

Best Practices in a Changing Investment Environment

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National Association of State Treasurers
2009 Treasury Management Conference

May 14, 2009



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The Environment

Increased Pressure for Transparency

Transparency has taken the forefront across a wide array of subjects – media, politics, business, entertainment, investments

Transparency Headlines

“...Transparency for Federal Stimulus Investments” – FOX
“The President Orders Transparency” – NY Times
“Money-Fund Effort Seeks Transparency” - WSJ
“We Should Demand Transparent Spending” – WSJ
“...Transparency as Key to Investor Confidence...” – Bloomberg

Transparency Search Results:

- Google News – 33,741 (over a month)
- NY Times – 10,000+
- Yahoo News – 15,497
- Bloomberg – 994

What does this move toward transparency mean for State Treasurers and their investments?

Increased demand for information and oversight from internal and external constituents across areas such as risk, compliance, performance, and accounting

Driving the need for Transparency

Recent market events have signaled a paradigm change that will have lasting effects on the treasury environment

<u>Mar 16, 2008:</u>	Fed brokers sale of Bear Stearns to JPM
<u>Sept 7, 2008:</u>	Fed bails out Fannie and Freddie, effectively nationalizing the agencies
<u>Sept 15, 2008:</u>	Lehman Bros declares bankruptcy; Merrill Lynch agrees to be acquired by BOA
<u>Sept 16, 2008:</u>	Fed extends \$85B line of credit in return for 80% stake in AIG
<u>Sept 20, 2008:</u>	Reserve Primary Fund “breaks the buck”
<u>Sept 21, 2008:</u>	Federal Reserve announces that Morgan Stanley and Goldman Sachs will become bank holding companies
<u>Sept. 25, 2008:</u>	WaMu seized by FDIC and JPMorgan buys assets
<u>Sept. 29, 2008:</u>	Citigroup announces FDIC-negotiated acquisition of Wachovia
<u>Oct. 3, 2008:</u>	Emergency Economic Stabilization Plan of 2008 passes US Congress and is signed into law; Wachovia rejects previous offer from Citigroup in favor of acquisition by Wells Fargo
<u>Oct. 8, 2008:</u>	Simultaneous 50 bp rate cuts by US Federal Reserve and worldwide Central Banks
<u>Oct 13, 2008:</u>	US government announces a plan to take a preferred equity interest of \$250 billion in key US banks
<u>Oct 22, 2008:</u>	Money Market Investor Funding Facility (MMIFF) established by Federal Reserve
<u>Oct 29, 2008:</u>	Additional 50 bp rate cut by US Federal Reserve
<u>Nov 23, 2008:</u>	US Federal government provides additional \$20 billion capital injection and asset loss insurance to Citigroup
<u>Feb 17, 2009:</u>	American Recovery and Reinvestment Act of 2009 signed into law
<u>Mar 23, 2009:</u>	The FDIC, Federal Reserve and the Treasury Dept jointly announce the Public-Private Investment program

Top 10 Challenges and Best Practices in Meeting Transparency Needs

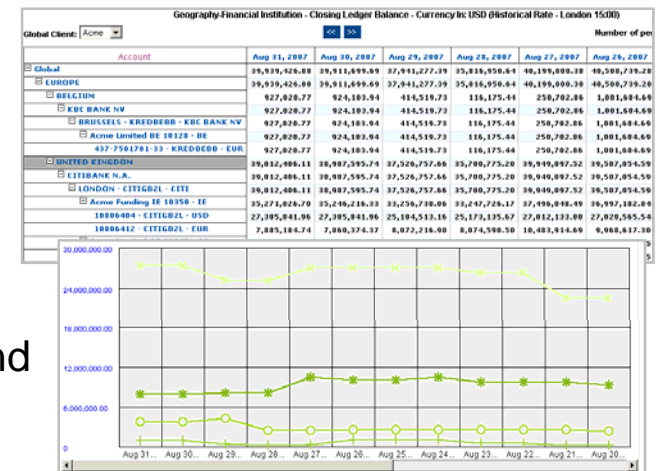
Challenge 10 – Cash Visibility

Challenges:

- Lack timely information since positioning is time-consuming, manual and inefficient
- Information not accurate since data needs to be rationalized from many different sources
- Lack time to analyze data, since too much time extracting data to get an integrated picture

Best Practices:

- Obtain real-time information of operating positions across cash, investments and debt
- Create a consolidated view of information with a consistent and defined method
- Maintain cash information at both a single account level and at an aggregate across each business unit



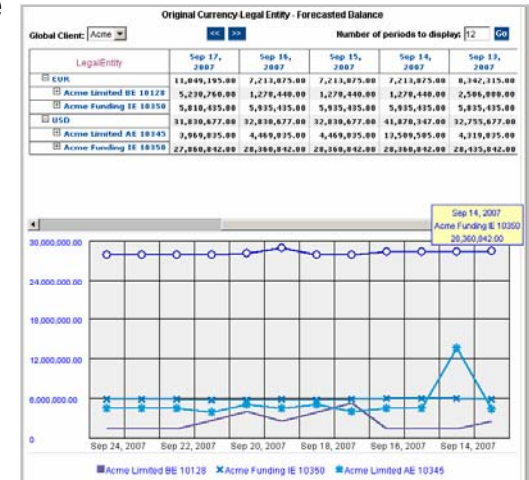
Challenge 9 – Cash Flow Forecasting

Challenges:

- Other departments not able to provide accurate and timely forecasts since not a priority in the organization
- Too many different systems that it is impossible to effectively consolidate forecast information
- No good cash forecasting system to meet specialized needs
- Treasury is too consumed with operational issues to devote proper amount of resources to address its forecasting task

Best Practices:

- Ensuing forecasting is a priority in the organization by education of key partners in accounts receivable and accounts payable
- Streamline communication with disparate systems by utilizing online, real-time solutions
- Analyzing data to identify buckets of cash, such as working capital, reserve and strategic, to take advantage of yield curve



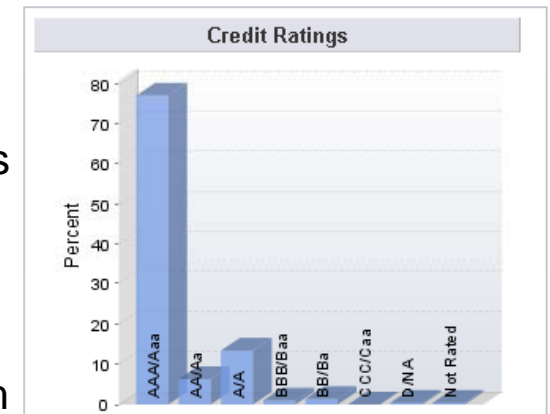
Challenge 8 – Credit Rating Oversight

Challenges:

- Traditionally credit ratings are tracked pre-trade, without visibility to fluctuating post-trade credit ratings
- Views of credit ratings are fragmented across multiple accounts and asset locations
- Multiple rating agencies may not have consistent ratings of a single security
- Market volatility has driven a higher frequency of credit ratings changes

Best Practices:

- Automatically receive ratings from multiple rating agencies (i.e. S&P, Moody's, Fitch)
- Develop a clear procedure in the case of split ratings
- Track both ratings and rating agency watch information daily, at a minimum
- Create a consolidated view of ratings across all investments tracked post-trade
- Maintain documented procedures to be followed if ratings fall below the accepted level, as well as an auditable log



Challenge 7 – Measuring Duration

Challenges:

- Views of duration are fragmented across multiple accounts and asset locations
- Duration has historically been viewed in isolation and not in conjunction with other risk characteristics
- Multiple data sources can provide different calculation methods for duration making comparisons between securities difficult

Best Practices:

- Create a consolidated view of duration information across accounts with a consistent, defined calculation method used (i.e. effective duration, McCauly duration)
- View duration in conjunction with credit rating information to show a consolidated picture of risk
- Maintain duration information at both a single account level and at an aggregate across all asset locations

	1	2	3	4	5	7	10	15	30
AAA	32.7	4.2	1.1	0.6	1.4	0.0	0.0	0.0	0.0
AA	4.0	0.2	0.0	0.0	0.0	0.6	0.0	1.9	0.0
A	37.5	6.3	0.4	0.0	0.0	0.0	0.0	0.0	0.2
BBB	0.0	0.7	0.0	0.0	0.0	0.3	0.0	0.0	0.0
BB	0.5	0.6	0.0	0.0	0.0	0.2	0.0	0.2	0.0
CCC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NR	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NA	-34.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Challenge 6 – Managing Issuer Concentration

Challenges:

- There is increased demand to limit exposures to any single issuer
- Organizations are merging or being acquired driving changes in issuer exposure, which can be difficult to track. For example:
 - Issuer: Bank of America
 - Securities: Merrill Lynch, Countrywide, Fleet, Bank of America
- Views of issuer concentration are fragmented across multiple accounts and asset locations
- Headline risk inquiries must be fielded frequently and from multiple constituents (i.e. investment boards, pool participants, elected officials)

Best Practices:

- Utilize automated sources of information to track the ultimate issuer, without reliance on security description or security identifier
- Create account consolidations across multiple accounts and account locations, enabling a holistic view across all your assets.
- Track issuer concentration on a daily basis as opposed to monthly or quarterly

Issuer Concentration	
United States of America	35.9%
Fannie Mae	8.0%
Federal Farm Credit Bank	7.2%
Illinois State Toll Highway Au	4.4%
Freddie Mac	4.3%
HSBC Holdings Plc	3.4%
JP Morgan Chase & Co	2.0%
Wells Fargo & Co	1.3%
Other	33.5%

Challenge 5 – Tracking Investment Policy Compliance

Challenges:

- Investment policies can contain contradictory rules or guidelines
- Rules called out in investment policies can often span multiple control areas (i.e. risk, performance and accounting)
- Investments often exist across multiple accounts and asset locations which are difficult to track in a consolidated manner
- Independent verification is needed to meet the needs of internal and external constituents (i.e. Audit Boards, and Investment Boards)
- Auditable records must be maintained to exhibit consistent and controlled procedures

Best Practices:

- Review existing investment policy to ensure rules are clear and consistent and properly reflect current investment strategies
- Monitor investment policy rules both at the individual account level and at an aggregate level across all accounts
- Monitor investment policy compliance daily on a post-trade basis independently of any pre-trade compliance processes that exist
- Maintain a historical record of daily compliance violations

03/01/2009 - 03/31/2009		
03/31/2009 - Out Of Compliance		
Description	Limit	Actual
Duration - Maximum Maturity (in years) (Fixed Income)	3.000	18.587
Sectors - Mortgage Backed (Fixed Income)	0.000%	1.583%
Credit - A / A2 (Fixed Income)	0.000%	3.859%
Credit - A / A3 (Fixed Income)	0.000%	2.585%
Credit - Non-Investment Grade (Fixed Income)	0.000%	1.583%
Liquidity - Percent of Issue Outstanding, excluding MBS (Fixed Income)	10.000%	42.026%
03/30/2009 - Out Of Compliance		
Description	Limit	Actual
Duration - Maximum Maturity (in years) (Fixed Income)	3.000	18.590
Sectors - Mortgage Backed (Fixed Income)	0.000%	1.624%
Credit - A / A2 (Fixed Income)	0.000%	3.968%
Credit - A / A3 (Fixed Income)	0.000%	2.657%
Credit - Non-Investment Grade (Fixed Income)	0.000%	1.624%
Liquidity - Percent of Issue Outstanding, excluding MBS (Fixed Income)	10.000%	42.026%

Challenge 4 – Measuring Against the Market

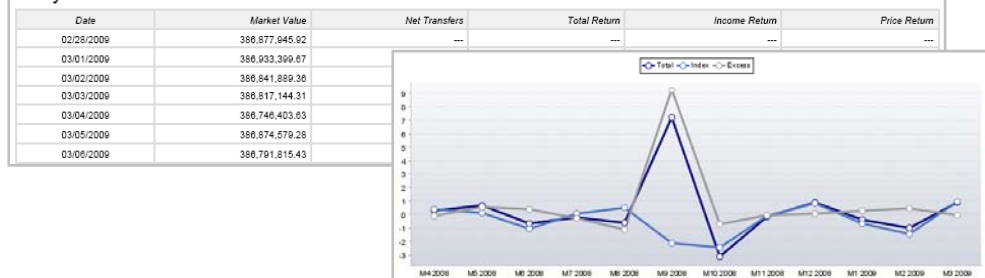
Challenges:

- Strategies may differ from account to account requiring disparate comparisons
- Accounts are often managed by multiple managers – internal or external
- Performance must be delivered independent of manager provided return information
- Increased visibility over historical performance is required at more discrete intervals (i.e. daily and monthly in addition to quarterly or yearly)

Best Practices:

- Derive performance and risk information independently of investment managers, in many cases integrated with accounting information
- Clearly identify an industry benchmark, or a hybrid benchmarks for each account
- Monitor accounts per their benchmark on a daily basis to uncover deviations between the benchmark and the account both from a risk and performance perspective
- Maintain historical performance information alongside current performance numbers to exhibit trends

Daily Performance



Challenge 3 – Securities Lending Oversight

Challenges:

- An independent view across all borrowers is necessary
- Rules called out in collateral requirements policies may not contain the level of detail necessary to monitor risk
- Visibility is needed over the collateral investment pool, with independent validation and verification

Best Practices:

- Clearly define your risk appetite both for your organization and your securities lending agent
- Ensure procedures are in place to gain information beyond utilization and revenue
- Review existing collateral requirements policies to ensure rules are clear and consistent and at the appropriate level of detail
- Independently monitor your collateral pool at the investment level on a frequent basis

Cusip/SIN	Notional	Description	Rating	Coupon	Maturity	Eff Maturity	Amort
001922AA3	2,000,000	ANZ CAPITAL TRUST I	A+/Aa3	4.484	12/15/2053	12/31/2048	94.544
00254ECL4	20,000,000	SWEDISH EXPORT CREDIT	AA+/Aa1	5.000	05/22/2009	05/22/2009	100.011
02681FVJ0	15,000,000	AMERICAN EXPR CENTURION	A/A2	4.375	07/30/2009	07/30/2009	99.641
02635P3V6	8,800,000	AMERICAN GENERAL FINANCE	BB+/Baa2	4.875	05/15/2010	05/15/2010	100.351
06050BAB7	100,000	BANK OF AMERICA CORP	AAA/Aaa	1.761	12/02/2010	12/02/2010	99.836
12480WAA1	1,000,000	CB® FLORIDA REIT CORP	CC/Ca	7.114	02/15/2046	05/29/2046	5.190
12480WAA1	3,000,000	CB® FLORIDA REIT CORP	CC/Ca	7.114	02/15/2046	05/29/2046	99.500
126591BF4	10,000,000	CIT GROUP INC	BBB-/Baa2	5.800	07/28/2011	07/28/2011	100.184
12659ABM6	8,102,836	CWALT 2005-110 1A15	AA+/Aa3	5.500	10/25/2035	12/25/2011	97.955
16161ABD5	2,500,000	JPMORGAN CHASE & CO	A/A1	7.000	11/15/2009	11/15/2009	100.113
172987CU9	10,000,000	CITIGROUP INC	A/A3	4.125	02/22/2010	02/22/2010	99.520
17307GJ94	849,934	CMLT1 2004-DPT1 A2	AAA/Aaa	0.798	10/25/2034	01/05/2014	97.146
17313UAB5	100,000	CITIGROUP INC	AAA/Aaa	1.834	12/09/2010	12/09/2010	99.922
22237LPA4	10,000,000	COUNTRYWIDE HOME LOAN	A/A2	4.000	03/22/2011	03/22/2011	96.851
22541LBM5	6,000,000	CREDIT SUISSE FB USA INC	A+/Aa1	4.675	08/15/2010	08/15/2010	99.792
312827JH1	5,000,000	FREDDIE MAC	AAA/Aaa	3.250	04/14/2011	04/14/2011	100.000
31331U4D6	10,000,000	FEDERAL FARM CREDIT BANK	AA+/Aaa	5.000	09/21/2010	09/21/2010	100.217
31331U5B8	5,000,000	FEDERAL FARM CREDIT BANK	AA+/Aaa	4.500	10/05/2009	10/05/2009	100.002
31331XUC4	4,000,000	FEDERAL FARM CREDIT BANK	NR/NR	5.150	03/29/2011	03/29/2011	100.000
31344QD9	5,000,000	FREDDIE MAC	AAA/Aaa	5.125	07/15/2012	07/15/2012	99.596
3137EAB84	10,000,000	FREDDIE MAC	AAA/Aaa	4.125	11/30/2009	11/30/2009	99.610
31393CUS0	2,289,178	FNR 2003-44 CB	AAA/Aaa	4.250	03/25/2033	06/25/2010	93.801

Challenge 2 – Maintaining Consistency in Accounting

Challenges:

- Duplication of information entry is often required to ensure the proper financial information is present in all the required systems (i.e. general ledger entries)
- Restatement of accounting statements due to errors or misstatements can be very costly
- Multiple data sources can provide disparate accounting calculation methods making consistent accounting entries across a portfolio difficult

Best Practices:

- Clearly define a single set of documented consistent accounting assumptions to be used across all your accounts
- Create account consolidations across multiple accounts and account locations, to more efficiently apply consistent accounting assumptions
- Reconcile information on a frequent basis (i.e. daily) to ensure issues are quickly identified and resolved before manifesting themselves as errors in financial statements
- Develop automated feeds of investment information to underlying systems (i.e. general ledger)

Account	Cusip/ISIN	Description	Notional	Coupon	Maturity	Eff Maturity	Rating	Amort Price	Price	Yield	Accr Int	Unreal G/L	Mkt Value
Account 5 LT FI-3D	912828CH1	US TREASURY N/B	750,000.00	3.875	05/15/2009	05/15/2009	AAA/Aaa	99.994	100.420	0.330	11,159.36	3,198.56	764,311.83
Account 5 LT FI-3D	912828CT5	US TREASURY N/B	10,000,000.00	4.250	08/15/2014	08/15/2014	AAA/Aaa	96.597	112.789	1.746	55,179.56	1,623,234.25	11,334,069.89
Account 4 LT FI-3	912828CZ1	TBY INFL IX N/B	111,472.00	0.875	04/15/2010	04/15/2010	AAA/Aaa	99.119	99.469	1.393	455.53	390.04	111,335.56
Account 5 LT FI-3D	912828DE7	US TREASURY N/B	1,590,000.00	3.500	12/15/2009	12/15/2009	AAA/Aaa	99.865	102.035	0.595	16,559.62	34,301.51	1,628,720.25
Account 4 LT FI-3	912828DH0	TBY INFL IX N/B	110,596.00	1.625	01/15/2015	01/15/2015	AAA/Aaa	100.000	100.506	1.461	387.24	1,001.73	111,985.52

Challenge 1 – Timeliness of Information



Challenges:

- Market events are outpacing the frequency with which investment information is updated and available across Treasury groups
- Delays in information delivery can cause delays in downstream processes (i.e. accounting)
- Market volatility causes demands for increased information – credit rating events

Best Practices:

- Establish procedures to update portfolio information more frequently than is strictly necessary, i.e. daily or weekly as opposed to monthly or quarterly
- Maintain portfolio information in a centralized location to minimize the need to move information between multiple systems
- Where multiple systems must exist, utilize automated interfaces to pass information in a timely manner

Investment Transparency Case Study

Case Study: Sample Portfolio

Portfolio Information:

Asset Value: \$10 Billion

Cash Locations: 3

Cash Accounts: 50

Custody / Trust Locations: 4

Investment Managers: 2
external / 2 internal

Currency: USD

Instrument Types: Treasuries,
Agencies, Municipal Bonds,
Commercial Paper, Time
Deposits, Money Market
Funds

Challenges:

- Accounts are spread across multiple locations without a consolidated view
- There is a lack of visibility to cash available at any given time
- The investment policy is difficult to track as there are some unclear items on credit ratings, and instrument types
- Performance is delivered from the external managers on a monthly basis; performance is not available for internal managers
- Accounting assumptions are not clearly documented
- Month-end accounting is often delayed

Case Study: Solutions



- ✓ Clearly document accounting assumptions
- ✓ Establish a procedure to validate documented accounting assumptions annually allowing any regulatory changes to be rolled in
- ✓ Review the investment policy and ensure all policies are clear and concise
 - For example, the portfolio must contain no less than X% in AAA rated securities, as rated by three NRSRO organizations. In the event of a split rating the lowest of the three shall prevail.
- ✓ Aggregate cash from all locations and accounts into a single data source to allow for forecasting and complete visibility
- ✓ Consolidate investment information into a single source across accounting, risk, compliance, and performance reducing duplicate entries into disparate systems
- ✓ Support the consolidated investment information system with automated market feeds (i.e. credit rating information)
- ✓ Update information on a daily basis

Conclusion

Maintaining Information Transparency

- Work to understand the challenges your Treasury organization faces across both cash and investments
- Identify best practices that increase efficiency and flexibility while providing additional oversight
- Various technologies and processes are available in the marketplace to help State Treasurers with these challenges



“ You can’t do today’s job with yesterday’s methods and be in business tomorrow.”

Collaboration.

Innovation.

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