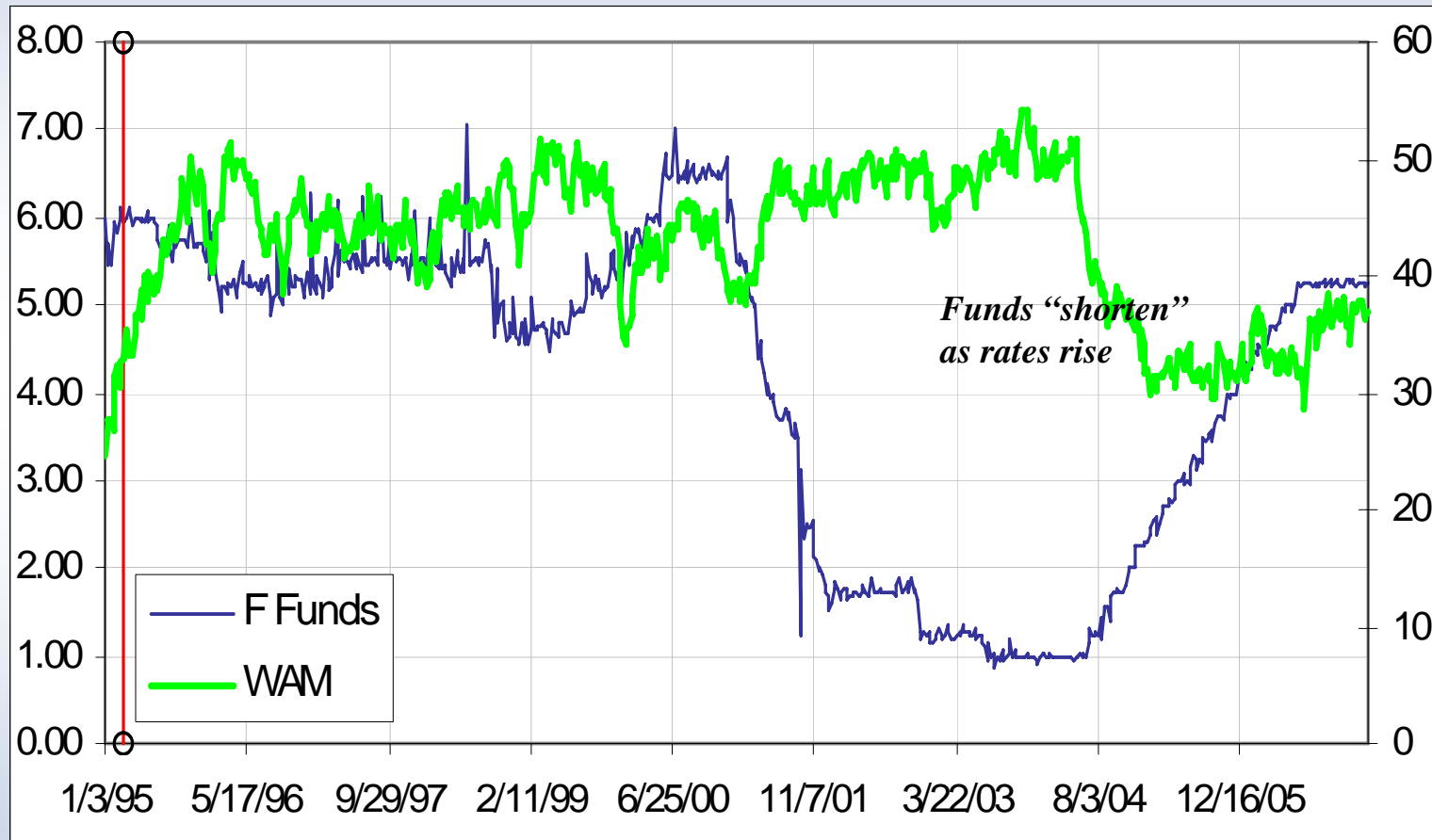


# Rate Call

- ◆ Maturity management critical to performance, and liquidity
  - Many different ways to get to a “WAM”
    - Managers run, break-evens to understand the future shape of the curve, opportunity costs and flows
    - Shortening up with inversion
  - Asset allocations in the cash space
- ◆ Correlation between WAM levels and excess performance to benchmark more pronounced at different points of the rate cycle



# WAM Management Changing Rate Cycles



# Based on interest rate environments overnights play a different roll in Investment strategy

## Rising rate environment.

- a.) Get short & Stay short.
- b.) Depending on FOMC schedule there may be a tight spread to overnights.
- c.) Heavy overnights and daily floaters to enhance yield and rapid portfolio re-pricing.

Scenario1  
Tactical use of “liquidity”



# Steady or flat rate environment

- a.) Overnights less critical for yield.  
Frequently tight spreads to overnights make daily trades useful for the Barbell structure.
- b.) Overnights purpose is liquidity as well as WAM management.
- c.) Quality Floaters even more critical for enhanced yield.

Scenario 2



# Falling rate environment

- a.) Barbell & get long.
- b.) Overnights less critical for yield.
- c.) Overnight purpose is Liquidity and WAM management.
- d.) Cash flow data important as hot money will flow in as fund yield will lag market.
- e.) Quality daily floaters very important to keep WAM low a execute more term trades...

Scenario 3



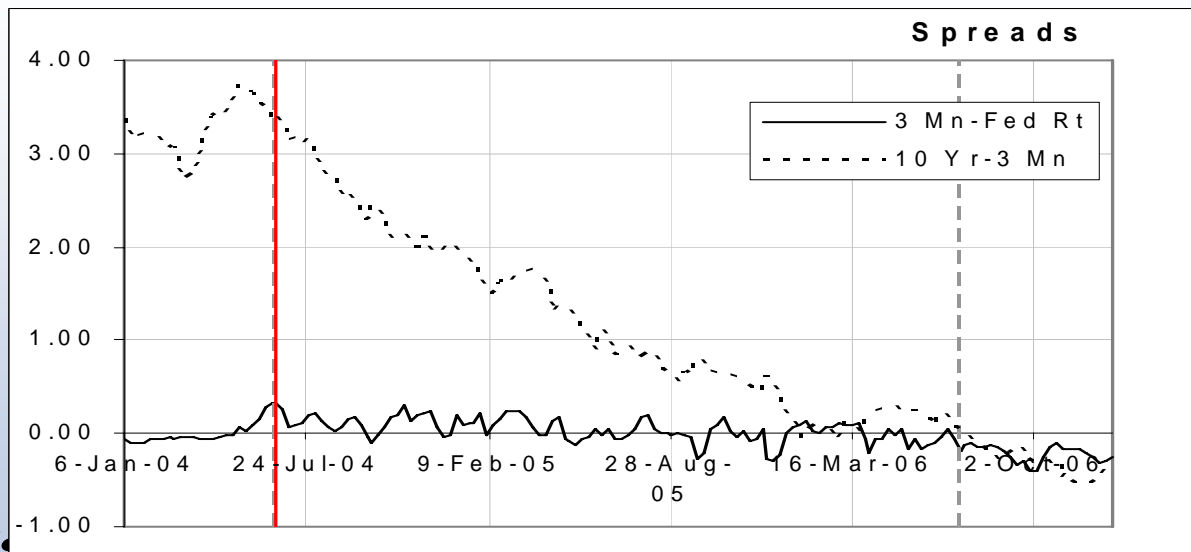
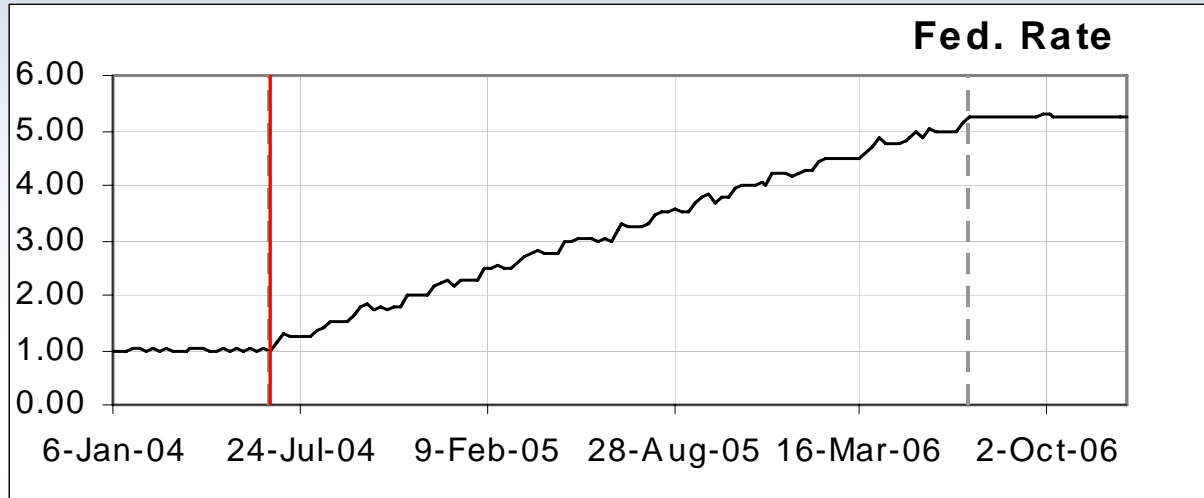
# Liquidity: War Room Mentality

- ◆ First Commandment: “Thou Cannot be Wrong on Fed”
  - Rate “call” and being sensitive to tracking FedFunds
  - pricing in Federal Reserve meetings “rest of year”
- ◆ Do cashflows have as much to do with performance as the rate call? (Some say “yes”. Others say knowledge of flows is pre-requisite to compete on institutional playing field.)
- ◆ Anticipation of cashflows: science and art
- ◆ ‘Defensive’ versus ‘aggressive’ posture with “enhanced” cash
  - tracking error to FedFunds
- ◆ “Break-Even” analysis, (daily? weekly?)
- ◆ “capping out” given yield dilution associated with new flows

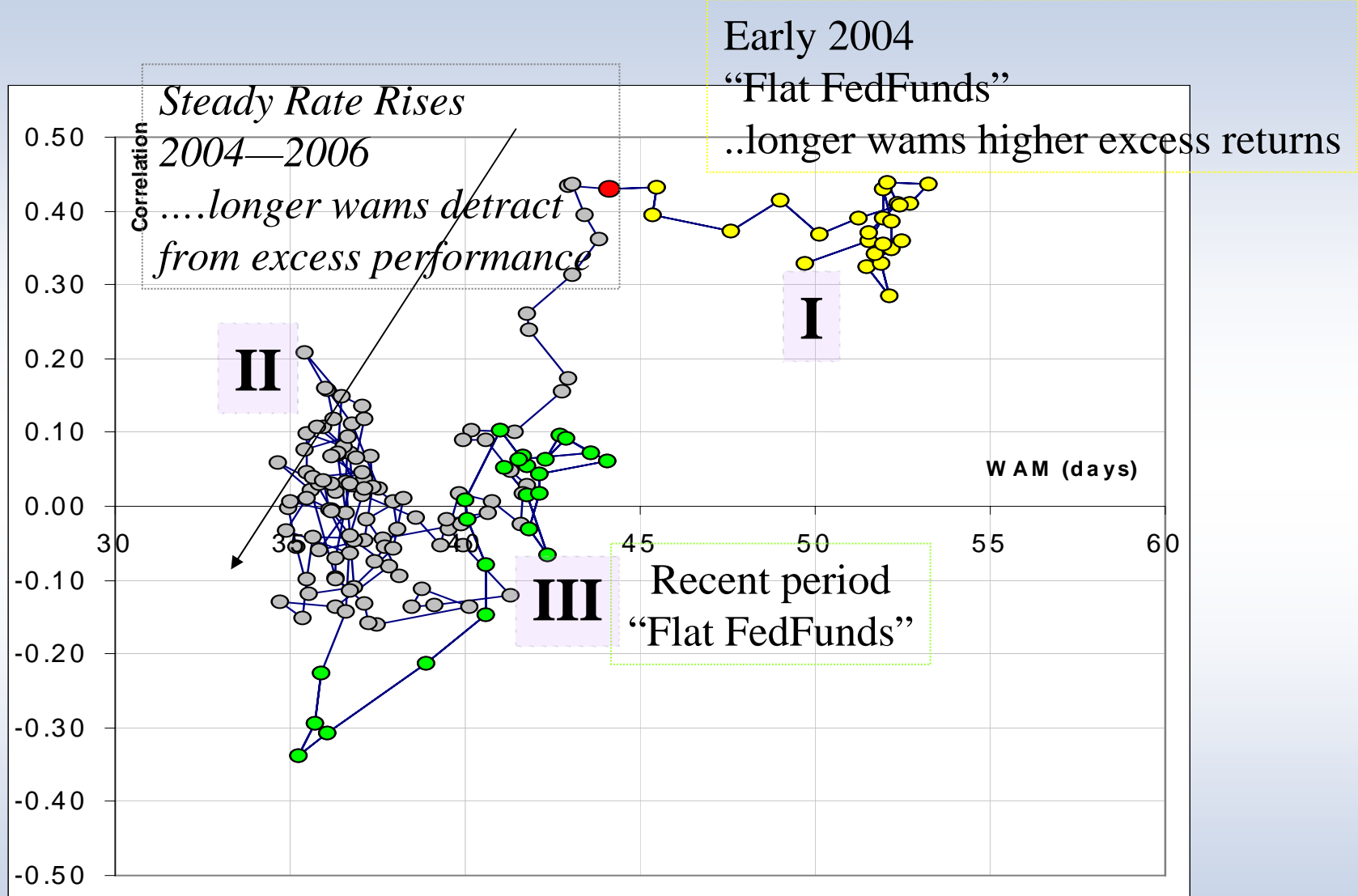


# Rate Call Dynamics

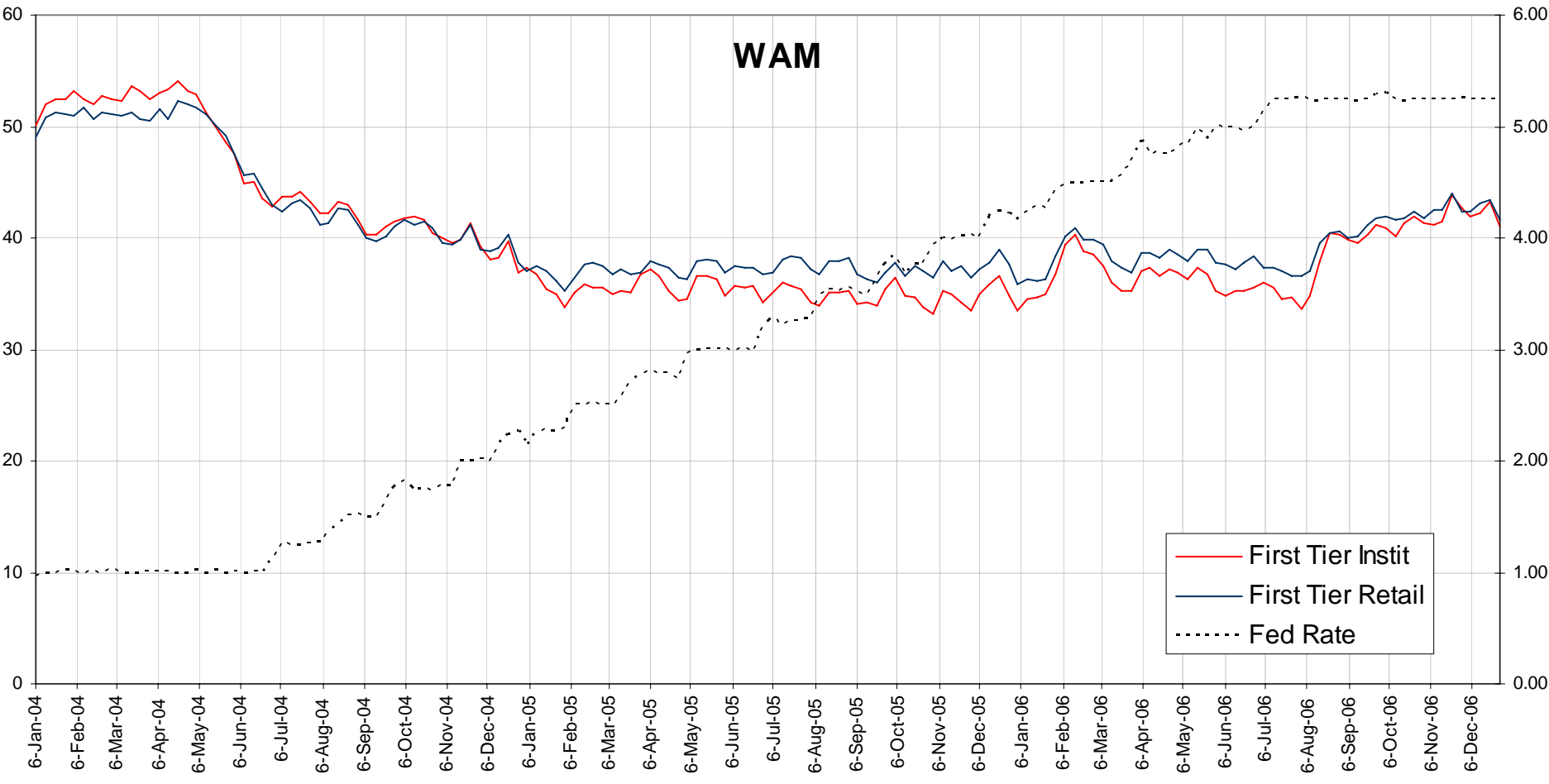
Data suggests that active maturity management in a changing rate environment affects performance....



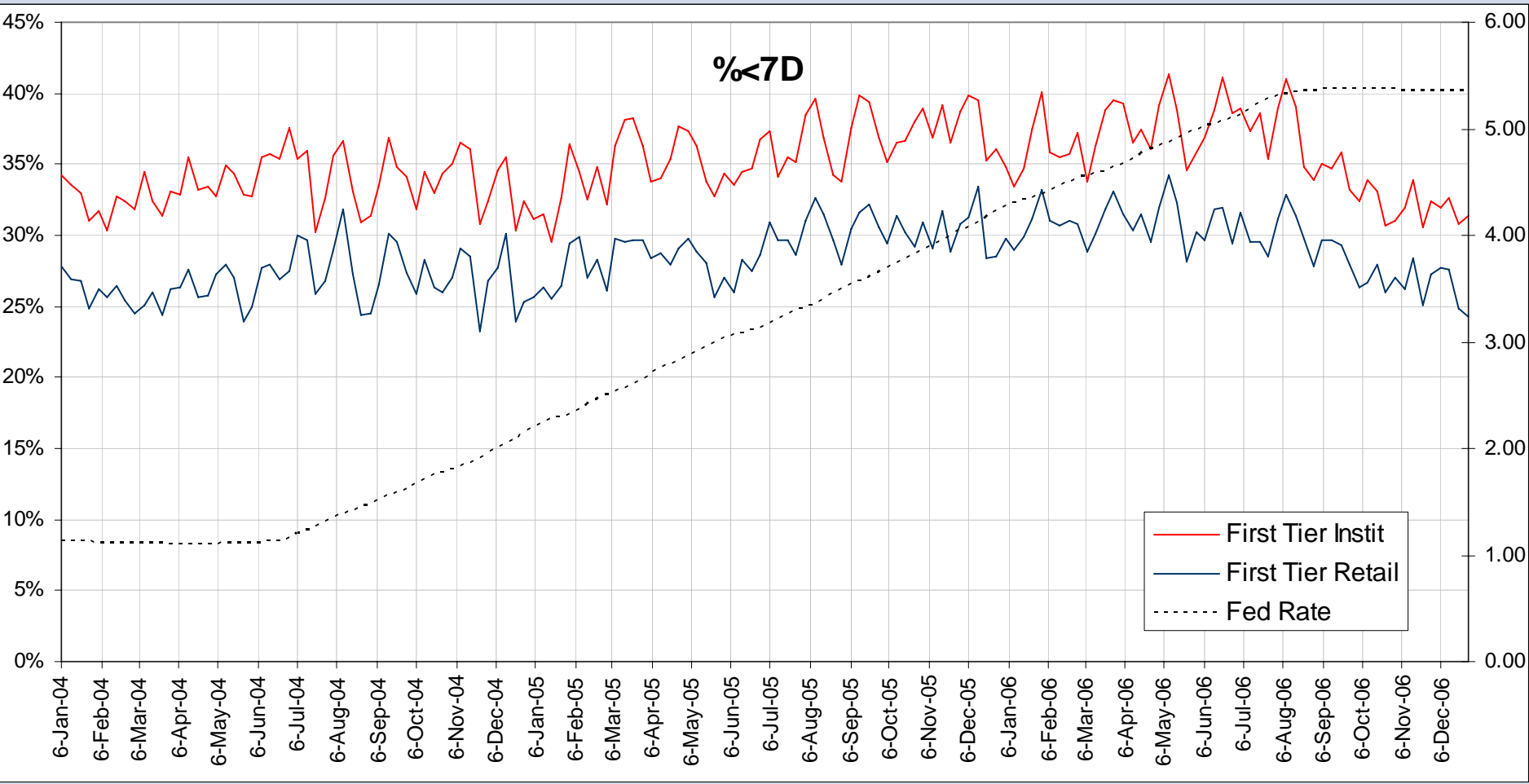
# WAM and Correlation to Excess Yield



# WAM



Retail assets exhibit more stable characteristics. This may afford managers flexibility to lengthen their maturity structure or lower their short term liquidity..



Retail assets exhibit more stable characteristics. This may afford managers flexibility to allocate less to shorter term investments.



# From whence: “liquidity challenges”

## ◆ Redemption pressures:

- Unforeseen versus anticipated
- competition: yield compression and return sensitive shareholders increase possibility for withdrawals and inopportune selling
- “Run-off” in a rising rate environment heightens challenges
- Asset flight compounds liquidity squeeze..liquidity of underlying assets



## ◆ cashflows, fund performance and risk

➤ Cashflow swings versus peers plus shape of yield curve impacts fund performance standings

- tightening cycle? If you are taking on cash faster than peer group, you will outperform.

(flat curve diminishes performance impact of large flows)

➤ Quality of information around “flows” affects a fund’s risk equation.

➤ Where flows diverge from expectations, funds may be forced to raise cash at inopportune times



# Reinvestment Risks

- ◆ selling securities at an inopportune time has its effects
- ◆ Credit events can cause “liquidity traps”
- ◆ “Lagging” performance where yield bandwidth is extremely tight.. Range of competition can be only 3-4 bps
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# Shareholder Basics

- ◆ Importance of the “distribution team”..
- ◆ familiarity with shareholder behavior potentially alleviates adverse impact of yield sensitive shareholders redeeming
  - fund liquidates shortest duration assets, maturity structure of fund extends accentuating
  - underperformance of older vintage assets in rising rate environment.



# "Liquidity"

## Issues and Elements

- ◆ "Market" Liquidity
- ◆ Tradeability
- ◆ Availability of "Alternate Liquidity"

## Stakeholders

- ◆ Primary lenders
- ◆ Liquidity Providers
- ◆ Liquidity support
- ◆ Credit risk takers

*Thinking about Credit Risk Analysis*



# Liquid

“It’s all liquid until it’s not.”

Credit events impact liquidity



## Credit Perspective

- ◆ Fundamental credit quality
- ◆ Vulnerability to “shock risk”
- ◆ Reliance on confidence sensitive (**hot**) funding
- ◆ Quality & Adequacy of on-balance sheet liquidity
- ◆ Quality & Adequacy of alternate liquidity

Credit and liquidity are substitutable, but only to a certain extent



**“Credit” means..**



*Investment losses attributable to default*  
+ *selling security w declining market value at loss*  
*Credit Related Risks*

**..checking the cash register.**

**\$1.00 NAV**



# Credit Landscape: Emerging “Risk Themes”

- ◆ Increased “optionality” in money market funds
  - Extensions, calls, untimely terminations, structural complexity
  - Are Funds doing “indirectly” what not supposed to do “directly”?
- ◆ “Liquidity”
  - Liberal use of “illiquid basket”
  - Cashflow volatility and “hot money”
- ◆ Maturity Management Issues: “leveraged” WAMs
- ◆ Growing prevalence of non-traditional assets and non-traditional collateral in repurchase agreements
- ◆ Diversification: Financial, bank obligor sector risk predominates
  - ever shrinking availability of different banks that provide external support as the industry consolidates
- ◆ Specialization: growing prevalence of structured product and synthetics

Credit Spread duration

- ◆ Index volatility eg. BMA



# Credit Analysis of Portfolio Securities

## SEC Letter May 8, 1990

“The board of directors must determine that a security presents **minimal credit risk** whether or not the security has been rated by a NRSRO. The board cannot merely conclude that, because the security is rated high quality, it presents minimal credit risk. Rather, in our view, a board of directors can only make this determination based upon an analysis of the issuer’s capacity to repay its short-term debt. Examples of elements of such an analysis include:

- (i) A **cash flow** analysis
- (ii) An assessment of the issuer’s **ability to react to future events**, including a review of the issuer’s competitive position, cost structure and capital intensiveness;
- (iii) an **assessment of the issuer’s liquidity**, including bank lines of credit and alternative sources of liquidity to support its commercial paper; and
- (iv) A “worst case scenario” evaluation of the issuer’s ability to repay its short-term debt from cash sources or asset liquidations in the event that the issuer’s backup credit facilities are unavailable...



# Preparation

Cash flow calendars: Tracking flow data

Core holdings a foundation to portfolio construction

Credit Analysis essential, adds to flexibility

*Increased specialization placing demands on fund sponsors for newer asset types*

*“Because liquidity is very hard to predict and often linked to credit events, fund sponsors may invest and rely more upon their credit teams.”*

