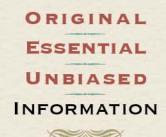
# AFP® Association for Financial Professionals® Annual Conference

November 7-10, 2010 | San Antonio —



Liquidity management:

Best practices for a new era

Kevin Bannerton Managing Director, Liquidity Management DB Advisors Devin Parker Director, Treasury Capital Markets Western Union

# Effective liquidity management in a new era

### Defining objectives and risk within the new market reality

- Questions all investors should be asking
- Implications of the new market reality
- Disclosure and transparency remain critical

### Investor case study in transparency: Western Union

- Identifying liquidity characteristics
- Investment risk
- Investment transparency

### Investment manager perspective: DB Advisors

- Transparency in the investment process
- Monitoring tools
- Anticipating event risk

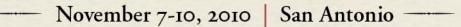


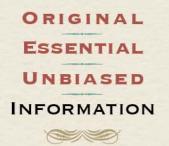
# Questions all liquidity managers should be asking

- Should I change my strategy or objectives in the post-crisis environment?
- Do I have sufficient transparency into portfolio holdings and characteristics?
- Do I need a dedicated, in-house credit research team?
- Could an external manager add value to our liquidity management function?



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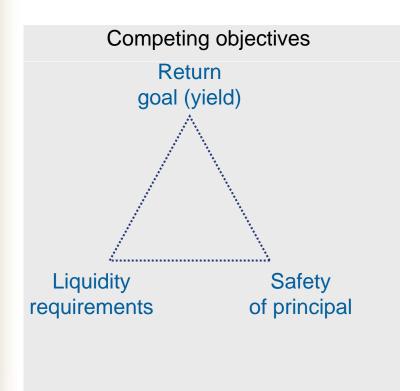




Defining objectives and risk in the new era

# Same objectives in a new market environment

Safety of principal, liquidity and yield remain the primary objectives . . .



- . . . however, preferences may have shifted:
- New era implications: Investors must consider how objectives fit within a new market reality
- Risk tolerance: Investors must reevaluate their organization's risk tolerance
- Priority: For some, prioritization among the three objectives may have changed

# Key issue: Performance in periods of market stress

Will my objectives be met throughout changing market conditions – i.e., in periods of stress as well as stable environments?

### Relative safety

- Credit migration
- Counterparty risk
- Price
- Principal preservation
- Diversification
- Strength of sponsor & advisor

### Liquidity

- Access to investments
- Market effect on liquidity
- Investment structure
- External factors
- Operational risks

### Yield

- Appropriate risk premium
- Return vs. "risk free" rate
- "Total return" vs. "Yield"



# Disclosure is better, but challenges remain

- Inconsistent data: "Apples / oranges"
- Frequency is often insufficient
- Confusing terminology
- Limited depth
- Data format is static: PDF
- No industry standard
- Requires consolidation and analysis





# Do investors need fully trained credit analysts?

### Challenges:

- Few treasury organizations have dedicated in-house credit research teams
- Unrealistic for treasury staff to analyze detailed issuer-level fund holdings
- The range of risk factors is extensive and growing



# Solution: Establish policy and implementation plan

### Determine risk tolerance – for all types of risk

Direct investment in Treasuries avoids credit risk but entails interest rate risk

### Define eligible investment universe

- Determine whether to invest in direct instruments, money market funds or separately managed accounts
- Cost/benefit and risk/return analysis

### Approach: Outsource or manage internally – or both

- Investments may be managed in-house or they may be outsourced
- How can an outside investment advisor add value?
  - Operational efficiency
  - Manage investment risk; deliver higher total returns
  - Strategy diversification
  - Research, an extension of treasury resources



# Post implementation: Ongoing evaluation of risk

### Portfolio risks

- Interest rate duration
- Credit duration
- Credit quality
- Liquidity

### Concentration risks

### Shareholder composition

- Concentration of shareholders
- Direct vs. indirect investors

### AUM size and volatility

- AUM held by sponsor/advisor
- Volatility of AUM

### Organizational risks

### Sponsor stability

- Financial strength of sponsor
- Bank-affiliated or independent

### Advisor track record

- Track record of investment team
- Track record of credit research team



# Regardless of process, transparency is essential

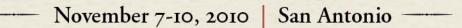
Transparency: Providing investors with sufficient disclosure regarding investment alternatives so that they can make more informed decisions"

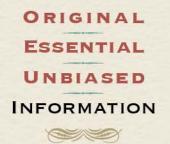
### Benefits of greater transparency:

- Provides tools to better understand the components of risk
- Demonstrates ongoing surveillance with various stakeholders
- Increases confidence in investment manager and fund selection
- Facilitates "apples to apples" comparisons
- Delivers information in usable formats: Ability to download, sort and print
- Alleviates confusion: Explain what information provided in holdings reports
- Improves timeliness of reports



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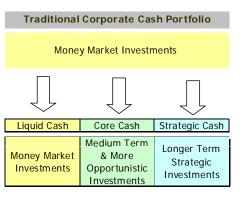
Investor case study in transparency: Western Union

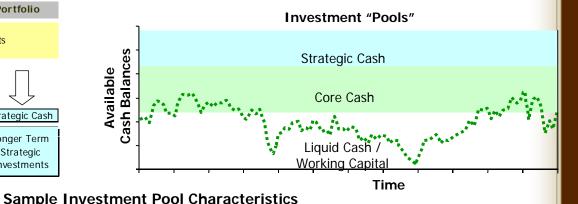
# Identifying liquidity characteristics

### Cash flow patterns and investment horizon

Many companies rely solely on money market investments despite the fact that immediate liquidity needs are only a portion of cash balances

Consider creating two to three distinct "pools" of cash to improve returns while meeting liquidity needs





Strategic Cash Liquid Cash Core Cash Investment horizon 0 to 6 months 6 months or longer 1 year + 6 months to 1 Year 2 Years Typical portfolio duration 60 Days Cash Flow Volatility High Very Low Low Preservation of capital Enhanced returns with Risk constrained total Objective and immediate liquidity minimal principal risk return Curve and credit Curve and Credit Money Market type exposure Strategy investments primarily beta exposure + manager skill / alpha exposure **Return Expectation Improved** Low Highest

Consider incorporating "best practices" for investment management – matching liquidity considerations, investment horizons, and risk tolerances

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# Investment considerations & approach

1. Identify Liquidity Characteristics



2. Formulate Investment
Objectives and
Establish Guidelines



3. Construct Optimal Portfolio Allocation



4. Actively Manage Portfolios / Managers

- Liquidity needs
- Investment Horizon Acquisition plans, capital spending
- Cash Flow Considerations frequency/magnitude of position changes
- Risk / Return Objectives and Tolerance
- Benchmark Selection
- Guideline Parameters
- Accounting and Tax Considerations
- Manager Selection
- Seek to:
  - Maximize Returns given risk tolerance
  - Diversify Risks
  - Hedge Unwanted Risk
- Sector Allocation
- Security Selection
- Yield Curve Structure
- Daily Risk Management

Developing a successful investment strategy requires thoughtful consideration of cash flow planning, investment objectives and risk tolerances

### Investment risk

#### Risk tolerance considerations

- Tradeoffs of yield versus volatility
- Potential for negative returns
- Effect of interest rate moves

### **Descriptions of certain investment risks**

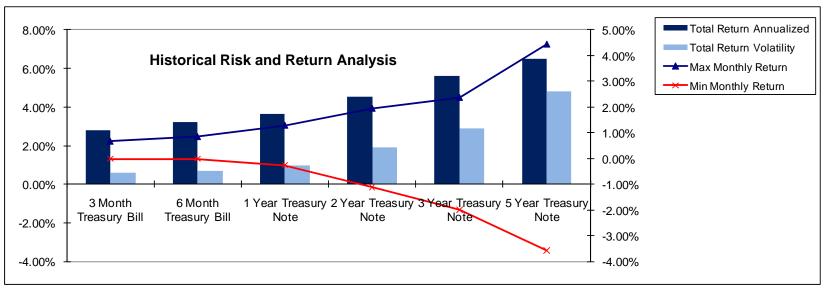
- Interest Rate Risk the risk that an investment's value will change due to changes in the absolute level of interest rates or the shape of the yield curve; risk rises with increasing duration.
- **Credit Risk** adverse changes of a security's value from actual or perceived deterioration in credit quality. Types of risks factors evaluated under credit risk include: profitability, leverage, quality of assets, capital, liquidity, corporate governance, legal risk, and event risk.
- Liquidity Risk risk that a security may not have a ready and deep market into which it may be sold without a substantial discount to price.

Pursuing incremental yield requires a willingness to assume measured risks



# Target duration of 6 months limits interest rate risk

	Total Return Annualized	Total Return Volatility	Max Monthly Return	Min Monthly Return	% of Max Return	% of Max Volatility
3 Month Treasury Bill	2.80%	0.60%	0.66%	-0.01%	43%	12%
6 Month Treasury Bill	3.20%	0.67%	0.84%	-0.01%	49%	14%
1 Year Treasury Note	3.63%	0.97%	1.28%	-0.26%	56%	20%
2 Year Treasury Note	4.53%	1.91%	1.94%	-1.12%	70%	40%
3 Year Treasury Note	5.59%	2.88%	2.36%	-2.00%	86%	60%
5 Year Treasury Note	6.51%	4.82%	4.43%	-3.58%	100%	100%



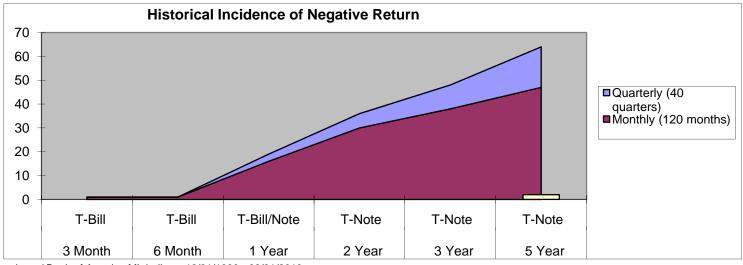
Source: Bloomberg / Bank of America ML indices 12/31/1999 - 08/31/2010



### Lowest incidence of loss with 3-6 month duration

- At the 3-month and 6-month average duration target, there has been only one monthly period of negative return over the past 10+ years
- At 12-month and longer, there is a notable increase in the frequency of monthly and quarterly negative returns

	3 Month	6 Month	1 Year	2 Year	3 Year	5 Year
Number of Periods	T-Bill	T-Bill	T-Bill/Note	T-Note	T-Note	T-Note
Monthly (120 months)	1	1	16	30	38	47
Quarterly (40 quarters)	0	0	3	6	10	17
Annually (10 years)	0	0	0	0	0	2



Source: Bloomberg / Bank of America ML indices 12/31/1999 - 08/31/2010



# Transparency: Stakeholder communication

Treasury departments must communicate with a broad range of stakeholders about their investment portfolios:

Treasurer / CFO	Frequent reporting on risk
Business Units	Partner on planning and pricing
Financial Planning and Analysis	Forecasting process
Investment Counsel	Cross functional organizational communication
Board of Directors	Agreement on policy, periodic updates on risks
Shareholders	SEC disclosures
Regulators	Periodic examinations and reporting

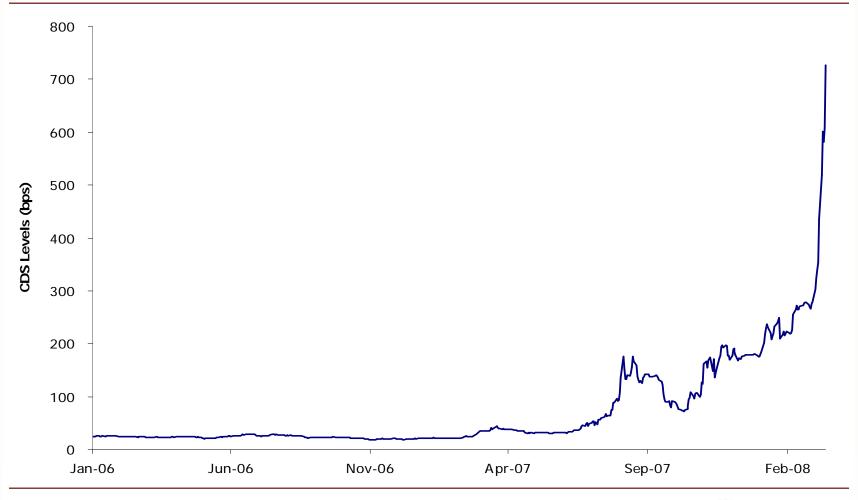


# Need for increased transparency

# Market volatility drove desire for further transparency into money market funds

- Financials were at the epicenter of the recent financial crisis
- These issuers represent a significant majority of the prime fund investment universe
- Certain of these issuers came under significant pressure in the financial crisis
- During these times of high volatility, market based measures were indicative of potential issues to come
  - Including CDS and to some extent stock price

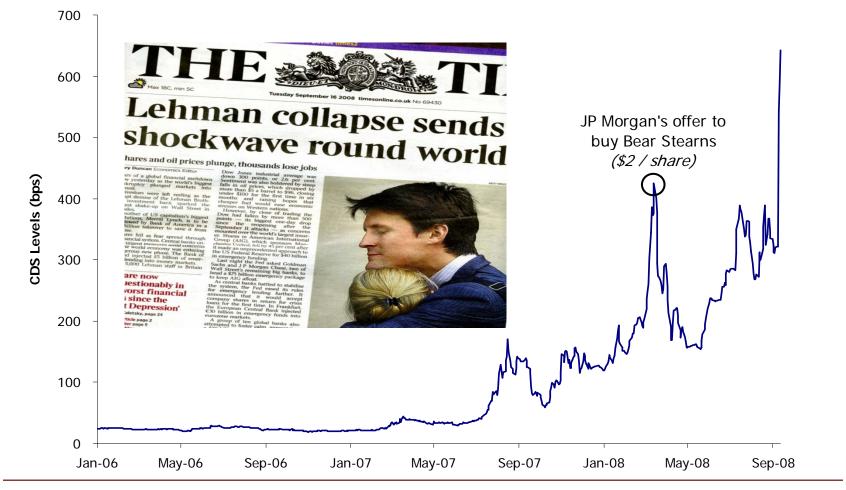
# Market volatility: Bear Stearns CDS levels







# Market volatility: Lehman CDS levels





# Developing transparency: Money market funds

# Holding reports, provided by fund companies, were helpful by providing a detailed list of securities

- However, these reports did not show aggregate exposures
  - Concentration by issuer
  - Concentration by investment type (i.e., CP, ABCP, Repo)
- More critically needed was a way to measure market sentiment of the risk in underlying issuers
  - Market data was available built an interface using Bloomberg

# Sample template: Fund / Management company

#### **FUND - X**

\$ in Millions (unless otherwise indicated)
Profile Updated:

29-Sep

**Fund Profile** Current Fund Size \$75,000 Fund Rating AAA/Aaa WAM - days 55 Liquidity: Overnight Maturities 10% Liquidity: One week Maturities 15% 55% Liquidity: One Month Maturities Reporting Frequency Monthly Reporting Lag + ~1 week WU \$100MM Cap Investment as % of Fund 0.1%

Change						
3 Day	Last Summary					
-1.4%	-3.5%					
No Change	No Change					
4	na					

#### Management Company

Market Capitalization \$20,000 CDS na 5% of Fund expressed as % of Mkt Cap 10.0% Assets Under Management \$500,000 Ratings S&P A+ STABLE Ratings Moody's A1 STABLE

		Change	
52 Week High	n / % off High	52 Week Low / % off Low	
\$30,000	33%	\$12,000 67%	
na	na	na na	

#### Sector Allocation

ABCP 15%
CP 5%
CDs / Time Deposits 45%
FRNs / Munis 10%
Treasury 0%
Agency 20%
Repo 5%

75% Contains Credit

#### Repo/Counterparty Arrangements

Counterparty	<u> 76 FUHU</u>	Collateral
Bank X	1.0%	102% Treasury & Agency / Tri-Party
Bank Y	0.5%	102% Treasury & Agency / Tri-Party

100%

# Sample template: Underlying holdings

Top Holdings (exclud	<i>ing Repo) as of</i> - Jur	า-09				
			Cr	edit Ratings &	Watch*	
<u>Holding</u>	ABCP Sponsor	% of Fund	Moodys		S&P	)
BANK X	<del></del>	5.1%	Aa2	STABLE	A+	STABLE
BANK Y		5.0%	Aa2	NEG	A+	STABLE
BANK Z		4.9%	Aa1	NEG	AA	NEG
CORP 1		4.7%	Aa2	NEG	AA	NEG
CORP 2		4.4%	A1	STABLE	Α	STABLE
CORP 3		4.4%	A1	STABLE	Α	STABLE
(top holdings)						

Top Holdings (excluding Repo) as of -	Jun-09

	5-Yr		Change in CD	)S	Change in Stock Price			
Holding _	CDS	1 Week	% off 52 Week High	% off 52 Week Low	Current	1 Week	% off 52 Week High	% off 52 Week Low
BANK X	95	-5	-74%	7%	\$20.00	0%	-20%	134%
BANK Y	80	-2	-50%	40%	\$55.00	7%	-19%	209%
BANK Z	55	0	-63%	46%	\$60.00	4%	-21%	180%
CORP 1	80	4	-57%	45%	\$15.00	1%	-4%	177%
CORP 2	105	-2	-54%	72%	\$105.00	-3%	-52%	326%
CORP 3	110	-3	-65%	37%	\$52.00	-3%	-74%	420%
(top holdi	ngs)							

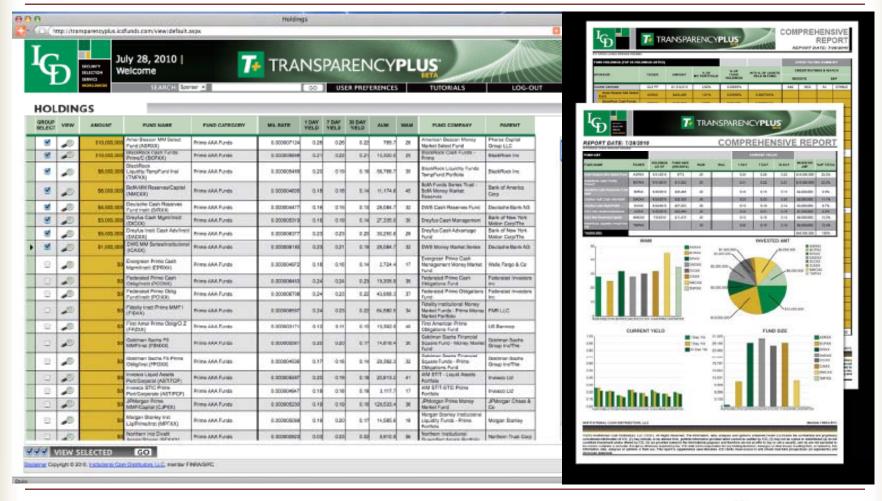
Additionally, a security watch-list was kept against which fund holdings were checked

### Transparency process

- Process provided the needed information; however, it was manual and time intensive taking ~1 hour to format for every fund
  - Fact gathering process vs. value added analysis
- Partnered with money fund portal provider, ICD to help automate and enhance the process
- Benefits of enhanced "Transparency Plus" tool include:
  - Significantly reduced time preparing transparency reports
  - Increased transparency addition of fund aggregation
    - Ability to see aggregate exposures across funds
  - Ability to search for certain exposures
  - Ability to run scenario analysis

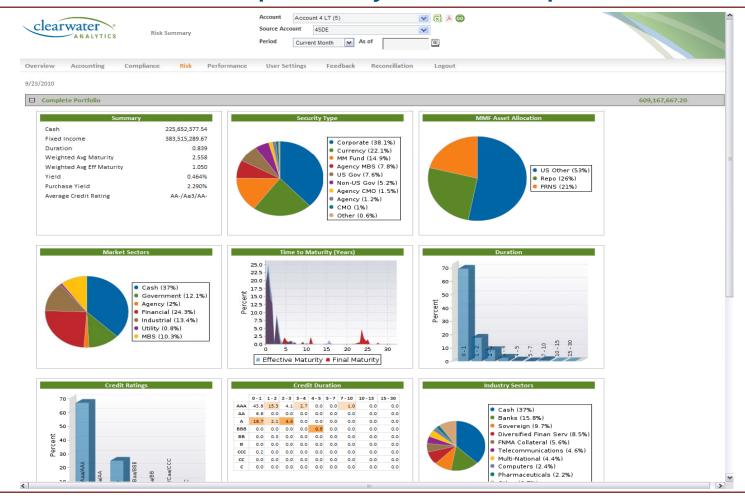


# Transparency plus reports





## Additional transparency tools: Separate accounts





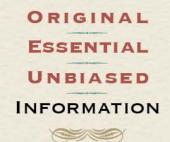
# More transparency tools: Aggregating exposures

- Treasury department has developed additional reporting to aggregate into one report global exposures to banks across a variety of activities including:
  - Foreign Exchange Trading
  - Interest Rate Derivatives
  - Bank Deposits
  - Money Funds
  - Separate Account Portfolios
- Detail includes financial information on exposures including:
  - Credit default swap levels
  - Financial information such as core capital ratios
  - Credit Ratings and outlooks
- Reporting is updated weekly and linked to real time market data



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Investment manager perspective: DB Advisors

# Information: Selectivity trumps quantity

"What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention, and a need to allocate that attention efficiently among the overabundance of information sources that might consume it."

- Herbert A. Simon Ph.D.

**Nobel Memorial Prize in Economic Sciences in 1978** 



# Credit analysis: Focused on capital preservation

Credit analysts

 tailor research to
 the specific type of
 issuer using an
 anticipatory,
 fundamental
 approach.

### Primary focus:

Preserve capital by avoiding potential credit downgrade

 Counterparty credit team seeks to ensure DeAM trades only with top tier, creditworthy counterparties

### Analytical framework by issuer type

### Corporate credit

- Business position and strategy
- Financial analysis
- Liquidity analysis
- Market related input
  - CDS spreads
  - Equity price estimates

### Bank credit

- Business position and strategy
- Liquidity and funding
- Asset quality
- Profitability
- Capital adequacy
- Market related input
  - CDS spreads
  - Equity price estimates

### Asset backed

- Quality of sponsor and strength of management
- Program legal structure
- Collateral types, credit quality
- Credit enhancement
- Liquidity support
- Event risk

### Analytical framework for counterparty credit

- Capital adequacy
- Asset quality

Liquidity

Management

Earnings

Systemic vulnerability



# Integrated process with multiple sources of input

### Fundamental credit analysis and monitoring

- I. Monitor short-term markets for eligible credits

  Subject to:
  - Investment policy limitations
  - Global Credit Control limits
- II. Determine suitability for portfolio, considering policy limitations
- III. Include credit in portfolio
- IV. Manage credit per Global Credit Control criteria

### Macroeconomic analysis

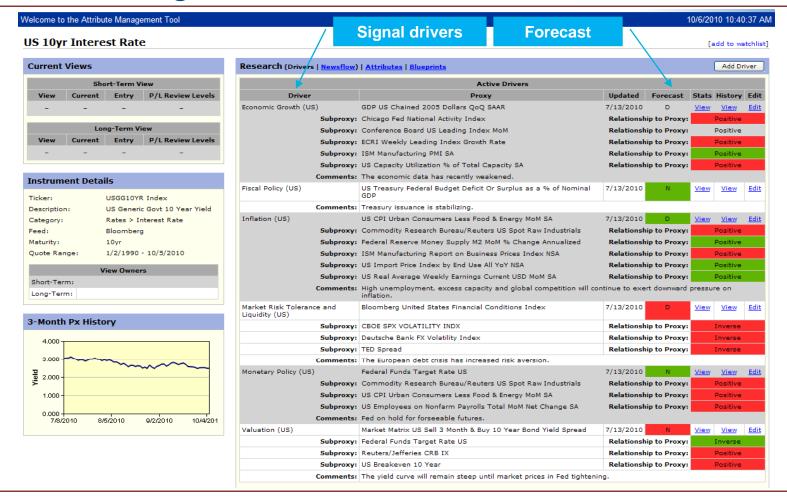
- 1-year Treasury bill
- 2-year Treasury note
- 3-month LIBOR
- TED spread
- Barclays 1-3 Yr Credit OAS
- 10-year US Treasury

For illustrative purposes only.





# Risk management: Interest rate surveillance





# Risk management: Credit surveillance

Key market signals for approved issuers are monitored daily

Default probability indicators

Various swap spreads to assess perceived credit risk

Equity prices

IVG US - 21.04.2008

Issuer

Bond

BDP Score

BDP

Change

BDP Rat.

Adjusted

Indicator

Change

Maturity limits are continually refreshed to reflect current views on credits

GCC Main Definitions Expos	ure	UPC/Issue	er Overview	Reports	Task	
You are here:   GCC   UPC/Issuer Overview   Track Record						
days		Up to 397 days (exposure)	Up to 397 days (limit)	Up to 2 years (exposure)	Up to 2 years (limit)	
		6.7	11.0	0.0	0.0	
		4.9	11.0	0.0	0.0	
SEN_UNSEC		4.9	11.0	0.0	0.0	



# Manage process risk throughout trading platform

### Process risk management

# Pre-trade screening

- Front end compliance ensures adherence to guidelines before trades are executed
- Enforcement of GCC credit limits and maturity caps

### Post-trade review

- Daily review of target allocations
- Continual monitoring of credit recommendations
- Monthly review of performance by investment team
- Annual review by Investment Committee

### Sell discipline

- Quantitative
   Minimal tolerance for downside credit migration
- Qualitative Continual assessment of issuers' management and business environment
- Investment thesis has changed

### Oversight

# Firm risk management

- Systemic controls
- Internal audit
- Compliance<sup>1</sup>
- Legal
- Manage counterparty risks under oversight of credit officer
- Market risk review

SAS 70 Type II Audit

Unqualified opinion by Ernst & Young of the effectiveness of DB Advisors' operating controls<sup>2</sup>

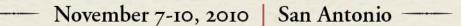
<sup>1</sup>DB Advisors is "walled off" from the Corporate & Investment Bank (CIB) by internal compliance. DB Advisors enters into transactions with CIB only where deemed to be in the best interest of its advisory clients. Specific procedures and controls are in place to ensure that all trades with CIB are conducted on market terms.

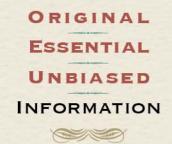
<sup>2</sup>Source: DB Advisors





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Extra-financial risks cannot be ignored

# US financial industry will be changed by reform

End of "too-big-to-fail"	<ul> <li>New capital requirements to limit the size of banks</li> <li>Increased bank regulatory powers to unwind large, systemically significant firms</li> </ul>
Modified Volcker rule	<ul> <li>Ban on proprietary trading</li> <li>Bank investments in hedge funds and private equity funds restricted to 3% of Tier-1 capital / 3% of fund's overall capital</li> </ul>
Derivatives	<ul> <li>Banks allowed to trade interest rate and FX swaps</li> <li>CDS and commodities OTC derivatives will be moved to affiliated holding companies</li> </ul>
Systemic risk regulator	Financial Stability Oversight Council, led by Treasury to monitor systemic risk
Consumer Financial Protection Bureau	<ul> <li>Authority within Fed has jurisdiction over banks and credit unions having assets greater than \$10 billion</li> </ul>
Securitization	<ul> <li>5% risk retention requirements (vertical slice and not a first loss piece)</li> <li>Credit rating agencies largely unaffected</li> </ul>
Registration requirements	<ul> <li>New registration requirements for hedge funds and private equity funds with assets greater than \$150 million</li> </ul>
Federal Reserve	<ul> <li>Retains supervisory responsibilities of banks; will have to disclose banks who used discount window (two-year lag)</li> </ul>

Source: Deutsche Bank Global Markets Research





# Corporates also face uncertainties requiring analysis

### Evaluating risk comprehensively:

- Incorporating "extra-financial" criteria as part of standard analysis
- ESG: Environmental, Social, Governance or ethical issues in addition to financial analysis
- Corporates will increasingly be judged on these issues
- Example: Significant headline or event risk





# Timeline of events: BP as an example



# Were there early signals of a problem?

### ESG research database1 flagged employee safety risks

- Prior to the spill, BP had an overall "CCC" rating on a scale of AAA-C, with "AAA" being the best ranking
- This score is determined by a weighted evaluation of over 200 separate ESG data indicators
- Perhaps the most relevant metric is BP's Employee Safety rating: "C," the lowest possible, even before the recent disaster

### BP removed from Global Sustainability Index (GSI)2 in Nov 2007

 The GSI removal was motivated by several factors including the poor employee safety performance noted above

### BP removed from Global Climate 100 (GC100)2 in Mar 2008

 For the GC100, the deciding factor was the firm's decision to lessen its commitment to solar energy while increasing its investment in oil sands



<sup>&</sup>lt;sup>1</sup> Global Socrates is a comprehensive ESG research database of more than 4000 companies worldwide.

<sup>&</sup>lt;sup>2</sup> RiskMetrics maintains a detailed historical record of the ESG practices of thousands of companies worldwide

# Strategies for incorporating ESG analysis

- Positive / negative screening
   Selection on the basis of environmental and social criteria
- Best in class
   Companies that show the best relative environmental and social performance
- Engagement
   Concept of shareholder activism
- Integration
   ESG criteria are explicitly integrated in the investment analysis and decision making process; the PRI initiative encourages integration

# Key takeaways

- Liquidity managers' objectives remain the same, but their prioritization may have shifted
- The critical question: "Will the objectives be met throughout changing market environments?"
- Transparency and standardization still need to be improved; selectivity
  of data is more important than quantity
- An outside investment advisor can add value by providing greater transparency, operational efficiency and risk management
- Going forward, "extra-financial" risks must be considered in order to effectively balance investors' objectives of liquidity, safety and yield



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