The New Era of Cash Management

Beyond Bank Deposits and Money Market Funds

CAPITAL
ADVISORS GROUP

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Introduction

The New Era of Cash Management

This book provides chief financial officers and corporate treasury executives with an overview of changes in the cash investment landscape and a guide to more effective hands-on management of corporate cash portfolios. Its three chapters explain: 1) why many investment managers are migrating to separately managed accounts (SMAs); 2) what investment policies for cash management are needed; and 3) how credit and risk factors come into play in this new era.

As the economy improves and interest rates move higher, treasury professionals hoping for a return to the good old days of decent yields in safe investments are finding a new and different world. Today's cash investment landscape is shaped by higher risk awareness, more sensitivity to liquidity costs and stricter systemic regulation. Dodd-Frank banking reforms, Basel III accords and other regulatory changes have made uninsured bank deposits less attractive than in the past. At the same time, money market fund reforms are expected to increase risk and reduce yields, lessening the attractiveness of institutional funds that previously were regarded as highly reliable, safe and stable investment vehicles for corporate cash.

Taken together, these changes are ushering in a new era in cash management. Treasury professionals increasingly are considering alternatives for managing cash, beyond bank deposits and money market funds. In a return to the direct management approach many abandoned in the 1990s, a large percentage of cash managers are planning to supplement their portfolios with direct purchases of marketable short-term securities in separately managed liquidity accounts. In short, now is the time to start rethinking cash investment strategies.

1. A Return to Direct Management With Separate Accounts

Chapter One covers the return to direct management of corporate cash and examines how separately managed accounts (SMAs) may be used to deliver liquidity while managing yield in a period of rising interest rates.

Beyond Bank Deposits and Money Market Funds:

We are in a "back-to-the-future" moment driven by rapid changes in cash investment vehicles. Bank reforms are expected to make deposits less available as repositories for corporate cash, and institutional money market funds will present more risk and potentially less liquidity when they institute SEC-mandated floating net asset values (NAV), liquidity gates and redemption fees in 2016. Therefore, many treasury professionals may return to the direct purchase and management of marketable securities – an approach that had long been popular before the rapid adoption of money market funds for cash management in the 1990s.

In fact, in its 2015 Liquidity Survey, the Association of Financial Professionals found that 52 percent of corporations are considering separately managed accounts as an alternative investment option. There are challenges in managing direct purchases, because they require hands-on investment and accounting expertise, risk and credit monitoring, and liquidity management. However, opting to employ separately managed liquidity accounts maintained by an advisory firm with depth in research and counterparty risk management can effectively address those issues.

Advantages of Separately Managed Accounts:

Unlike money market funds, where investors share pooled assets, separately managed accounts offer investment managers complete control. They are attractive due to their transparency, easy customization, potentially higher yields, and the ability to manage gains and losses to pre-set targets.

Potential advantages of separately managed accounts over money market funds include tailored risk management, transparency, higher return potential, management of yield, gains and losses, versatile performance tracking and reporting, and freedom from shareholder risk that comes from commingling assets with other participants in a shared pool.

Maintaining Liquidity in Corporate Cash Accounts:

Separate accounts also provide more liquidity than many cash investment managers might expect. For many, liquidity previously was a term reserved for bank deposits or money market fund shares, with other investment vehicles seemingly illiquid by comparison. Such a definition is needlessly limiting. Regulatory changes in both money market funds and bank deposits have shriveled yields and increased investors' risk of both principal loss and interruption in liquidity.

Fortunately, with a carefully planned maturity structure and organized strata of liquid investment vehicles, separately managed account portfolios can offer a high degree of liquidity that may satisfy most treasurers' requirements. Unlike money funds, separately managed accounts are not subject to the same risk of liquidity interruptions due to shareholder runs, because a single investor controls the assets directly. Therefore, corporate treasurers who traditionally have maintained all of their cash in bank deposits or overnight products now are considering separately managed accounts as a way to maintain a competitive return and avoid incurring inappropriate concentrations of credit risk.

Treasury professionals hoping for a return to the good old days of decent yields in safe investments are finding a new and different world.

Stepping out of Buy and Hold With Total Return Strategies:

As cash assets start to build up and patterns of expenditures become predictable over the long-term, it is often advisable for a corporation to explore higher return opportunities using a "total return" strategy as opposed to a "buy-and-hold" approach. A total return strategy attempts to achieve a higher level of "all-in" return that includes both coupon income and price appreciation. For a total return strategy to perform as expected, an investor may need to have a moderate investment horizon of three years or more, maintain a stable investment balance, establish a risk tolerance level using a market index and appropriate investment guidelines, and have adequate preparedness in dealing with more complex investment accounting and tax considerations.

The decision to adopt a total return mandate for a corporate cash account involves more factors than pure returns. Each corporation must establish its own comfort level with regards to return volatility, potentials for large reported principal losses, higher levels of portfolio turnover and realized gains/losses.

2. Shaping Investment Policies for the New Era

Chapter 2 provides an overview of investment policies appropriate for the new era of cash management. The treasury investment management landscape has undergone significant changes since the financial crisis. Investors have tended to shorten their maximum maturities, increase ratings requirements, reduce issuer-based concentration, and dial back the use of asset-backed securities. Therefore treasury managers are advised to review their current investment policies to ensure that current investing practices include latitude to safely meet objectives in all credit environments.

Shaping Investment Policies for a Safer Cash Portfolio:

Investment policy statements (IPS), also known as investment guidelines, are important control documents in investment accounts. However, a recent industry survey showed that nearly 21% of corporate cash investors do not have written investment policies. A well-constructed investment policy statement is both a blueprint and a report card. It provides evidence of a prudent investment decision-making process in addition to serving as an important risk management function in defense of potential fiduciary liability claims. It also forces a corporation to put its investment strategy in writing and commit to a disciplined investment plan.

There is a delicate balance between allowing an investment manager the flexibility to realize higher return potential and the important risk management function of a formal investment policy. In crafting an IPS, the treasury executive must consider questions including maximum maturity limits, minimum acceptable credit ratings, appropriate concentration of issuers in a portfolio, how much of the portfolio should be available overnight, what transactions should be prohibited, what constitutes a conflict of interest for both internal and external managers, and how portfolio performance should be measured.

Benchmark Selection for Cash Portfolios:

An effective investment policy also challenges corporate treasury managers to choose the right benchmarks for their cash portfolios. A benchmark is the yardstick to direct an investment strategy and measure its success. An appropriate benchmark, according to the securities industry trade group CFA Institute, is a recognized published index, a tailored composite of assets or indexes, or a peer group of similar funds or portfolios. Common types of cash benchmarks include peer group averages, Treasury Bills indices, LIBOR benchmarks, market-value benchmarks and custom benchmarks, among others.

The first step in selecting an appropriate benchmark is to determine a portfolio level tolerance for interest rate risk, as represented by its duration or average maturity, and credit risk, as represented by average credit ratings. Other factors, such as liquidity constraints and portfolio turnover restrictions, should also be considered. A good cash benchmark should be simple, objective, representative, and publicly available.

Evaluating Performance Measurement:

At first glance, the task of measuring investment returns from corporate cash portfolios seems relatively straightforward, since most typically include only "plain vanilla" securities and have limited numbers of transactions. One frequent complaint of treasury practitioners, however, involves apples-to-oranges performance comparisons between money managers. In fact, there are both apples and oranges in the investment performance world, otherwise known as market value returns and book value returns.

Market value returns are sometimes called total returns, as they measure returns from both the income and principal components of a security. They are also frequently referred to as "marked-to-market" returns, as they are computed with the value of investments using prevailing market prices. Book value returns, on the other hand, are based on the initial value of the investment, regardless of its current market value. Cash investors concerned with preservation of capital over total return often take a buy-and-hold approach, deriving their earnings from the bonds' fixed income at maturity. These portfolios often find the book value return approach a more accurate performance measure. For buy-and-hold portfolios, however, using one method to report returns does not eliminate the usefulness of the other. Investors need to properly identify the differences and apply the methods appropriately.

3. Managing Credit and Risk in the New Era

Chapter 3 examines the sometimes-mysterious credit approval process for cash investment portfolios. In day-to-day operations, treasury practitioners often make credit decisions about their investments based solely on credit ratings. In the post-crisis era, however, a deeper understanding of the credit process is essential in making the right decisions about which cash investment vehicles to choose.

Nine Elements of Credit Approval for Cash Portfolios:

Credit approval for a cash portfolio is different from the process used for other fixed income investments. Cash investors have unique credit requirements, including liquidity needs, low thresholds for principal loss, a tendency to hold securities to maturity, and a conservative bias placing a higher priority on preservation of principal than on income. Another consideration is the available supply of suitable short-term investments.

Cash portfolio managers are advised to follow a rigorous protocol in selecting appropriate securities and then managing and monitoring their credit status. A comprehensive credit management program requires initial screening, macro screening, establishment of internal ratings, and ongoing monitoring and surveillance of the portfolio. It also requires mitigation of risk through development of plans for an effective response to and management of any credit event.

When to Choose a "Single" Over a "Double:"

Credit concerns extend to the mix of securities in any portfolio. Many cash managers who in the past limited their purchases to AAA and AA rated securities are finding that some fundamentally sound single A securities can help diversify credit risk as well as address problems with supply of appropriate short-term securities.

Ratings agency and market data confirm the view that A rated corporate bonds are a valid investment class providing liquidity, yield potential, the possibility of rating upgrades, and improved risk diversification, while the increased risk of default compared to AA rated investments is negligible. Broader investment guidelines that include single A rated securities may also allow a portfolio to be fully invested more quickly, therefore earning a higher yield than a portfolio that must wait on the availability of double A rated bonds.

Do BBB Corporate Bonds Belong in Treasury Management Portfolios?

The migration from AA to A rated securities has also been followed recently by increased acceptance of BBB rated debt and Tier 2 short-term commercial paper for corporate cash portfolios. There is a greater supply of BBB rated debt than of AA and A rated bonds, and BBB debt offers the prospect of risk diversification along with higher income potential.

As with all credit instruments, treasury investors should evaluate BBB rated debt consistent with their own risk tolerance. However, as yield and supply challenges intensify in the market for short-duration debt with higher ratings, organizations that are able to take advantage of the BBB debt class may be well compensated for the moderately higher credit and liquidity risk they represent.

Demystifying Asset-Backed Commercial Paper:

Another security class of increasing interest to cash investors is asset-backed commercial paper (ABCP). Created in the mid-1980s, ABCP trailed asset-backed securities (ABS) in acceptance by fixed income investors, especially corporate cash managers. However, the stigma surrounding ABCP started to lessen in the new millennium. Asset-backed paper increasingly is regarded as a legitimate investment vehicle in large corporate treasury accounts, due to its depth, liquidity, flexibility, and yield potential.

With sufficient understanding of the underlying credit risk, the inclusion of ABCP in a corporate cash portfolio may enhance potential yield while reducing portfolio risk. While the complexity of various programs may be intimidating, corporate cash investors may benefit from selecting some of the more traditional, conservative, and higher quality ABCP names for their portfolios.

Staying Afloat in a Floating Net Asset Value Money Market Fund:

After October 2016, institutional prime money market funds will present a number of liquidity challenges. In addition to floating net asset values and the provision of fees and gates, the institutional-only designation changes the shareholder profile of the new funds. As a result, faster money movement in and out of institutional prime funds may make them less stable than other fund types.

After October 2016, institutional prime money market funds will present a number of liquidity challenges.

While the reformed institutional prime product can remain viable for a certain population of current institutional shareholders, we suggest a more comprehensive lineup of liquidity vehicles that includes government and prime funds as well as individual government and other liquid instruments with laddered maturities. Being clear-minded about shared liquidity in a fund of highly sensitive institutional shareholders requires the sensible investor to exercise restraint, diversify sources of liquidity and keep a Plan B handy.

The Transformation of Corporate Deposits in a New Regulatory Environment:

Bank deposits have always represented a significant cash management vehicle for institutions. However, recent financial regulations, notably the liquidity coverage ratio, net stable funding ratio and G-SIB capital surcharges, have changed deposit dynamics, reducing banks' appetite to a variety of deposits. We offer seven practical tips to help treasury managers cope with the new deposit reality.

Conclusion: Solutions for the New Era

Our book concludes with recommendations from Capital Advisors Group on which services our clients may use to cope with cash management in the new era. These services range from implementation and management of separately managed accounts to FundIQ® money market fund research and CounterPartyIQ® credit and risk analysis services.

The new era of cash management has begun, and now is the time to start developing and applying new investment strategies.

Chapter 1:
A Return to Direct Management With Separate Accounts

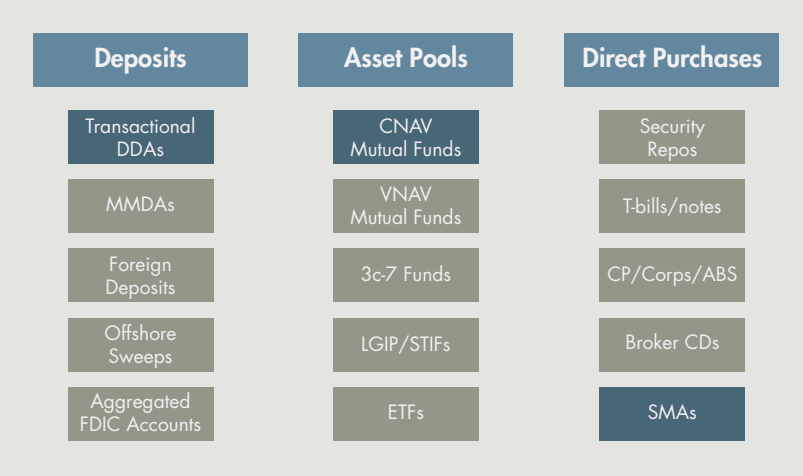
Looking Beyond Bank Deposits and Money Market Funds

Cash Investment Strategies in a Post Return World

Introduction

Many people tend to believe that the world of cash investments revolves around two limited choices: deposits and money market funds. This was not the case for much of the last half century. Although deposits were always a mainstay for corporate cash, the use of money market funds for corporate cash management is a recent phenomenon. In a way, one may argue that the popularity of a transplanted retail product in the institutional space was partially responsible for its structural instability during the financial crisis.

Figure 1: *Cash Vehicles At-A-Glance*



Generally speaking, liquid instruments suitable for corporate cash management invariably fall into three categories: deposits, asset pools and direct purchases.

Deposits are essential for transactional purposes with assumed principal stability. They are generally less attractive as investment vehicles due to yield disadvantage. Uninsured concentrations in a single bank credit, the lack of liquidity with term deposits, Basel III, declining credit and the cross-border risk of foreign deposits and offshore sweeps are the main risk considerations.

Asset Pools, including money market mutual funds (now institutional only + floating NAV), represent pro rata interest in underlying securities with the advantage of risk diversification, simple accounting, professional management, and low execution costs. They generally offer higher yield than deposits in a normalized interest rate environment. Shared liquidity, lack of transparency and control, and regulatory restrictions are the common drawbacks.

Direct Purchases, the most traditional of all cash management vehicles. These involve direct ownership and management of a portfolio of marketable securities. Attractive yield, customized strategies, full transparency and risk control are their main benefits. Investment expertise, accounting requirements and liquidity management present the main challenges.

When discussing alternative strategies, we believe that it is important to consider all three types of vehicles in a combined approach in order to derive the benefit of a spectrum of solutions.

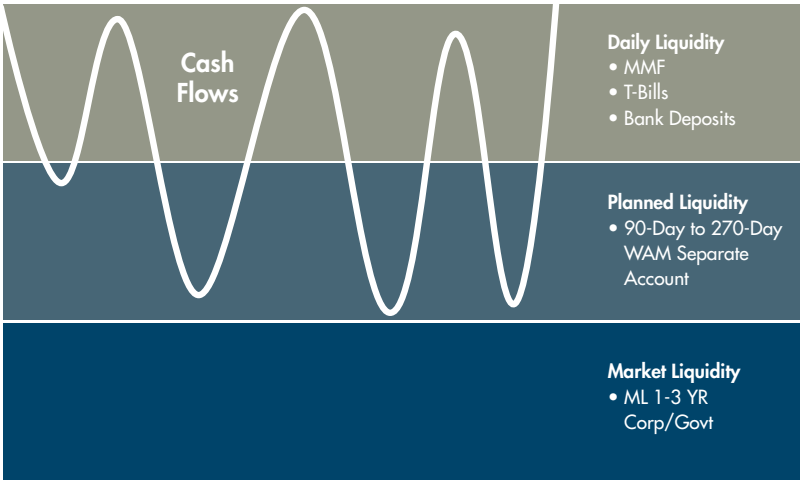
Stratified Strategies

For centuries, using bank deposits as the primary cash management tool has been a legacy practice thanks to banks' role as society's main financial intermediaries and credit providers. More recently, MMFs' ease of use and cost savings established legitimacy in corporate cash management. However, in the post-crisis era, neither group may be sufficient in addressing new challenges. A stratified approach should be adopted to divide cash balances into specific categories; one may apply strategies appropriate for each. A key objective, of course, is to reduce unnecessary balances in overnight bank deposits and MMFs and deploy cash in a diversified portfolio of high quality instruments.

Most cash investment policies subscribe to the objectives of principal stability, liquidity and income potential. Until recently, money market funds achieved all three objectives reasonably well, and deposits may have accomplished the first two. The status quo, unfortunately, may not hold true in the future for the reasons we outlined earlier. The hands-off liquidity management practice of leaving all cash balances in a few bank accounts or money market funds may become increasingly unattractive from a risk-reward perspective.

Stratifying Cash Balances: We suggest that cash investors divide liquid balances into roughly three segments according to liquidity volatility: daily, planned, and market.

Figure 2: *Stratifying Investment Strategies According to Liquidity Volatility*



Daily Liquidity: Maintaining sufficient daily balances for daily cash use and reserves for unanticipated fluctuations refers to the concept of daily liquidity. The appropriate vehicles may include transactional bank deposits, stable NAV money market funds and other pooled investments, and overnight repos.

Planned Liquidity: For seasonal cash needs and planned expenditures, a liability driven strategy with targeted maturities may provide higher income opportunity without sacrificing liquidity. Accounting rules may vary, but many such portfolios offer principal stability with "held to maturity" treatment without regard to unrealized gains or loss. Appropriate instruments may include term deposit accounts, treasury and agencies securities, and high quality corporate and financial credits.

Market Liquidity: Sometimes referred to as core cash or strategic balances, market liquidity balances represent excess balances without near-term liquidity constraints. The stability of cash balances allows more flexible strategies to maximize return potential. In addition to maturity proceeds, liquidity may come from the secondary market. With a moderately longer time horizon, portfolio strategies may include more high quality asset-backed and mortgage backed securities in addition to the aforementioned instruments.

The stratifying of cash balances into several sub components and applying associated strategies helps to delineate the three objectives of cash management. As deposits and MMFs become increasingly unable to deliver on all three objectives, a stratified approach may allow cash managers to pick the best strategies suited for each. At the aggregate level, they may continue to use deposits, MMFs, and direct purchases in a comprehensive approach.

Advantages of Separately Managed Accounts

A Logical Complement to Money Market Fund Solutions

Whether to use a commingled asset pool like a money market fund or an investment manager in a separate account format is an age-old debate. Few would dispute the benefits of the daily liquidity offered by a money market fund today; however, a separate account investor with specific investment guidelines might have avoided the collateral damage and anxiety from some of the poorly conceived investment strategies in commingled vehicles. Shareholder frustration from the inability to assess and remedy undesirable credit exposures in a fund is perhaps more agonizing than the severity of actual credit risks.

The growth of electronic trading platforms, including web-based fund portals, took the popularity of fund investing to a new level. Credit events of the past few years, however, brought the argument for separate account management back to the forefront for many corporate investors. In this section, we examine a number of advantages of SMAs. We believe that the right answer is not an "either-or" decision, but rather the complementary use of both strategies in optimizing cash management solutions for the corporate investor.

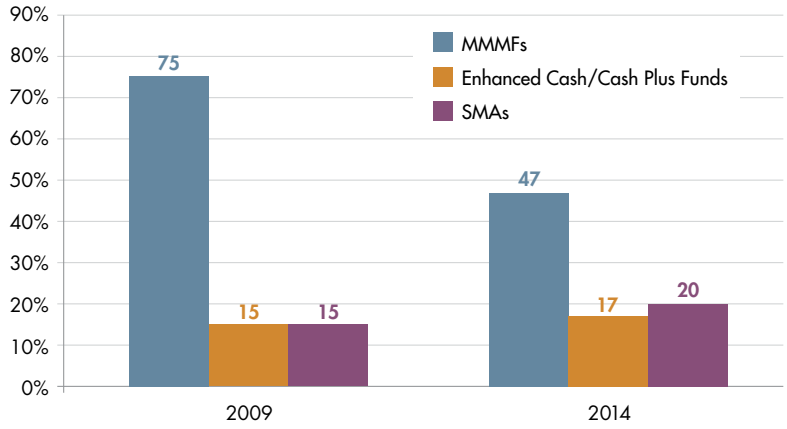
Separate Account Management Basics

As the title indicates, investors of SMAs own their investments directly, often in a custodial investment account registered under the investor's name. This is in contrast to investors owning shares of a mutual fund or other commingled vehicles that in turn own individual securities, such as stocks, bonds and/or derivatives. In both cases, investors use professional investment managers to make discretionary investment decisions. Typical SMA investors include educational endowments, charitable foundations, pension plans and private wealth trusts.

In the area of corporate cash management, the use of separate account management has a long tradition, but with a limited following. According to the 2014 industry survey by the Association for Financial Professionals, about 20% of U.S. corporations permit separate account investing. This compares to 47% allowing money market funds and another 17% in other forms of commingled vehicles. The percentage of surveyed corporations which permit money market funds has been declining steadily since 2009, while the permissible use of SMAs has risen. Recent credit, yield and regulatory trends may have affected this transition. While we believe SMAs help improve transparency and oversight, their potential advantages do not stop at risk management.

Investors of SMAs own their investments directly, often in a custodial investment account…This is in contrast to investors owning shares of a mutual fund or other commingled vehicles.

Figure 1: *Permissible Investment Vehicles by Corporate Investors*



Taken from table: Permissible Investment Vehicles per Organization's Short-term Investment Policy in Addition to Bank Deposits and Treasury Bills, 2009 and 2014 liquidity survey results, Association for Financial Professionals, Bethesda, MD.

Customization – Potential Advantages

Many of the potential and obvious advantages of SMAs reflect their trait of individuality. Because assets and investment preferences are not commingled with those of others, individual investors are able to work with their investment manager to customize investment strategies and construct a portfolio catering to their own risk tolerance, return expectations and specific operating cash needs.

1. Tailored Risk Management: Every investor faces unique circumstances that impact income, growth, safety and liquidity considerations. Understandably, a commingled vehicle rarely satisfies the preferences of all investors in the fund. For example, certain corporate investors would not permit mortgage-backed securities (MBS), asset-backed securities (ABS) and collateralized debt obligations (CDOs) in their portfolios. During the financial crisis, some of the more exotic forms of asset-backed commercial paper (ABCP) ran into credit and liquidity problems and many investors were surprised to discover such exposures in the money market and yield plus funds they owned.

In a separate account relationship, an investor may set specific guidelines on some of the key risk control metrics such as maturities, concentration limits, ratings and liquidity requirements. Another effective risk control mechanism may be a list of prohibited transactions including the use of financial leverage, derivatives and/or specific security types to be excluded.

Figure 2: *Sample Restrictions in Investment Guidelines*

Item	Limits
Maximum issuer maturity	24 months
Maximum portfolio maturity	12 months
Minimum credit ratings	A3/A- (A-1/P-1)
Issuer concentration	5%
Industry diversification	20%
Overnight liquidity	10%
Benchmark selection	3-month T-bill
Prohibited transactions	Leverage, derivatives, extendible CPs, CDOs

2. Transparency: Another potential advantage related to risk control is the level of disclosure of investment activities. In addition to periodic statements, reports and expenses, an investor is entitled to all relevant portfolio information on demand. Equipped with the right data, the investor may address and deal with credit issues in a relatively timely fashion.

In contrast, money market funds currently release information on a monthly basis with several days of lag time. Even in the more transparent environment under upcoming rule 2a-7 requirements, for competitive reasons fund companies are unlikely to volunteer more information than is necessary. Fair Disclosure regulation requiring funds to disseminate new information to all shareholders at the same time also presents operational challenges that make timely identification of specific exposures cumbersome.

3. Higher Return Potential: When comparing and contrasting commingled and separate account investments, one cannot dismiss the potential return aspect. Under certain conditions, a separate account may provide higher yield potential than a typical money market fund. There are two reasons that may contribute to this.

a) Exemption from Rule 2a-7: The governing SEC regulation for money funds includes Rule 2a-7 which limits investments to well-diversified short-term securities with high credit ratings. The revised rule, in place since 2010, further restricts liquidity and maturities and reduces yield potential. As such funds make up a major part of the short-term credit market, securities not eligible for the 2a-7 parameters, such as those with maturities slightly longer than 13 months, may be less popular and subsequently higher-yielding. Come October 2016, yield potential in institutional prime funds is expected to decline further as fund managers become more conservative to avoid potential fees and gates. Some of the yield-plus funds exploited income opportunity with overly aggressive strategies and suffered the consequences. A separate account may avoid some of these pitfalls and achieve higher income potential by adhering to measured parameters beyond 2a-7 without violating the investor's risk tolerance.

b) Yield curve positioning: Another higher yield potential for separate accounts is related to the levels of interest rates. Generally speaking, investors may expect investments with longer maturities to outperform money market funds in a normal interest rate environment, since the higher risk of longer-term securities demands higher yield to compensate for owning such securities.

Separate account investing is not affected by cash flows from other investors. SMA investors can work with managers in response to upcoming cash flow changes.

4. Free from "Hot Money": One of the difficult realities a commingled fund manager faces is the movement of "hot money" from fund to fund by certain investors. This movement could be to take advantage of favorable yield or to escape a fund if one suspects that a run might occur. The 2014 SEC rule revision makes this risk more pronounced as institutional shareholders, which tend to represent "hot money", are separated from retail investors. Volatile cash flows can force managers to either leave too much idle cash in the portfolio or to sell securities at a loss to satisfy redemptions, both of which may have serious long-term implications on fund performance.

The development of web-based portal technologies and the increasing commoditization of money market funds may have exacerbated the volatility of fund flows. At its extreme, a large number of yield-chasing investors simultaneously moving out of underperforming funds could threaten the stability of the money market fund product.

On the other hand, separate account investing is not affected by cash flows from other investors. SMA investors can and often do work with managers in response to upcoming cash flow changes weeks or months ahead. Such information becomes a valuable tool in helping to improve the account's investment performance.

5. Income & Capital Gains Management: Practically speaking, few corporate cash management accounts focus on total return initiatives. Instead, most focus on income potential and accounting gains. The advantage of a separate account that allows an investor to work with an investment manager on certain yield targets, income recognition and capital gain/loss management can be significant. This is especially true for some publicly traded companies where investment income is a meaningful contributor to the firms' bottom-lines. Income forecasting, gains recognition and loss-harboring for tax purposes are some of the tools not offered by commingled vehicles.

6. Versatile Reporting: In addition to risk and return considerations, the separate account setup allows an investor to receive customized reporting unavailable from commingled vehicles. For investors concerned with specific credit, industry and country exposure, performance measurement, corporate governance, audit oversight and operational efficiency, the number and details of reports are limited only by the investor's preferences and the manager's technological capabilities. Compliance reports that detail all portfolio activities and current holdings on demand may be included among these reports.

Ongoing dialog, performance appraisal and manager evaluation should be integral to a separate account management process.

Conclusion

The process required to establish a separate account relationship may take more steps than a mere mouse click on a fund portal, but investments in time and research may bring just rewards during times of uncertainty. There is no question that an advisory relationship should be a long-term partnership that requires considerable trust and scrutiny.

It also is important to point out that separate account relationships are not without their drawbacks. Less public and comprehensive information is available from outside managers on separate accounts in aggregate and return performance may not be directly comparable among managers. Such difficulties place more due diligence requirements on the investor before and after establishing an advisory relationship. Ongoing dialog, performance appraisal and manager evaluation should be integral to a separate account management process.

These six potential advantages of separate account management are not meant to be exhaustive, but are intended to stimulate discussion on this topic. Using a commingled vehicle or a separate account manager should not be mutually exclusive. In addition to the convenience and daily liquidity of a money market fund, corporate cash investors may look to separate account management to enhance investment return potential and to improve risk management.

SMA Strategies Over Deposits and Commingled Vehicles

Since most of the strategies discussed thus far involve the use of direct purchases, we think it may be appropriate for certain treasury organizations to use the separately managed account (SMA) approach. On the one hand, SMAs allow organizations to maximize direct purchase strategies that are not feasible in bank deposits and money market funds. On the other hand, they have the benefit of professional expertise, risk diversification, customized liquidity, and counterparty risk oversight.

We would like to highlight how SMAs may broaden one's opportunity sets with higher income potential without sacrificing principal stability and liquidity.

1. SMAs vs. MMFs

- **Yield:** When the yield environment returns to normal, the yield impact of MMFs' 30% weekly liquidity limitation will become more pronounced. An unconstrained SMA portfolio with customized liquidity construction may provide substantial yield advantage.
- **Liquidity:** As evidenced by recent market events, the daily liquidity feature of stable NAV commingled vehicles may become vulnerable at times of uncertainty. SMA investors are insulated from "hot money" and "early mover advantage" as they have full control of their own liquidity.
- **Principal Stability:** While prime funds will be forced to recognize daily principal fluctuations beginning in 2016, SMAs offer viable principal stability. Even with a similar credit and maturity structure to a MMF, an SMA portfolio does not have the issue of non-par redemptions since portfolio securities are typically held to maturity.
- **Risk Customization and Control:** MMFs tend to be heavily exposed to financial issuers, with fund managers free to make their own credit decisions. SMAs allow direct credit input from the investors. An SMA portfolio as part of a large, well-structured liquidity portfolio may reduce specific credit exposure through selective risk optimization.

2. SMA vs. Deposits

- **Risk Mitigation:** SMAs may enhance credit risk management through preemptive credit screening. Credit risk concentrated in a single bank credit can be reduced through portfolio diversification.
- **Yield:** When the yield environment returns to normal, yield opportunity from marketable instruments may be higher than bank products with equivalent credit and maturity characteristics.
- **Liquidity and Term Flexibility:** Even for the same bank credit, marketable instruments may be more liquid than certificates of deposit, which tend to have early redemption penalties. As overnight and other short-term deposits become rarer, the bond market may offer more maturity choices.

3. SMAs vs. Ultra Short Bond Funds

- **Liquidity:** Ultra short-term bond funds and exchange traded funds (ETFs) were thought to be viable alternatives to money market funds. However, all daily NAV commingled vehicles face the same dilemma of long-maturity portfolio assets funding overnight obligations. They are exposed to a liquidity crunch and price volatility during market turmoil. SMAs do not have shared liquidity characteristics.
- **Principal Stability:** SMAs are not subject to daily NAV fluctuations and thus may better preserve principal stability.
- **Simplicity in Tax Accounting:** Ultra short bond funds and ETFs, by virtue of being floating NAV instruments, incur tax and accounting treatment with each shareholder activity. SMAs, on the other hand, encounter such issues only when portfolio assets change.

Maintaining Liquidity in Corporate Cash Accounts

How to achieve a portfolio with higher credit quality and higher return potential than a money market fund.

Introduction

Events of the past seven years have shriveled yields for deposit and money market products, while at the same time have increased investors' risk of both principal loss and interruption in liquidity. Last year, the SEC's amendments to Rule 2a-7 resulted in material changes to the utility and the yield potential of money market funds by introducing a combination of floating net asset values, liquidity gates, and redemption fees. Corporate treasurers who traditionally have maintained all of their cash in bank deposits or overnight products will be forced to examine other options to maintain a competitive (or merely positive) return and avoid incurring inappropriate concentrations of credit risk. A major hurdle in this process is satisfying the need for daily liquidity given businesses' varying degrees of clarity with respect to future cash needs. Fortunately, with a carefully planned maturity structure and with an organized strata of liquid investment vehicles, separately managed account portfolios (SMAs) can offer a high degree of liquidity that may satisfy most treasurers' requirements.

Types of Liquidity

For some corporate treasurers, liquidity is a term reserved for bank deposits or money market fund shares, and they consider other investment vehicles to be illiquid by comparison. Such a definition is needlessly limiting. Furthermore, as we saw in 2008, this definition is not uniformly true for all banks or money market funds. More than six years removed from the peak of the crisis, the quality of banks' mortgage assets has improved dramatically, but the advent of the FDIC's "Orderly Liquidation Authority" makes 2008-style bank rescues all but impossible in the future. For prime money funds, the fixed NAV is a feature of the past while unlimited daily liquidity is no longer guaranteed. For any corporate cash instrument, from bank deposits to mutual funds to direct investments, a close examination is required to understand liquidity characteristics.

Leaving analysis of banks and money market funds for other discussions, let's simply consider them liquid for our purposes here. In addition to the organic liquidity that may be accessed by withdrawals from a bank account or redemptions from money market investments, future organic liquidity may be maintained in securities with scheduled maturities that correspond to forecasted liquidity needs, whether overnight or months down the road. Unfortunately, perfect predictions of future cash needs are rare; a simple ladder of maturities to correspond with forecasted spending plans is not likely to resolve all treasurers' liquidity requirements.

The SEC has been faced with this same issue when considering how to avoid future liquidity crises in money funds. In 2008, the aftermath of the Lehman failure caused a tidal wave of institutional prime money market fund redemptions that required a blanket government guarantee to save the money market fund industry. The SEC's 2010 revisions to Rule 2a-7 sought to fortify liquidity protection through secondary sources of liquidity, in addition to the organic liquidity found in same-day cash holdings. Unlike a money fund, separately managed accounts are not at risk of liquidity interruptions due to shareholder runs, as a single investor controls all of the assets directly. On the other hand, an SMA is in some ways akin to a custom money market fund; with this in mind, the SEC's 2010 amendments to money market fund rules that sought to build liquidity protection provide us a useful definition when considering how to define certain liquidity parameters for SMAs.

Logically, the SEC's Weekly Liquid Asset definition in Rule 2a-7 includes any securities that mature (or are putable) within five business days, but it also includes Treasury securities of *any* maturity, as well as government agency securities with maturities up to 60 days:

> Weekly Liquid Assets means:
>
> (i) Cash;
>
> (ii) Direct obligations of the U.S. Government;
>
> (iii) Government Securities that are issued by a person controlled or supervised by and acting as an instrumentality of the Government of the United States pursuant to authority granted by the Congress of the United States that:
>
> (A) Are issued at a discount to the principal amount to be repaid at maturity; and
>
> (B) Have a remaining maturity date of 60 days or less; or
>
> (iv) Securities that will mature or are subject to a Demand Feature that is exercisable and payable within five Business Days[1].

The inclusion of securities *longer* than one week in a definition of weekly liquidity may seem odd. However, U.S. Government backed debt qualifies because secondary markets for such holdings are extremely liquid; that is, the bid-to-ask spread, or the difference in price at which an investor could buy and sell the same security, is extremely small. Chart 1 shows the bid and ask yields for two-year Treasury notes for the past eight months, and an average bid-to-ask spread of just one basis point[2].

This high degree of trading efficiency confirms what many treasurers instinctively know already – that U.S. Treasury securities are among the most liquid instruments in the world. Just as money market funds do, separately managed accounts can build additional reserves of liquidity in the form of weekly maturities and U.S. Government debt that can be sold easily and efficiently should unexpected liquidity needs arise.

[1] Amended SEC Rule 2a-7(a)(32), http://www.sec.gov/rules/final/2010/ic-29132.pdf

[2] Source: Bloomberg

Clarity from the Fed

The Fed's transparency on future overnight rate expectations affords treasurers a valuable opportunity to extend maturities beyond money market fund averages without credible fears of rapid interest rate increases. While overnight rate targets are likely to rise, the slow pace of future hikes indicated by the Fed suggests that the risk of sharp market value declines remains very low. U.S. Government debt – at times even debt with maturities longer than a year – may appropriately be considered a reliable source of liquidity in cash investment portfolios.

Other Secondary Liquidity Sources

U.S. Treasuries aren't the only source of secondary liquidity. There are other types of debt that also exhibit the same secondary market efficiency, and moreover, the same tendency to appreciate during times of severe market stress. Since 2008, the housing GSEs, Fannie Mae and Freddie Mac have benefited from explicit capital support from the U.S. Treasury. With perpetual access to a total of $200 billion[3], secondary market characteristics for short-term GSE debt are nearly identical to Treasuries. Therefore, GSEs should logically be included as a secondary liquidity option along with other types of government-backed securities.

[3] Source: FHFA and U.S. Treasury. http://www.fhfa.gov/Default.aspx?Page=364

In addition to U.S. government debt, debt issued by the largest, highest quality non-financial issuers also exhibits strong secondary market liquidity characteristics. Charts 2 & 3 show bid and ask levels for Nestle paper maturing in 6 months. For Nestle paper (a suitable proxy for the universe of the strongest non-financial issuers) the bid-to-ask spread of just one basis point highlights that buying and selling Nestle is nearly as efficient as buying and selling Treasuries. As a result, we can characterize debt of the highest quality non-financial issuers as a secondary liquidity source on which we can draw should cash flow requirements surpass previous forecasts; these securities could be easily and efficiently liquidated should the need arise.

Different Lengths to Maturity

Debt of other types of issuers, such as banks, brokerages, insurance companies, finance companies or structured products, may often trade less efficiently in secondary markets. Corporate treasurers should view such investments through a different lens to determine the ability of such vehicles to provide backup and emergency liquidity in separately managed accounts, because they often cannot.

However, some of the largest, strongest banks domiciled in certain stable countries, even during episodes of market duress, do offer efficient secondary market trading characteristics with tight bid-to-ask spreads for very short maturities. Chart 4 shows a bid-ask spread for 3-month Swedbank commercial paper of just one and a half basis points, a degree of secondary market efficiency effectively equal to Treasuries[4].

[4] Source: FHFA and U.S. Treasury. http://www.fhfa.gov/Default.aspx?Page=364

But as maturities lengthen, even for the very strongest banks, the bid-to-ask tends to widen. While the credit strength of certain banks may not come into question (a very select group of banks indeed), careful attention must be paid to the potential for future liquidity needs and the ability to easily and efficiently liquidate holdings before maturity. As maturities extend longer on the yield curve, bid-to-ask spreads indicate that broker-dealers may be somewhat more hesitant to take bank bonds into their inventories. Chart 5 suggests an extremely wide bid-to-ask spread for a high-quality TD note maturing in 12 months.

This higher bid-to-ask spread shows a typical trading cost and is not indicative of any particular stresses that TD is currently facing; in fact, it compares favorably to bid-to-ask levels for many other banks. Still, this serves as a reminder that if an investor needs to liquidate notes of even the highest quality financial issuers before maturity, they almost certainly will be faced with some degree of market inefficiency if the maturities are longer than a few months.

Less Liquid Names

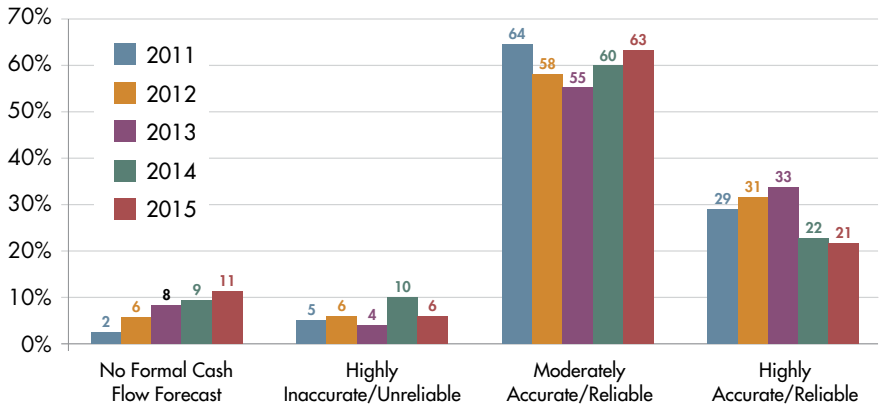
As you would expect, bid-to-ask spreads widen considerably as we move down the spectrum to issuers for which Moody's or Standard & Poor's assign lower ratings, or to those financial issuers with weaker underlying asset quality or weaker access to capital markets during periods of stress. A careful credit analysis may present issuers whose debt is "money good" and provide the necessary absence of default risk for a capital preservation portfolio. However, secondary market trading activity may be sufficiently weak in such investments that they should be considered only if a treasurer is 100% certain of not needing that cash before maturity. Such certainty about future cash needs is likely rare. Furthermore, whatever secondary market efficiencies that may exist today for lower-quality issuers could vanish entirely if global geopolitical events should unexpectedly worsen.

Constructing a Portfolio

Lengthening the maturity ladder beyond the same-day horizon of bank accounts or money market funds may offer measurably higher returns without sacrificing safety of principal and still allow us to meet current, future and emergency liquidity demands. Reviewing the categories of liquidity layers reviewed above, we have the following tiers available to construct a custom portfolio with several layers of liquidity protection:

Organic Liquidity	Deposits in bank accounts and MMF shares
Weekly Liquidity	The "Weekly Liquid Assets" definition borrowed from the SEC: holdings that are due/putable in 5 days, Agencies due in 60 days, and all Treasuries.
Secondary Liquidity	Agency securities longer than 60 days and debt of the strongest non-financial companies. Both tend to appreciate in times of stress.
Emergency Liquidity	A very small selection of the strongest banks. Short maturities trade very efficiently…longer maturities somewhat less efficiently.
Other	Securities that are "money good", but that don't provide any liquidity advantages

Cash requirements vary significantly from one business to the next, as substantiated by a joint survey that Capital Advisors Group and Strategic Treasurer conducted earlier this year. Just over 60% of respondents indicated that their cash forecasts are moderately accurate/reliable and more than 20% indicated that forecasts are highly accurate or reliable, which leaves nearly 20% of those surveyed who have forecasts that are something other than reliable[5]:



[5] Source: Joint CAG and Strategic Treasurer 2015 Liquidity Risk Survey

To illustrate how SMAs can provide liquidity with scheduled maturities and high concentrations of securities with excellent secondary market liquidity, we'll offer three examples to cover a range of reliabilities with respect to cash flow forecasting.

Example 1: *Cash Forecasts Moderately Accurate/Reliable*[6]

In our first example, monthly cash demands for the company are consistent, but other large cash requirements are a perpetual possibility as the business' cash flows can fluctuate. Uncertainty over the amount of future cash needs pushes the structure to maintain more available cash as time goes on by building an ever-increasing buffer in excess of anticipated cash needs, and by maintaining a significant percentage in highly liquid government-backed investments.

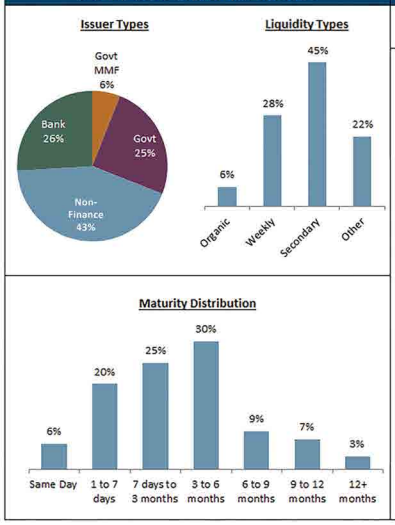
Sample: Liquidity Forecasting Analysis, 7/31/15

SAMPLE PORTFOLIO

TYPE	% OF HOLDINGS	INSTRUMENT	INVESTMENT COST	YIELD TO MATURITY	MATURITY DATE	SETTLEMENT DATE	DAYS TO MATURITY
Govt MMF	6.00%	Treasury Money Market Fund	$6,000,000	0.01%	N/A	N/A	OVERNIGHT
Govt	17.00%	Treasury / Agency Repurchase Agreement	$17,000,000	0.19%	8/1/2015	7/31/2015	1
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.25%	8/5/2015	7/31/2015	5
Non-Finance	4.00%	Non-Financial Corporate/CP Issuer	$4,000,000	0.21%	9/1/2015	7/31/2015	32
Non-Finance	4.00%	Non-Financial Corporate/CP Issuer	$4,000,000	0.24%	9/1/2015	7/31/2015	32
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.28%	9/22/2015	7/31/2015	53
Non-Finance	5.00%	Non-Financial Corporate/CP Issuer	$5,000,000	0.29%	10/9/2015	7/31/2015	70
Bank	4.50%	Global Bank Corporate/CP Issuer	$4,500,000	0.29%	10/9/2015	7/31/2015	70
Bank	4.50%	Global Bank Corporate/CP Issuer	$4,500,000	0.31%	10/9/2015	7/31/2015	70
Bank	4.50%	Global Bank Corporate/CP Issuer	$4,500,000	0.35%	11/13/2015	7/31/2015	105
Bank	4.50%	Global Bank Corporate/CP Issuer	$4,500,000	0.39%	11/13/2015	7/31/2015	105
Govt	2.00%	Government Agency Note	$2,000,000	0.17%	11/20/2015	7/31/2015	112
Non-Finance	5.00%	Non-Financial Corporate/CP Issuer	$5,000,000	0.27%	11/27/2015	7/31/2015	119
Non-Finance	5.00%	Non-Financial Corporate/CP Issuer	$5,000,000	0.33%	12/4/2015	7/31/2015	126
Govt	3.00%	Government Agency Note	$3,000,000	0.18%	12/21/2015	7/31/2015	143
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.32%	12/22/2015	7/31/2015	144
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.46%	1/15/2016	7/31/2015	168
Bank	3.00%	Global Bank Corporate/CP Issuer	$3,000,000	0.50%	2/25/2016	7/31/2015	209
Bank	3.00%	Global Bank Corporate/CP Issuer	$3,000,000	0.64%	3/30/2016	7/31/2015	243
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.60%	4/1/2016	7/31/2015	245
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.53%	5/20/2016	7/31/2015	294
Bank	2.00%	Global Bank Corporate/CP Issuer	$2,000,000	0.70%	6/15/2016	7/31/2015	320
Non-Finance	2.00%	Non-Financial Corporate/CP Issuer	$2,000,000	0.63%	7/15/2016	7/31/2015	350
Govt	3.00%	Government Agency Note (Callable)	$3,000,000	0.50%	8/15/2016	7/31/2015	381
		TOTAL	$100,000,000	0.32%			106

Recommended purchases do not represent actual market offerings. Securities typify those in which Capital Advisors Group invests and may differ from purchased securities. The yield presented for each security represents estimates of attainable yield levels as of 7/24/15 and may not reflect your account's results were CAG actually managing your money. Account structure may differ from the recommended structure above. All information is subject to change without notice.

PORTFOLIO CHARACTERISTICS



CASH FLOW PROJECTION PLANNER

DATE	BALANCE	BURN RATES	RECOMMENDED PURCHASES	EXCESS LIQUIDITY	REPOSITION AVAILABILITY
	$100,000,000			$6,000,000	
Aug-15	$100,000,000	($3,000,000)	$20,000,000	$23,000,000	23.71%
Sep-15	$97,000,000	($2,000,000)	$11,000,000	$32,000,000	33.68%
Oct-15	$95,000,000	($2,000,000)	$14,000,000	$44,000,000	47.31%
Nov-15	$93,000,000	($3,000,000)	$16,000,000	$57,000,000	63.33%
Dec-15	$90,000,000	($2,000,000)	$11,000,000	$66,000,000	75.00%
Jan-16	$88,000,000	($2,000,000)	$3,000,000	$67,000,000	77.91%
Feb-16	$86,000,000	($3,000,000)	$3,000,000	$67,000,000	80.72%
Mar-16	$83,000,000	($2,000,000)	$3,000,000	$68,000,000	83.95%
Apr-16	$81,000,000	($2,000,000)	$3,000,000	$69,000,000	87.34%
May-16	$79,000,000	($3,000,000)	$3,000,000	$69,000,000	90.79%
Jun-16	$76,000,000	($2,000,000)	$2,000,000	$69,000,000	93.24%
Jul-16	$74,000,000	($2,000,000)	$2,000,000	$69,000,000	95.83%
Aug-16	$72,000,000	($3,000,000)	$3,000,000	$69,000,000	100.00%
Sep-16	$69,000,000	($2,000,000)		$67,000,000	100.00%
Oct-16	$67,000,000	($2,000,000)		$65,000,000	100.00%
Nov-16	$65,000,000	($3,000,000)		$62,000,000	100.00%
Dec-16	$62,000,000	($2,000,000)		$60,000,000	100.00%
Jan-17	$60,000,000	($2,000,000)		$58,000,000	100.00%
Feb-17	$58,000,000	($3,000,000)		$55,000,000	100.00%
Mar-17	$55,000,000	($2,000,000)		$53,000,000	100.00%
Apr-17	$53,000,000	($2,000,000)		$51,000,000	100.00%
May-17	$51,000,000	($2,000,000)		$49,000,000	100.00%
Jun-17	$49,000,000	($2,000,000)		$47,000,000	100.00%
Jul-17	$47,000,000	($2,000,000)		$45,000,000	

[6] Sample purchases do not represent actual market offerings. Securities typify those in which Capital Advisors Group invests and may differ from purchased securities. The yield presented for each security represents estimates of attainable yield levels as of 7/24/15 and may not reflect your account's results were CAG actually managing your money. Account structure may differ from the sample structures included. All information is subject to change without notice. Not reflective of management fees.

Example 2: *Cash Forecasts Less Than Accurate/Reliable*[7]

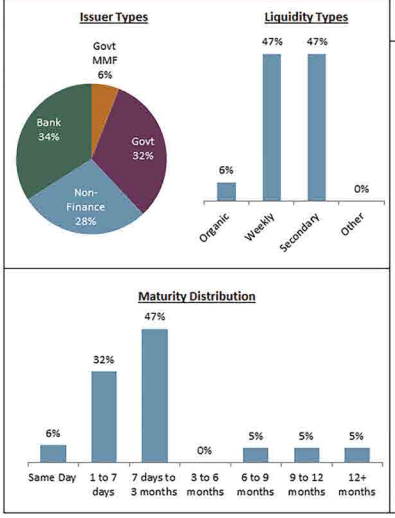
In our second example the company faces a perpetual possibility of M&A activity or other large capital spending plans. The portfolio structure provides for these unpredictable liquidity needs by maintaining a significant amount of the holdings in maturities coming due in five business days and in Treasuries, with the remainder maturing in 90 days or less. This structure creates a considerably more cautious credit profile than even the most conservative prime money fund.

Sample: Liquidity Forecasting Analysis, 7/31/15

SAMPLE PORTFOLIO

TYPE	% OF HOLDINGS	INSTRUMENT	INVESTMENT COST	YIELD TO MATURITY	MATURITY DATE	SETTLEMENT DATE	DAYS TO MATURITY
Govt MMF	6.00%	Treasury Money Market Fund	$6,000,000	0.01%	N/A	N/A	OVERNIGHT
Govt	17.00%	Treasury / Agency Repurchase Agreement	$17,000,000	0.19%	8/1/2015	7/31/2015	1
Non-Finance	5.00%	Non-Financial Corporate/CP Issuer	$5,000,000	0.25%	8/5/2015	7/31/2015	5
Bank	5.00%	Global Bank Corporate/CP Issuer	$5,000,000	0.09%	8/7/2015	7/31/2015	7
Bank	5.00%	Global Bank Corporate/CP Issuer	$5,000,000	0.12%	8/7/2015	7/31/2015	7
Non-Finance	5.00%	Non-Financial Corporate/CP Issuer	$5,000,000	0.23%	9/1/2015	7/31/2015	32
Bank	5.00%	Global Bank Corporate/CP Issuer	$5,000,000	0.13%	9/15/2015	7/31/2015	46
Non-Finance	5.00%	Non-Financial Corporate/CP Issuer	$5,000,000	0.10%	9/15/2015	7/31/2015	46
Bank	5.00%	Global Bank Corporate/CP Issuer	$5,000,000	0.15%	9/15/2015	7/31/2015	46
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.28%	9/22/2015	7/31/2015	53
Non-Finance	5.00%	Non-Financial Corporate/CP Issuer	$5,000,000	0.29%	10/9/2015	7/31/2015	70
Bank	5.00%	Global Bank Corporate/CP Issuer	$5,000,000	0.30%	10/9/2015	7/31/2015	70
Bank	4.00%	Global Bank Corporate/CP Issuer	$4,000,000	0.26%	10/15/2015	7/31/2015	76
Non-Finance	5.00%	Non-Financial Corporate/CP Issuer	$5,000,000	0.22%	10/15/2015	7/31/2015	76
Bank	5.00%	Global Bank Corporate/CP Issuer	$5,000,000	0.25%	10/15/2015	7/31/2015	76
Govt	5.00%	Treasury Note	$5,000,000	0.18%	2/28/2016	7/31/2015	212
Govt	5.00%	Treasury Note	$5,000,000	0.27%	5/31/2016	7/31/2015	305
Govt	5.00%	Treasury Note	$5,000,000	0.38%	8/30/2016	7/31/2015	396
		TOTAL	$100,000,000	0.20%			75

PORTFOLIO CHARACTERISTICS



CASH FLOW PROJECTION PLANNER

DATE	BALANCE	BURN RATES	RECOMMENDED PURCHASES	EXCESS LIQUIDITY	REPOSITION AVAILABILITY
	$100,000,000			$6,000,000	
Aug-15	$100,000,000	($3,000,000)	$32,000,000	$35,000,000	36.08%
Sep-15	$97,000,000	($2,000,000)	$23,000,000	$56,000,000	58.95%
Oct-15	$95,000,000	($2,000,000)	$24,000,000	$78,000,000	83.87%
Nov-15	$93,000,000	($3,000,000)		$75,000,000	83.33%
Dec-15	$90,000,000	($2,000,000)		$73,000,000	82.95%
Jan-16	$88,000,000	($2,000,000)		$71,000,000	82.56%
Feb-16	$86,000,000	($3,000,000)	$5,000,000	$73,000,000	87.95%
Mar-16	$83,000,000	($2,000,000)		$71,000,000	87.65%
Apr-16	$81,000,000	($2,000,000)		$69,000,000	87.34%
May-16	$79,000,000	($3,000,000)	$5,000,000	$71,000,000	93.42%
Jun-16	$76,000,000	($2,000,000)		$69,000,000	93.24%
Jul-16	$74,000,000	($2,000,000)		$67,000,000	93.06%
Aug-16	$72,000,000	($3,000,000)	$5,000,000	$69,000,000	100.00%
Sep-16	$69,000,000	($2,000,000)		$67,000,000	100.00%
Oct-16	$67,000,000	($2,000,000)		$65,000,000	100.00%
Nov-16	$65,000,000	($3,000,000)		$62,000,000	100.00%
Dec-16	$62,000,000	($2,000,000)		$60,000,000	100.00%
Jan-17	$60,000,000	($2,000,000)		$58,000,000	100.00%
Feb-17	$58,000,000	($3,000,000)		$55,000,000	100.00%
Mar-17	$55,000,000	($2,000,000)		$53,000,000	100.00%
Apr-17	$53,000,000	($2,000,000)		$51,000,000	100.00%
May-17	$51,000,000	($2,000,000)		$49,000,000	100.00%
Jun-17	$49,000,000	($2,000,000)		$47,000,000	100.00%
Jul-17	$47,000,000	($2,000,000)		$45,000,000	

[7] Sample purchases do not represent actual market offerings. Securities typify those in which Capital Advisors Group invests and may differ from purchased securities. The yield presented for each security represents estimates of attainable yield levels as of 7/24/15 and may not reflect your account's results were CAG actually managing your money. Account structure may differ from the sample structures included. All information is subject to change without notice. Not reflective of management fees.

Example 3: *Cash Forecasts Highly Accurate/Reliable*[8]

It is rare for a company to have perfect insight into future cash needs, but when a portion of the cash is not needed for the foreseeable future, a company may look to add to an already diversified portfolio with a layer of investments that they are certain won't be sold before maturity. Example 3 looks at a portfolio similar to Example 1, but with the addition of longer maturities of non-financial issuers and the strongest banks.

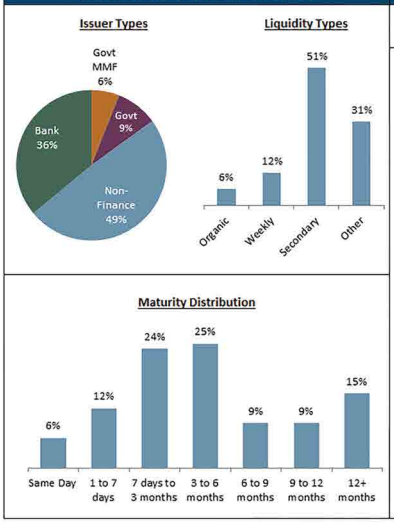
Sample: Liquidity Forecasting Analysis, 7/31/15

SAMPLE PORTFOLIO

TYPE	% OF HOLDINGS	INSTRUMENT	INVESTMENT COST	YIELD TO MATURITY	MATURITY DATE	SETTLEMENT DATE	DAYS TO MATURITY
Govt MMF	6.00%	Treasury Money Market Fund	$6,000,000	0.01%	N/A	N/A	OVERNIGHT
Govt	9.00%	Treasury / Agency Repurchase Agreement	$9,000,000	0.19%	8/1/2015	7/31/2015	1
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.25%	8/5/2015	7/31/2015	5
Non-Finance	4.00%	Non-Financial Corporate/CP Issuer	$4,000,000	0.21%	9/1/2015	7/31/2015	32
Non-Finance	4.00%	Non-Financial Corporate/CP Issuer	$4,000,000	0.24%	9/1/2015	7/31/2015	32
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.28%	9/22/2015	7/31/2015	53
Non-Finance	4.00%	Non-Financial Corporate/CP Issuer	$4,000,000	0.29%	10/9/2015	7/31/2015	70
Bank	4.00%	Global Bank Corporate/CP Issuer	$4,000,000	0.29%	10/9/2015	7/31/2015	70
Bank	5.00%	Global Bank Corporate/CP Issuer	$5,000,000	0.31%	10/9/2015	7/31/2015	70
Bank	4.00%	Global Bank Corporate/CP Issuer	$4,000,000	0.35%	11/13/2015	7/31/2015	105
Bank	5.00%	Global Bank Corporate/CP Issuer	$5,000,000	0.39%	11/13/2015	7/31/2015	105
Non-Finance	4.00%	Non-Financial Corporate/CP Issuer	$4,000,000	0.27%	11/27/2015	7/31/2015	119
Non-Finance	5.00%	Non-Financial Corporate/CP Issuer	$5,000,000	0.33%	12/4/2015	7/31/2015	126
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.32%	12/22/2015	7/31/2015	144
Non-Finance	4.00%	Non-Financial Corporate/CP Issuer	$4,000,000	0.46%	1/15/2016	7/31/2015	168
Bank	3.00%	Global Bank Corporate/CP Issuer	$3,000,000	0.50%	2/25/2016	7/31/2015	209
Bank	3.00%	Global Bank Corporate/CP Issuer	$3,000,000	0.64%	3/30/2016	7/31/2015	243
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.60%	4/1/2016	7/31/2015	245
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.53%	5/20/2016	7/31/2015	294
Bank	3.00%	Global Bank Corporate/CP Issuer	$3,000,000	0.70%	6/15/2016	7/31/2015	320
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.63%	7/15/2016	7/31/2015	350
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	1.02%	8/15/2016	7/31/2015	381
Bank	3.00%	Global Bank Corporate/CP Issuer	$3,000,000	0.75%	9/15/2016	7/31/2015	412
Non-Finance	3.00%	Non-Financial Corporate/CP Issuer	$3,000,000	0.85%	10/15/2016	7/31/2015	442
Bank	3.00%	Global Bank Corporate/CP Issuer	$3,000,000	1.00%	11/15/2016	7/31/2015	473
Bank	3.00%	Global Bank Corporate/CP Issuer	$3,000,000	1.15%	12/15/2016	7/31/2015	503
		TOTAL	$100,000,000	0.43%			161

Recommended purchases do not represent actual market offerings. Securities typify those in which Capital Advisors Group invests and may differ from purchased securities. The yield presented for each security represents estimates of attainable yield levels as of 7/24/15 and may not reflect your account's results were CAG actually managing your money. Account structure may differ from the recommended structure above. All information is subject to change without notice.

PORTFOLIO CHARACTERISTICS



CASH FLOW PROJECTION PLANNER

DATE	BALANCE	BURN RATES	RECOMMENDED PURCHASES	EXCESS LIQUIDITY	REPOSITION AVAILABILITY
	$100,000,000			$6,000,000	
Aug-15	$100,000,000	($3,000,000)	$12,000,000	$15,000,000	15.46%
Sep-15	$97,000,000	($2,000,000)	$11,000,000	$24,000,000	25.26%
Oct-15	$95,000,000	($2,000,000)	$13,000,000	$35,000,000	37.63%
Nov-15	$93,000,000	($3,000,000)	$13,000,000	$45,000,000	50.00%
Dec-15	$90,000,000	($2,000,000)	$8,000,000	$51,000,000	57.95%
Jan-16	$88,000,000	($2,000,000)	$4,000,000	$53,000,000	61.63%
Feb-16	$86,000,000	($3,000,000)	$3,000,000	$53,000,000	63.86%
Mar-16	$83,000,000	($2,000,000)	$3,000,000	$54,000,000	66.67%
Apr-16	$81,000,000	($2,000,000)	$3,000,000	$55,000,000	69.62%
May-16	$79,000,000	($3,000,000)	$3,000,000	$55,000,000	72.37%
Jun-16	$76,000,000	($2,000,000)	$3,000,000	$56,000,000	75.68%
Jul-16	$74,000,000	($2,000,000)	$3,000,000	$57,000,000	79.17%
Aug-16	$72,000,000	($3,000,000)	$3,000,000	$57,000,000	82.61%
Sep-16	$69,000,000	($2,000,000)	$3,000,000	$58,000,000	86.57%
Oct-16	$67,000,000	($2,000,000)	$3,000,000	$59,000,000	90.77%
Nov-16	$65,000,000	($3,000,000)	$3,000,000	$59,000,000	95.16%
Dec-16	$62,000,000	($2,000,000)	$3,000,000	$60,000,000	100.00%
Jan-17	$60,000,000	($2,000,000)		$58,000,000	100.00%
Feb-17	$58,000,000	($3,000,000)		$55,000,000	100.00%
Mar-17	$55,000,000	($2,000,000)		$53,000,000	100.00%
Apr-17	$53,000,000	($2,000,000)		$51,000,000	100.00%
May-17	$51,000,000	($2,000,000)		$49,000,000	100.00%
Jun-17	$49,000,000	($2,000,000)		$47,000,000	100.00%
Jul-17	$47,000,000	($2,000,000)		$45,000,000	

[8] Sample purchases do not represent actual market offerings. Securities typify those in which Capital Advisors Group invests and may differ from purchased securities. The yield presented for each security represents estimates of attainable yield levels as of 7/24/15 and may not reflect your account's results were CAG actually managing your money. Account structure may differ from the sample structures included. All information is subject to change without notice. Not reflective of management fees.

Conclusion

An understanding of the reliability of cash flow forecasts, coupled with an understanding of secondary sources of liquidity beyond bank deposits and money market funds, may provide a comfortable liquidity buffer for future cash requirements whether they are predictable or not. With well-designed liquidity buffers to resolve changing cash needs, SMAs may offer treasurers increased yield potential as well as more precise control of credit risk as compared to bank accounts and money market funds.

Stepping Out of Buy & Hold

A Corporate Treasurer's Perspective on Total Return Investment Strategies

Introduction

"Buy-and-hold" and "total return" investment mandates often treat the investment process in a very different fashion. The return objective of the former is based almost entirely on maximizing yield on investments at the point of purchase, while the latter attempts to achieve a higher level of "all-in" return that includes both coupon income and price appreciation.

In managing corporate cash portfolios, we are often asked by clients when would be an appropriate time to consider a total return strategy. In most cases, stepping out of a buy-and-hold strategy into the area of total return is not merely a change of mentality or risk appetite. Instead, it is often associated with the life stages of the corporate investor. As cash assets start to build up and the pattern of cash expenditures become predictable over the course of an entire rate cycle, it may be advisable for a corporation to explore higher return opportunities using a total return strategy. Meanwhile, accounting and tax considerations, especially in the case of publicly traded corporations, may also become relevant decision factors.

In most cases, stepping out of a buy-and-hold strategy into the area of total return is not merely a change of mentality or risk appetite. Instead, it is often associated with the life stages of the corporate investor.

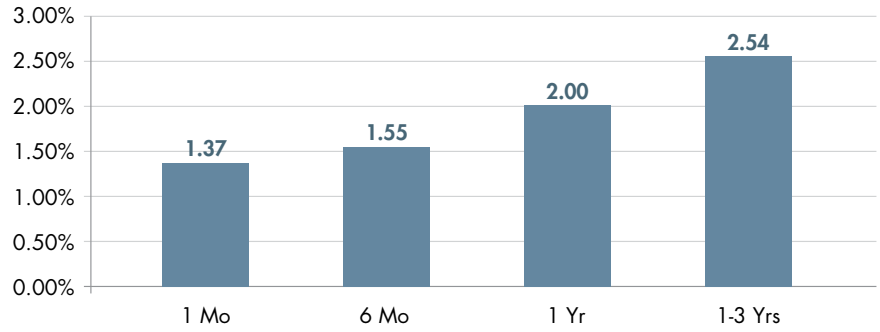
The Total Return Advantage

Since higher expected return is a primary consideration for a corporate cash account to pursue a total return strategy, we will compare the annual returns of four base-case benchmarks over the last 10 years: the 1-month and 6-month constant maturity Treasury (CMT) bills, the Merrill Lynch 1 Year Treasury Note Index and the 1-3 Year Merrill Lynch Treasuries Index. We use the CMT yields on the shorter Treasury benchmarks to make returns comparable.

One of the challenges of comparing the relative returns of a buy-and-hold portfolio with one that uses a total return strategy is that the former usually reports a book-value based yield level without regard to principal value changes, while the latter incorporates marked-to-market gains and losses over time. Another challenge is that the former simply reinvests matured proceeds while the latter requires periodic buying and selling of securities to rebalance its portfolio duration.

Constant maturity treasury yields are interpolated yields by the U.S. Treasury Department from the daily yield curve information supplied by the Federal Reserve Bank of New York. The 6-month CMT yield assumes that the Treasury bill always stays at 6 months to maturity with its price fixed at $100. Using CMT yields to simulate buy-and-hold portfolios allows us to overcome the two previous challenges and make returns of different strategies comparable.

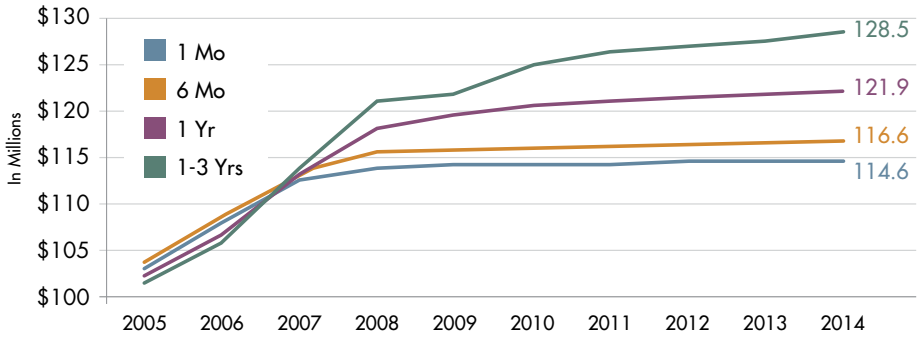
Figure 1: *Annualized Total Returns of Treasury Benchmarks (2005 – 2014)*



Source: Data for all figures in this article come from Bloomberg databases. The 1-month and 6-month constant maturity treasury yield information comes from the Federal Reserve H15 Statistical Releases. Historical returns for Merrill Lynch 1-Year Treasury Note and 1-3 Year Treasuries indices come from the ML Global Index System.

In Figure 1, our study shows the return pick-up of **18 basis points** from 1-month to 6-month Treasury, **45 basis points** from 6-month to 1-year, and **54 basis points** from 1-year to 1-3 year Treasury benchmarks.

Figure 2: *Growth of Hypothetical $100 Million (2005 – 2014)*



Note: Market value of principal plus reinvested Income.

Figure 2 provides an illustration of 10-year cumulative growth of hypothetical **$100 million** invested at the end of 2004. Although the difference between the 1-month and 6-month strategies was only **$2.0 million**, extending from 6-month to the 1-year strategy would have increased the market value of the investment by **$ 5.3 million**. The incremental pick-up to the 1-3 year strategy would have brought in another **$6.5 million**.

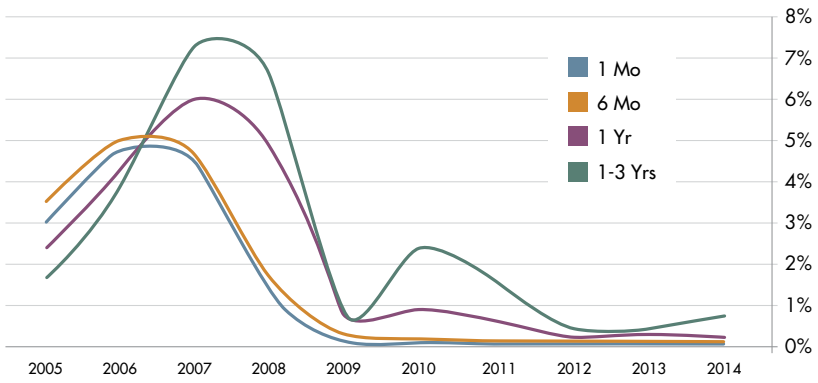
In our analysis, we assume all investments were made in US Treasury securities that do not have credit risk premium. Incorporating corporate and asset-backed securities in the 1-year and 1-3 year strategies would have increased the portfolio value by a larger margin.

Higher Historical Volatility

A total return strategy is expected to generate a higher level of return over a market cycle mainly due to greater assumption of interest rate risk, otherwise known as duration risk. While the market often compensates investors for holding longer maturity securities with higher coupon rates, large changes in general interest rate levels or in the term structure of interest rates can result in inconsistent and unpredictable returns over time. A comparison of investment strategies is not complete without looking at how returns vary over time, commonly known as "return volatility".

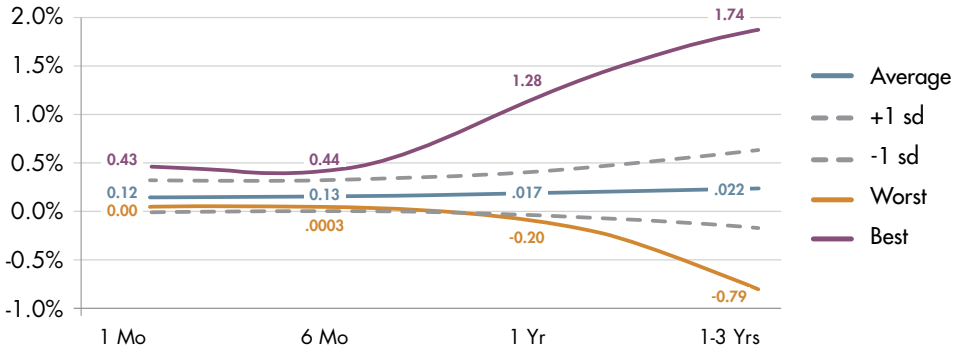
Figure 3 provides the returns of the four Treasury benchmarks in each of the previous 10 years. We can observe the general correlation in the shapes of the four lines. This is because all fixed income returns tend to be affected by the same macroeconomic factors such as economic growth and inflation measures. However, return swings for the 1-year and 1-3 year strategies were much more pronounced than the 1-month and the 6-month benchmarks, an indication of greater variability of returns when those economic conditions change.

Figure 3: *Annual Returns of Treasury Benchmarks*



It is interesting to note that none of the strategies has had a negative return year since 1985, an indication that even the 1-3 Year index is still generally considered a safer benchmark compared with intermediate and core bond benchmarks frequently used by retirement and endowment accounts.

Figure 4: *Dispersion of Monthly Treasury Total Returns (2005 – 2014)*



We provide a more in-depth look at total return variability on a month-by-month basis in Figure 4. The black line represents the average monthly returns for the four strategies over the last 10 years. The two dotted lines form a band of one standard deviation from the average return, a statistical indication that 68% of the monthly returns fall within this band. The two outside lines represent the actual best and worst months for respective Treasury benchmarks over the last 10 years. The figure shows that in pursuing a 1-3 year strategy, an investor has had a worst monthly return of **–0.79%** in the last 10 years, and a best monthly return of 1.74%.

Investment Reporting Considerations

When a buy-and-hold corporate cash account considers a total return strategy, it often has to consider its accounting implications. Many corporate accounts report corporate cash holdings as "available for sale" or "trading securities" under the Financial Accounting Standards Board Statement No. 115 (since December 1993), *Accounting for Certain Investments in Debt and Equity Securities*. FAS 157, *Fair Value Measurements*, effective November 2007, further defines fair value and clarifies fair value changes due to credit risk. The necessity of evaluating the size of quarterly balance sheet adjustments to account for marked-to-market gains/losses on the firm's overall balance sheet impact is a unique challenge to corporate investors.

In Figure 5, we decompose the total returns of the four benchmarks into income and principal returns and show only the latter to simulate the amounts a corporate cash account with $100 million starting balance in 2005 would have had to adjust to its shareholders' equity from marked-to-market gains and losses. **Since we assumed the 1-month and 6-month benchmarks were book value based, their principal values did not change.**

Figure 5: *Principal Changes of hypothetical $100 million Investment (2005 – 2014)*

In 2007 and 2008, the declining interest rate environment allowed both the 1-year and the 1-3 year benchmarks to accumulate positive principal returns, while rising interest rates caused the 1-3 year benchmark to report as much as **$1.0 million** in principal loss in 2014, even though its total return for the year was positive **0.62%** (not shown on graph).

In our understanding, corporations prefer to minimize balance sheet impact from marked-to-market adjustments to current period income and shareholders' equity, since some key financial ratios are computed from the base figures. When a buy-and-hold account considers switching over to a total return mandate, it needs to consider the financial statements impact, as a portfolio with a longer market index is likely to experience higher levels of periodic adjustments.

Impact of Active Trading on Realized Capital Gains

Investors generally prefer infrequent trading to minimize transaction costs and accounting entries. However, total return strategies almost always require active trading. This is because an account managed against a market index periodically rebalances its duration by selling shorter-dated securities no longer in the index and using the proceeds to buy bonds with longer maturities, a process known as "portfolio extension". Since all bonds move closer to maturity as time progresses, failure to extend duration will result in a portfolio drifting away from its target duration.

Increased portfolio turnover from total return strategies results not only in more accounting entries, but also in realizing capital gains or losses that can affect a corporation's reported profitability. For tax paying entities, such actions also have tax consequences. A corporation, therefore, needs to establish a level of comfort with higher portfolio turnovers in a total return strategy.

Figure 6: *Estimated Portfolio Turnover Rate of Treasury Benchmarks*

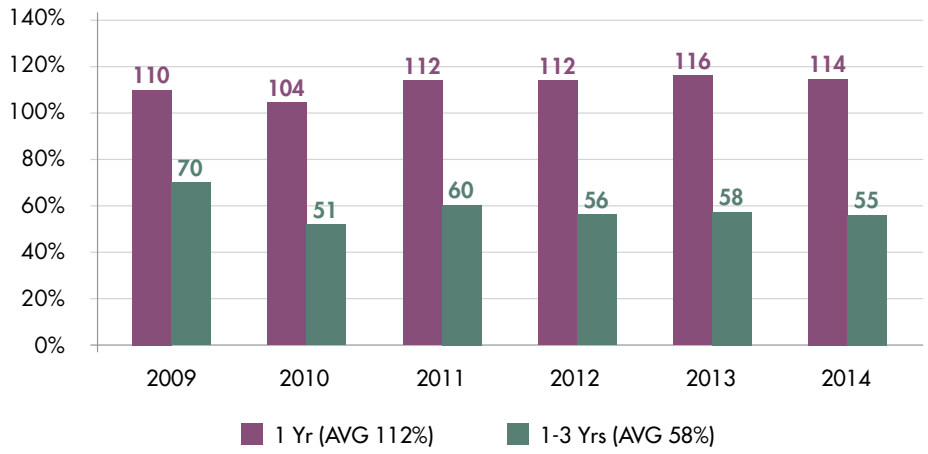
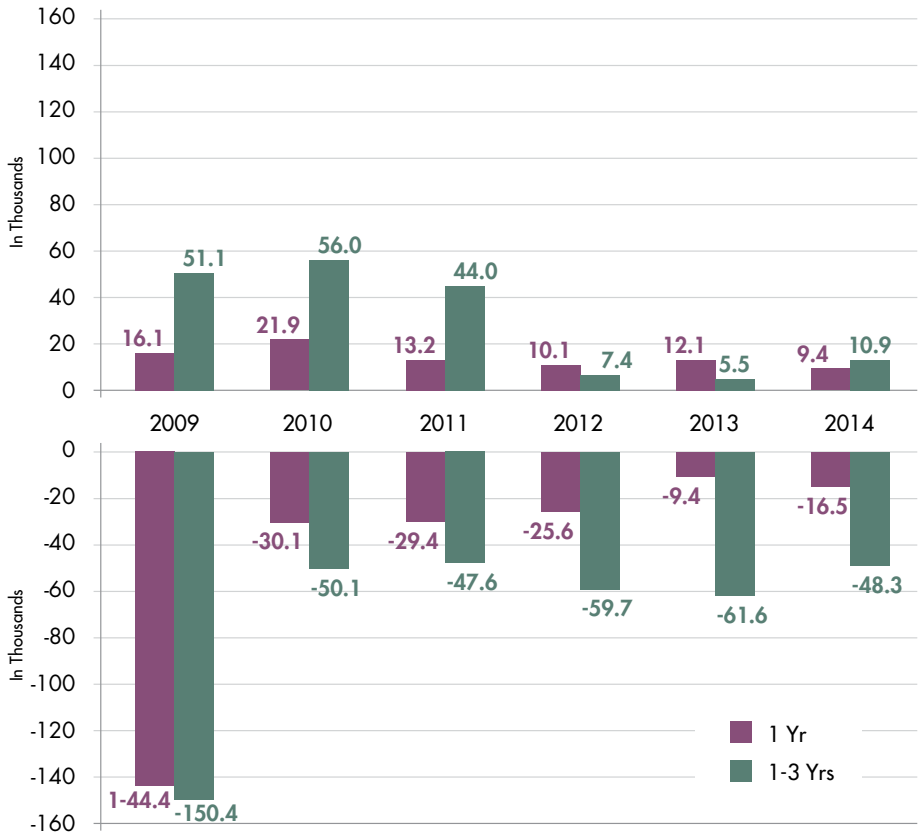


Figure 6 provides the estimated average portfolio turnover rates in the last six years. It uses the beginning and ending duration statistics of the two total return Treasury indices, and works into the assumption that a comparable portfolio must sell a proportional amount of its securities to extend its duration to match the index duration. It shows that the average turnover rate for the 1-year benchmark was 112% in the last six years, and the ratio for the 1-3 year benchmark was 58%. The rate is higher for the shorter benchmark since a portfolio of 1-year securities would have been turned over entirely in a year.

In addition to portfolio extensions, a total return account may also sell securities perceived by the manager to be relatively expensive and replace them with bonds with better return potentials. A manager may also choose to conduct trades to alter account duration intentionally to deviate from the market index. Our analysis does not consider these active trading strategies, and instead focuses on realized gain/loss situations purely from portfolio extensions.

Returning to our hypothetical $100 million investment, Figure 7 provides the estimated gains and losses derived from monthly extension trades in each of the last six years. We did not present a net figure since both realized gains and losses may impact a corporation's accounting profitability.

Figure 7: *Realized Capital Gains from Portfolio Extension Trades (2009 – 2014)*



With our simplified assumptions, a portfolio with a 1-year benchmark would have had to report a realized **gain of $22,000 in 2010** and a **realized loss of $145,000 in 2009**. The best and worst years for the 1-3 year benchmark were **2010 ($56,000)** and **2009 (-$150,000)**, respectively.

We stress that the simplified assumptions are only for purposes of analysis. In an actual portfolio, a manager mindful of corporate situations may have flexibility in minimizing realized losses for profitability concerns, or minimizing realized gains for tax advantaged accounts. The actual figures can be substantially different from the base case example. A manager's experience and sensitivity to corporate accounting and tax considerations are sometimes part of the manager selection criteria.

When Total Return Makes Sense

Having presented a case study of four Treasury benchmarks on the return advantage, volatility, accounting, and capital gain considerations of a total return strategy, we now turn our attention to when it makes sense for a buy-and-hold corporate account to adopt the new mandate.

1. Moderate investment horizon (cash life)

With exceptions, investors who adopt a total return strategy generally have an investment horizon of three years or longer. Economic conditions and the credit environment tend to be cyclical and may result in months or even years of total return underperformance relative to a buy-and-hold strategy. The interest rate and credit cycles can also affect market supply and demand for bonds; causing transaction costs to rise and fall.

2. Stable and predictable cash flows

We often advise clients to maintain a total return account with planned and infrequent cash flow transactions, and create a separate operating account for general cash flow uses. A total return mandate requires stable cash flows, because cash transactions in and out of an account can have dramatic effects on investment performance. An unexpected large inflow can cause a portfolio to shorten in duration and may result in underperformance in a rallying market. An unexpected large cash withdrawal request may force the portfolio to prematurely liquidate holdings with good return potential. Outflows also may cause portfolio duration to lengthen which can increase an account's interest rate risk.

For total return strategies to perform as expected, an investor may need to have a moderate investment horizon of three years or more.

3. Moderate Risk Tolerance

When an account considers a total return strategy, it needs to establish an acceptable level of risk tolerance. Since market and credit cycles may result in periods of negative principal returns and/or total returns, the investor's level of risk tolerance, as expressed in its investment guidelines, should be higher than a buy-and-hold investor.

Investors often use a market index as a reference point to limit interest rate risk. For example, the 1-Year Treasury Note Index's duration of 0.99 year as of December 2014 implies a probable total loss of 0.99% if the general level of interest rates increases by 1%. The 1-3 Year Treasury Index has duration of 1.89 years, suggesting its interest rate risk is 1.89% for every 1% increase in interest rates. These two benchmarks are particularly popular with corporate cash accounts because of their relatively low interest rate risk.

Similarly, an investor may use credit ratings and industry/issuer concentration to express its credit risk tolerance. Since a manager has discretion in selling deteriorating credits more quickly, ratings requirement may not need to be as stringent as for buy-and-hold mandates.

4. Accounting, Reporting, and Tax Considerations

Investors often consider factors other than returns when evaluating total return mandates. Sometimes, a corporation may decide against the strategy if it introduces more balance sheet volatility. For corporate accounts that already incorporate the "available for sale" accounting method, the magnitude of balance sheet adjustments, the impact of capital gains on profitability, and the level of reporting complexity can all be relevant factors. Although investment managers sometimes offer customized accounting solutions to assist clients in satisfying corporate reporting requirements, ultimately a corporation needs to reach a decision as to whether incremental expected returns outweigh the various non-investment related tradeoffs.

Conclusion

Separate account strategies are varied and are highly customizable for investor objectives. They can be liquidity oriented or pursue return objectives. In all cases they address the challenges of pooled products by returning control to the investor.

The decision to adopt a total return mandate for a corporate cash account involves more factors than just return. While a case for enhanced return opportunity is often compelling, each corporation must establish its own comfort level with regard to return volatility, potentials for large reported principal losses, higher levels of portfolio turnover and realized gains/losses.

While many of the factors are qualitative, we use four treasury benchmarks to quantify some of the concerns on the minds of corporate treasurers. The examples are simplistic, and are meant for illustrative purposes. We hope corporate treasurers can benefit from our analysis by applying their own portfolio balances and use variations of our methodology to arrive at their own conclusions.

For total return strategies to perform as expected, an investor may need to have a moderate investment horizon of three years or more, maintain a stable investment balance, establish a risk tolerance level using a market index and appropriate investment guidelines, and have adequate preparedness in dealing with more complex investment accounting and tax considerations.

We should note that all index returns in this article are reported as gross of fees. Expenses paid by institutional investors for separately managed short-duration total return accounts can vary widely between 10 to 35 basis points, depending on the size of the portfolio, the complexity of its investment mandate, the manager's expertise, and levels of services offered. By comparison, the median annual expense ratio for the 15 large institutional prime money market funds tracked by FundIQ® is 18 basis points as of June 30th, 2015.

Chapter 2: Shaping Investment Policies for the New Era

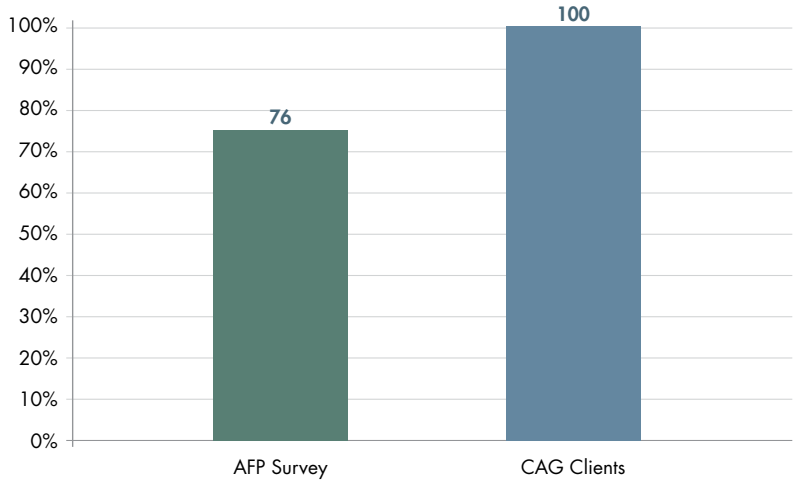
Shaping Investment Policies for a Safer Cash Portfolio

Ten Common Questions on Cash Investment Policy Formulation

Introduction

Investment policy statements, also known as investment guidelines, are widely used as important control documents in investment accounts. A recent industry survey showed that nearly 24% of corporate cash investors do not have written investment policies[1]. It also is quite common for some investors to permit wholesale adoption of policy guidelines recommended by outside investment managers, even though such recommendations may not always be in the best interests of the investors.

Figure 1: *Do You Have a Written Cash Investment Policy?*



Source: AFP 2014 Liquidity Survey and Capital Advisors Group, Inc.

Over the course of more than two decades of helping clients develop and review investment policies, we have come to understand the delicate balance between the flexibility for an investment manager to realize higher return potential and the risk management functions of an IPS. Instead of producing a "how-to" manual on writing investment policies, we will focus on some of the common issues faced by cash investors in the investment policy development process. Wherever applicable, we will provide peer group data from corporate cash investors. Some of the information comes from our own client database and some of it from third-party surveys. We hope that such peer group data will add helpful insight to the process.

1. What should the maximum maturity limit be?

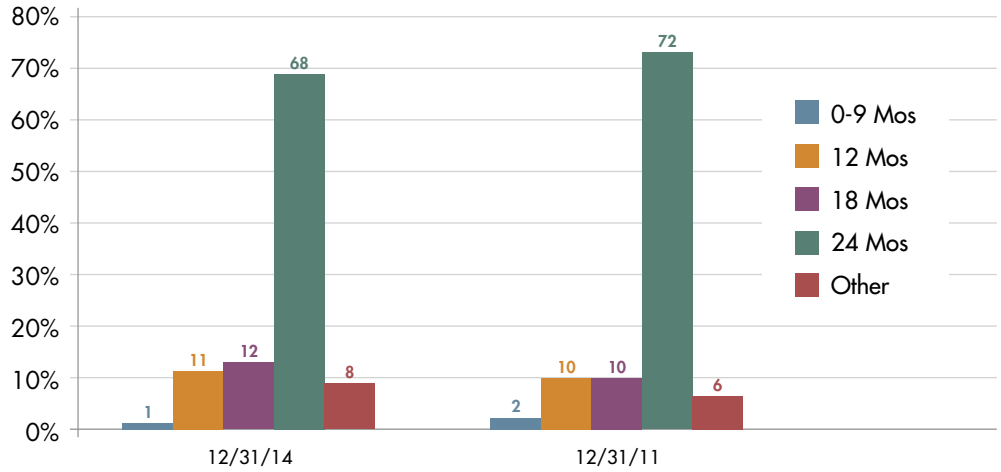
We believe that an IPS should have a long-term view of maximum maturity tolerance in most interest rate situations. While interest rate cycles come and go rather fluidly, policy revisions

[1] Association for Financial Professionals, Inc. 2014 AFP Liquidity Survey.

often involve time-consuming board meetings and audit committee debates. It is neither efficient nor practical to constantly revise maturity limits to adapt to a prevailing interest rate situation. Therefore, the investment policy should define the investor's maximum risk tolerance and allow the investment manager to make the tactical decisions of taking shorter maturity positions.

At Capital Advisors Group, as of 12/31/2014, about 68% of our institutional cash accounts state 24 months as their permissible maximum maturity limit. This is only slightly lower than the 72% of clients that we reported in 2012. The relatively small shift demonstrates our clients' relatively stable long-term view of their maximum maturity tolerances despite the different interest rate expectations in the last three years.

Figure 2: *Maximum Maturity Limits of Capital Advisors Group's Clients*



Source: Capital Advisors Group, Inc. as of 12/31/2014

2. What should the minimum acceptable credit rating be?

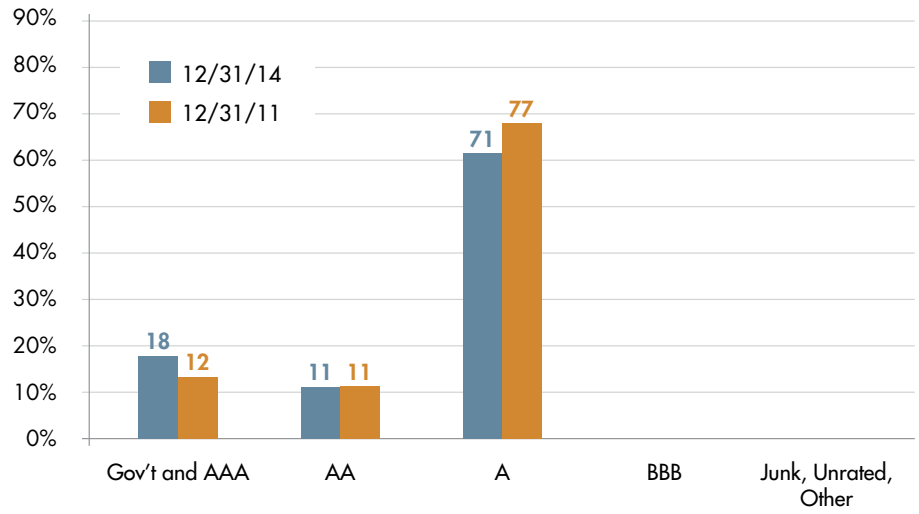
Using credit ratings from national rating agencies is still a good first step for controlling credit risk, despite recent erosion of public confidence in the accuracy of the ratings. Some investors are restricted by federal or state laws to invest only in U.S. Treasury and Agency debt, but most corporate cash investors tend to be comfortable buying investment grade, non-government securities, and with good reason. According to Moody's Investors Service, one of the national rating agencies, only 0.06% of issuer-weighted investment-grade corporate bonds failed to make payments on time within a year of issuance (with data from 1982 through 2014). Over a three-year period from the original date a bond was issued, that figure increased to 0.31%[2].

All three major rating agencies, Moody's, Standard & Poor's and Fitch, use four letter grades to set investment-grade ratings (e.g., BBB, A, AA, and AAA). The agencies then apply finer degrees of upper, mid and lower numerical ratings (e.g., A1, A2, A3 from Moody's) within a letter grade rating to further indicate relative credit quality. Although a BBB credit rating is still investment grade, many cash investors prefer to purchase securities rated A or higher. In the event an A rated security is downgraded, this allows for an added buffer before it slips into non-investment grade or "junk" status. The same Moody's study indicates the payment default probability of corporate securities rated A or higher to be 0.05% within a year and 0.27% cumulatively within three years[3].

[2] Sharon Ou, et al, Special Comment: Annual Default Study: Corporate Default and Recovery Rates, 1920-2014, Exhibit 22: Average cumulative credit loss rates by letter rating, 1982-2014, Moody's Investors Service, March 21, 2015.

[3] Ibid.

Figure 3: *Distribution of Minimum Credit Ratings by Capital Advisors Group's Clients*



Source: Capital Advisors Group, Inc.

Figure 3 shows that there was a slight uptick in investment policies requiring a minimum credit rating of AA or AAA today versus in 2011, although the vast majority of Capital Advisors Group's clients continue to require a minimum rating of A.

Cash investors with more stable cash balances, lower liquidity needs and higher risk tolerance may explore the possibility of accepting BBB as minimum accepted credit ratings.

There was a slight uptick in investment policies requiring a minimum credit rating of AA or AAA today versus in 2011, although the vast majority of Capital Advisors Group's clients continue to require a minimum rating of A.

3. What should the appropriate concentration limits be?

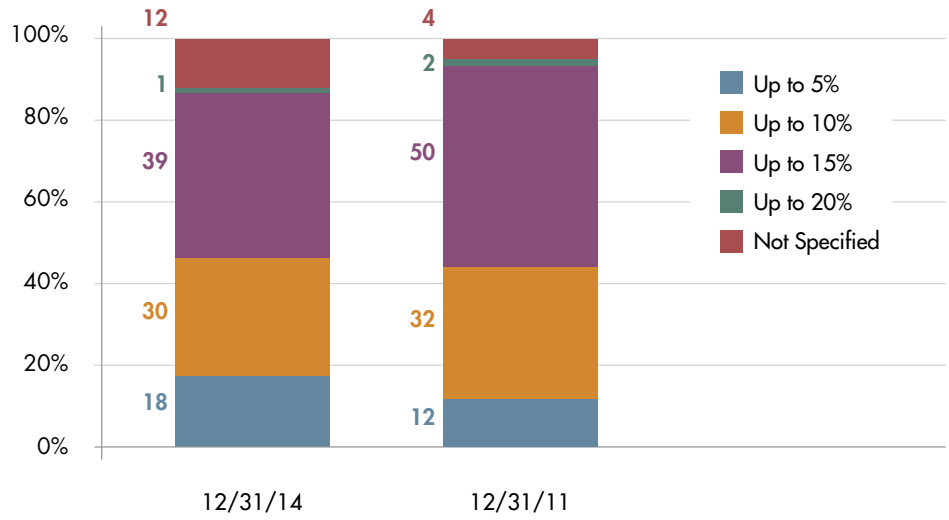
Issuer concentration limits are another important tool to control the idiosyncratic credit risk of individual issuers. Theoretically, the lower the concentration limit, the better risk diversification benefit there is to the investor. In practice, however, the dollar size of a cash portfolio may influence the degree of issuer diversification. This is because portfolio holdings tend to become less liquid, and less desirable to a potential buyer, when they fall below certain sizes – $5 million in par value for short-term corporate bonds, for example.

The risk of over-diversification becomes especially evident with financial issuers when liquidity and credit support tend to focus on a few systemically important financial institutions. Smaller, less capitalized issuers in peripheral markets may suffer substantial liquidity shortage and investor confidence, and may run into unexpected credit issues.

For a relatively small portfolio, a concentration limit of 10% to 15% for short-maturity securities rated A or higher may be appropriate. As the portfolio size increases, the limit may be reduced to 5% or lower. Securities issued and guaranteed by the U.S. federal government typically are exempt from concentration limits as they often are perceived as risk-free. Government-sponsored enterprises, including Fannie Mae, Freddie Mac and the FHLB System, typically enjoy higher issuer limits (such as 25%) because of their implicit support from the federal government.

Alternatively, investors may incorporate credit ratings into concentration limits, placing lower limits on securities with lower ratings. At Capital Advisors Group, about 30% of our institutional cash accounts allow for a 10% concentration limit per issuer, while 39% permit a 15% issuer concentration, as of December 2014. More investors moved to a 5% limit versus 2011, suggesting the effects of the recent credit crisis and their growing portfolios.

Figure 4: *Distribution of Issuer Concentration Limits at Capital Advisors Group*



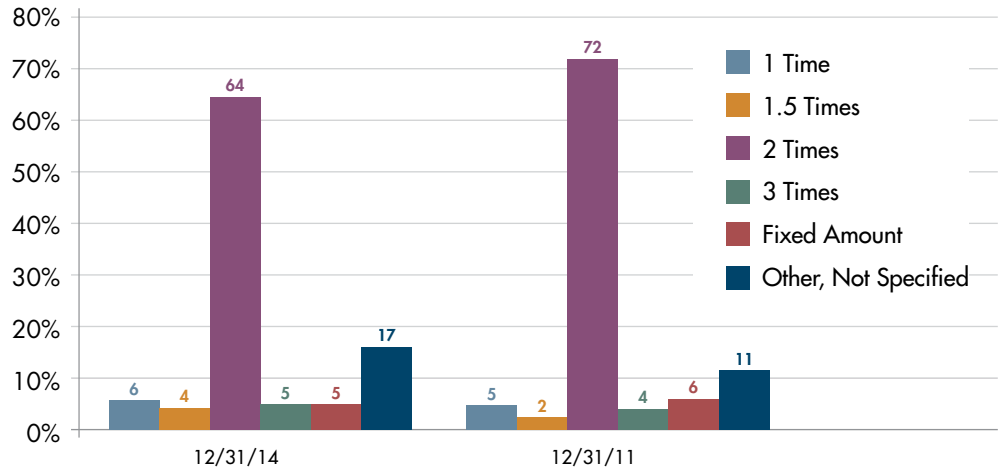
Source: Capital Advisors Group, Inc.

4. How much of my portfolio should be available overnight?

Not all investors specify how much of their portfolio should be in money market funds or other overnight instruments as an investment policy item. For investors who regularly withdraw funds from their cash accounts, it may be appropriate to have certain liquidity buffers for scheduled withdrawals and to compensate for cash flow forecasting errors. The predictability of cash flow and the investor's risk tolerance should dictate the portion of the portfolio allocated to liquid funds.

It is worth noting that a well-managed portfolio should be able to provide for unexpected liquidity needs through the sale of liquid assets in a reasonably quick fashion. Still, selling securities prior to maturity may result in undesirable capital gains or losses.

Figure 5: *Percent of Portfolio Required in Overnight Funds Measured by Times of Monthly Cash Needs*



Source: Capital Advisors Group, Inc. as of 12/31/11 and 12/31/2014

5. How do I choose an appropriate performance benchmark?

A relevant policy issue to consider when making benchmark selections is that a good benchmark should reflect the "neutral" position for a given policy. If the investment strategy and the securities it allows for are substantially different from those of the benchmark, then the portfolio may be taking on too much benchmark risk.

A unique challenge faced by cash investors is that the most popular fixed income indices measure total return, which includes unrealized gains and losses. While market value changes in a portfolio certainly are important to monitor, most cash investors do not receive a real benefit from the gains or suffer unrealized losses if they intend to hold the investments to maturity. Instead, these investors generally are more concerned with the yield they are earning based on the securities' book values.

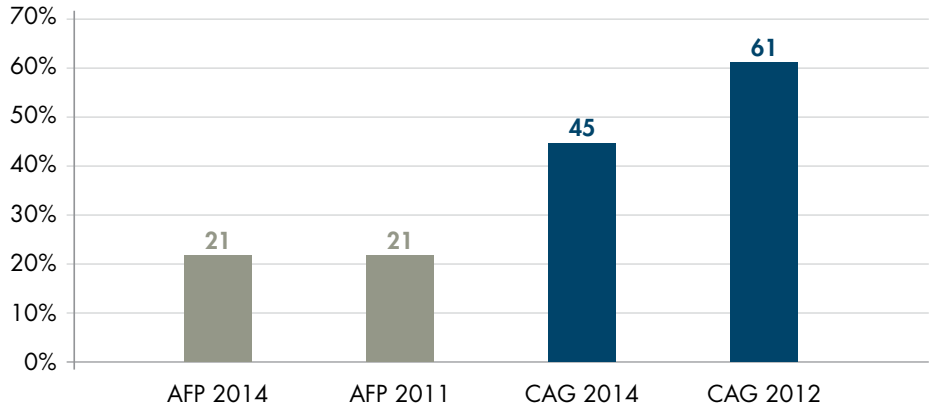
For relatively short buy-and-hold accounts, we generally use money market peer group averages, such as the Lipper Institutional Money Market Funds Average, as a benchmark. Since these funds use securities' book values as their principal values, all of their returns effectively come from income, making the returns more directly comparable to cash accounts. The Citigroup 90-Day Treasury Index also may be a reasonable benchmark to use. For portfolios containing securities longer than a year, a market index with a comparable duration may be more appropriate. In a nutshell, a good benchmark should be simple, objective, representative and publicly available.

6. Are asset-backed or mortgage-backed securities appropriate for cash portfolios?

Unlike corporate bonds with specific maturity dates, asset-backed securities ("ABS") and mortgage-backed securities ("MBS") use a calculated number called "average life" to estimate the expected full principal payment date. To compensate for cash flow uncertainty, ABS and MBS tend to use structural enhancement tools to enable them to attain strong credit ratings (often AAA) and may offer attractive yields relative to corporate securities.

In a stable or improving consumer credit environment, cash investors may be able to benefit from ABS backed by credit card receivables and automobile loans. For credit card ABS, issuers often use a structure called a "soft bullet" to ensure that all the funds necessary to pay down the full principal of the bond are accumulated in a reserve account prior to the expected maturity date. In an automobile loan ABS, the expected full principal payment dates also are quite stable, usually within a few months, since relatively few car loan borrowers regularly refinance their loans.

Figure 6: *Percentage of Accounts Listing ABS as Approved Assets*



Source: AFP 2014 Liquidity Survey and Capital Advisors Group, Inc.

Figure 6 indicates that the percentage of Capital Advisors Group's clients allowing ABS has decreased from 61% in 2012 to 45% in 2014. We continue to view AAA rated consumer ABS as consistent with most corporate cash investors' credit and liquidity requirements. This is especially true today, when the short-duration market lacks high quality securities with reasonable yield potential.

For MBS securities, changing interest rates may have a major impact on mortgage refinance activities. The average life of MBS securities, including those designed to reduce cash flow fluctuations (collateralized mortgage obligations), can swing many months or years either before or after the expected payment date. Investors who rely on predictable cash proceeds to fund their treasury operations, thus, may find MBS less attractive than those who do not have such constraints. We think investors who approve MBS in their IPS should limit their investments to securities backed by agency mortgages instead of bonds backed by higher-risk, "non-conforming" mortgages.

7. What would you consider prohibited transactions?

As an additional measure of risk control, it may be a good practice to prohibit certain securities or procedures that are inconsistent with the principal protection, liquidity and yield objectives of cash investing. What one may put on this list is an individual choice based on objectives, risk preferences, and historical experience of the investor. An important point to remember is not to "throw the baby out with the bath water."

Examples of prohibited securities may include common or preferred shares of equity, unrated or non-investment-grade securities, exotic forms of derivatives, the purchase of securities on margin or other types of financial leverage, and investments in physical real estate, venture capital or commodities, among others.

8. How do I address investment manager conflicts of interest?

A conflict of interest may exist when the manager of an investment portfolio has an interest with respect to the invested assets that may impair his or her ability to render unbiased advice or to make unbiased decisions affecting the investments. An effective investment policy should contain explicit language safeguarding against such conflicts.

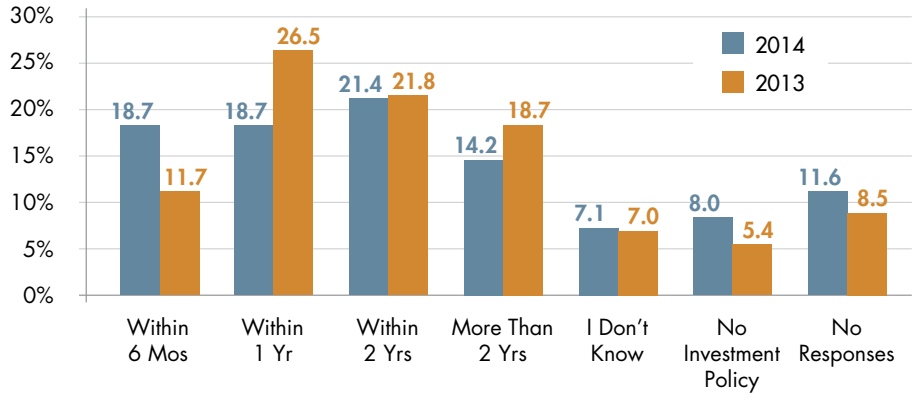
The formal adoption of the "prudent person rule" in an IPS may help set the ground rule. The "prudent person rule" is a common law standard applied to the investment of trust funds. The rule directs a fiduciary "to observe how persons of prudence, discretion and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income, as well as the probable safety of the capital to be invested (Harvard College v. Amory (1830) 26 Mass (9 Pick) 446. 461)."

Although most institutional assets in pension and endowment funds are managed by SEC-registered investment advisors, some investors in the cash management space have retained securities brokerage representatives as managers. Interested readers may refer to our July 2008 publication An Old Favorite Face: A New Paradigm for our commentary on the broker cash management model.

9. How do I monitor my portfolio performance?

Investment management is a dynamic process. Cash portfolios are no exception. Formal procedures should be in place to review the portfolio on a regular basis - at least quarterly. The policy document should detail the frequency and subjects to be reviewed, as well as the persons responsible for such reviews. In addition to investment performance, other items to review may include the accuracy of cash flow projections, earned income estimates, credit rating changes and unrealized gains and losses in the portfolio, among others. The policy itself should be reviewed periodically, preferably annually, to assess its effectiveness in risk management and to reflect the changing investment environment.

Figure 7: *When Was Your IPS Last Updated?*



Source: CAG/Strategic Treasurer liquidity risk survey results 2013 & 2014

Figure 7 is taken from the annual liquidity risk surveys of corporate treasury professionals conducted by Capital Advisors Group and Strategic Treasurer in 2013 and 2014. The survey results show that 18.7% of firms updated their IPS in the previous six and 12 months through the survey closing date of March 2014. Another 21.4% updated their IPS in the previous 24 months.

10. How do I resolve an out-of-compliance item?

Due to the dynamic nature of business and investment environments, it is not uncommon to have an out-of-compliance situation in a cash portfolio. It is imperative to anticipate such situations in an investment policy and to include proper guidelines for issue resolution and escalation. It is impractical to list every type of out-of-compliance problem, but it may be helpful to address them using three general principles: materiality, timing and authority.

- **Materiality:** Will the portfolio incur a loss and, if so, what is the severity of the loss?
- **Timing:** Do I wait and let the problem cure itself or do I take action to remedy the current situation and to prevent future problems?
- **Authority:** What is the chain of command in making discretionary decisions regarding the first two principles?

For example, consider a portfolio with a minimum credit rating of A3: If a security representing 3% of the portfolio with three months of remaining maturity was downgraded to Baa1, the CFO may have the discretion to authorize the manager to continue holding it to maturity rather than force a sale.

A well-constructed IPS provides evidence that a clear process and a methodology exist for selecting and monitoring cash investments.

Conclusion

Investment policy statements are important investment documents that can help corporate investors achieve risk management objectives and help outside investment managers clarify clients' restrictions so that they may deliver expected results. Careful implementation of a well-crafted, written policy statement is an important part of a successful cash investment strategy that also may help to improve investor-manager communications.

Appendix: Introduction to Investment Policy Statements

What is an IPS?

An IPS is a written document outlining the process for an investor's investment-related decision making. The purpose of an IPS is to formally describe how investment decisions are related to an investor's goals and objectives. A well-constructed IPS provides evidence that a clear process and a methodology exist for selecting and monitoring cash investments.

The benefits of an IPS

In retirement plan administration, the Employee Retirement Income Security Act of 1974 (ERISA) stipulates that a plan sponsor has a fiduciary obligation to document the procedures for investment selection and evaluation. While such a requirement is not equally placed on cash managers, the passage of the Sarbanes-Oxley Act placed strong demand on a corporation's internal control procedures. The existence of a well-constructed investment policy statement provides evidence of a prudent investment decision-making process and, in doing so, it can serve as an important risk management function in defense of potential fiduciary liability claims.

Beyond the legal and regulatory reasons for adopting an investment policy statement, creating an IPS forces a corporation to put its investment strategy in writing and commit to a disciplined investment plan. It's both a blueprint and a report card. The ever-increasing number and variety of outside investment advisors also make it necessary for a corporation to develop an investment policy so that the managers' expertise can better match the investor's risk tolerance, liquidity constraints and return expectations. Furthermore, a written policy may help those responsible for investment decisions avoid the temptation of following short-term "fads" in the financial markets.

A typical IPS

An investment policy statement's content always should be customized to the investor's specific needs. Some corporations prefer to adopt a brief investment policy statement summarizing the critical aspects of their investment goals and decision-making processes, while others prefer a more detailed version that addresses topics more specifically. The following areas often are addressed in an investment policy statement:

- Purpose
- Investment Objectives
- Eligible Investments
- Concentration Limits
- Maturity Limits
- Liquidity Requirement
- Credit Quality
- Marketability
- Trading Guidelines
- Custody of Assets
- Fiduciary Discretion
- Monitoring and Reporting
- Manager Selection and Termination
- Benchmarking
- Fees
- Future Amendments

Resources from Investment Managers

Investment managers, including Capital Advisors Group, often offer sample investment policies to prospective clients for use as references to draw up their own policies. The investment managers often are involved in the ongoing efforts of reviewing and revising current polices. It is advisable for institutional investors to tap into this pool of resources and discuss certain aspects of an investment policy with independent advisors before formal policy adoption.

Benchmark Selection for Cash Portfolios

Introduction

Corporate treasury managers are frequently confronted with the task of picking the right benchmarks for their cash portfolios. Unlike stocks and long bonds, a market-based index is often too long or too risky for cash investments. Some treasurers resort to comparing "yield" earned on investments on the assumption that it is the only relevant factor in a "buy-and-hold" strategy. We want to offer our take on choosing appropriate benchmarks for corporate cash portfolios.

The Need for Benchmarking

Some argue that, if a cash investor's main objective is to maximize yield, having a benchmark is irrelevant. Within reasonable risk parameters, the higher the yield, the better. Why, then, is there a need for benchmarking?

A benchmark is the yardstick to direct an investment strategy and to measure the success of this strategy. Its usefulness lies in its representation of a "neutral" position for the investor with matched investment horizon, risk tolerance, liquidity needs and return objectives with its investment policy. In addition to being a measurement of manager performance, the benchmark is frequently used to simulate interest rate scenarios and to analyze trading and opportunity costs. Even though a perfect benchmark may not exist for a given cash portfolio, adopting one provides a good starting point for the cash manager to understand return attributions.

A benchmark is the yardstick to direct an investment strategy and to measure the success of this strategy.

Golden Rules of a Good Benchmark

An appropriate benchmark, according to the securities industry trade group CFA Institute, is a recognized published index, a tailored composite of assets or indexes, or a peer group of similar funds or portfolios. Good benchmarks generally share the following common characteristics:

- They are objective and investible
- They are representative of the asset classes
- They represent comparable risk levels to a policy mandate
- They are developed from publicly available information

Common Types of Cash Benchmarks

Peer Group Averages: Also known as the "horserace" method, this is a commonly used method of measuring returns against that of a large universe of mutual funds with similar investment objectives and styles. For cash portfolios, Lipper, iMoneyNet, and Crane Data all provide peer group average performance of eligible institutional class money funds.

These money market fund peer group averages may be appropriate benchmarks for hold-to-maturity investors of very high quality investments with short average maturities. According to SEC Rule 2a-7, money funds must have a security maturity limit of 397 days and average maturity no more than 60 days. Money funds are allowed to use the "amortized cost", or book value, method to compute returns. The investment grade requirement also makes the average credit quality comparable to most buy-and-hold cash investors. We should note that, after October 2016, institutional prime money funds must adopt market-based pricing towards net asset value (NAV) calculations. Peer averages may become less accurate as benchmarks if the figures do not contain both income and principal (NAV) return components.

A major drawback of the peer group method is the big maturity gap between the money market universe, which may be 30 to 45 days long, and the short-duration bond universe, which can be as long as two years. Peer group comparison is also a net-of-fees return that makes it difficult to discern whether a strong number is the result of a manager's investment skills or due to a lower fee structure.

Treasury Bills Indices: Comparing the returns of a cash portfolio against that of a comparable maturity U.S. Treasury Bill is a simple and elegant way of benchmarking cash returns. Citigroup, for example, has a full range of Treasury Bill indices from one month through one year. The benefit of picking a T-bill index is the simplicity and transparency of a T-bill that matches the average maturity of a portfolio. On the other hand, using a T-bill index understates the credit risk of the portfolio and introduces mismatched yield curve exposure when a portfolio is compared against a single security that is replaced at the end of each month.

LIBOR Benchmarks: To account for the credit risk of a non-Treasury mandate, some cash accounts use LIBOR as short-term benchmarks. LIBOR, or London Interbank Offered Rates, is the lending rate at which banks borrow funds from each other in the London interbank market. Each day, LIBOR rates are posted for different currencies, including the Dollar, and at different maturities ranging from overnight to 12 months. The average credit rating of the 18 international banks included in LIBOR would suggest an implied AA credit rating.

Despite the credit risk representation, we find LIBORs to be inferior to T-Bills as cash benchmarks. They violate at least two of the four rules of a good benchmark as they are not investible directly, and there is not an industry recognized index provider that produces rate of return information on them. Recent investigations by U.K. and U.S. regulators into LIBOR manipulation at several international banks and subsequent settlements point to the biased and unregulated nature of this market. In addition, risk premium of bonds and commercial papers, at times, may not have anything to do with LIBOR, which primarily reflects banks' appetite for risk.

Market Value Benchmarks: Unlike a portfolio that uses the amortized method to compute book value returns, accounts with securities longer than one year should consider adopting a market-value based, or total return, index that marks-to-market all unrealized gains and losses. Some of the commonly used short-duration market value benchmarks include the *Merrill Lynch 1 Year Treasury Note,* the *Merrill Lynch 1 to 3 Year Corporate & Government,* and the *Merrill Lynch 1 to 5 Year Corporate & Government* Indices. Accounts with a credit mandate excluding BBB securities can also find an index with a comparable maturity and minimum credit rating, such as the Merrill Lynch 1-3 year A Rated and Above Index.

The choice for the appropriate market-value based index is contingent upon the account's interest rate risk tolerance and the willingness to realize accounting gains and losses as periodic portfolio duration extension trades may be need to keep pace with the duration of the benchmark. While one may find one index provider preferable to other, the specific decisions are often based on availability that best matches an account's mandate.

Tax-advantaged Benchmarks: The municipal bond market has long been recognized as being less liquid and more fragmented than the government and corporate markets. Because of this, few index-based benchmarks exist for cash portfolios. The *SIFMA Municipal Swap Index,* produced by the Bond Market Association, is widely used to track the performance of high-quality tax-exempt obligations with seven-day reset schedules. Longer maturity benchmarks include the *Merrill Lynch 1 to 3 Year Municipal Index,* and the *Barclays 1-Year Municipal Bond Index.*

Some corporate accounts that are taxpayers find it simpler and more transparent to use a taxable benchmark adjusted for its assumed corporate tax rate. Aside from certain tax sensitive trading strategies, benchmark selection criteria are essentially the same as those used for non-taxpaying accounts.

Custom Benchmarks: A custom benchmark is one that combines two or more benchmarks to better represent an account's tolerance for interest rate and credit risks. For example, an account with an "enhanced return" mandate may create a custom benchmark from the Merrill Lynch 3-month T-Bill and the 1-3 Year Corporate/Government indices in a 50/50 mix to benefit from the yield curve steepness while still maintaining an overall low duration risk. Similar adjustments can be made to credit ratings, asset classes and industry sectors.

The benefit of a customized benchmark is that it may best represent a particular investment mandate. However, it is not without its drawbacks as it is more difficult to track and maintain on an ongoing basis. Also, detailed return attribution analysis is often impossible since index producers do not construct security level information for return analysis.

Other Types of Benchmarks: Among the less common benchmark methods, some cash investors use the "yield plus a risk margin" method; others may use a "benchmark portfolio." Still others use a dynamic "benchmark rule" that changes as circumstances do. Each comes with its own advantages and drawbacks.

Choosing the Right Benchmark for Your Portfolio

A good benchmark should reflect the "neutral" position for a given investment policy. For all accounts, the first step in selecting an appropriate benchmark is to determine a portfolio level tolerance for interest rate risk, as represented by its duration or average maturity, and credit risk, as represented by average credit ratings. Other factors, such as liquidity constraints and portfolio turnover restrictions, should also be considered.

For relatively short, hold-to-maturity accounts, a comparable maturity Treasury Bill index can be used in addition to a money market Peer Group Average to adjust for higher interest rate risk assumed. For portfolios containing securities longer than a year, a market index with comparable duration and credit quality may be more appropriate. Sometimes two or more indices can be combined into a custom benchmark to mimic the risk characteristics of the portfolio mandate. However, be prepared to deal with higher maintenance costs and occasional benchmark drifting.

A good cash benchmark should be simple, objective, representative, and publicly available. Beware of benchmarks that are complicated, subjective, inconsistent, or proprietary. At the end of the day, a benchmark is meant to measure the success of certain portfolio objectives. It should be an important risk-adjusted, performance-enhancing tool, rather than a hindrance to the cash manager.

Evaluating Performance Measurement

Aligning Performance Measurement with Investment Objectives

Market Value Returns = (End Market Value + Income Earned) / Beginning Market Value

Introduction

At first glance, the task of measuring investment returns of corporate cash portfolios seems relatively straightforward, since they most typically invest only in "plain vanilla" securities and have limited numbers of transactions. Treasury practitioners, however, often tell a different tale of performance measurement. One frequent complaint involves apples-to-oranges performance comparisons between money managers. Another involves the difficulty of estimating coupon yields. And still others complain about the lack of appropriate benchmarks for buy-and-hold portfolios.

This state of confusion often derives from the fact that there are both apples and oranges in the investment performance world, otherwise known as market value returns and book value returns. While investors often have some understanding of the former since it is the way most stock and bond portfolios are measured, the concept of returns based on adjusted book value is typically known only in such limited circles as money market fund managers, government investment pool investors, and insurance companies. Until one understands the different concepts and their proper applications, meaningful interpretation of performance records can be difficult. This paper attempts to help investors gain a glimpse into the complex world of performance measurement with a brief overview of the two types of return methodologies and their applications to cash portfolios.

For certain portfolios, the market value method tends to introduce market volatility and offer less informational value for income projections.

Market Value Returns (MVR)

MVR are sometimes called total returns as they measure returns from both the income and principal components of a security. They are also frequently referred to as "marked-to-market" returns as they are computed with the value of investments using prevailing market prices.

For a single reporting period, the basic MVR calculation formula is: "(End Market Value + Income Earned) / Beginning Market Value." The "modified Dietz" method assigns a time weighting factor to intra-period transactions and removes "noise" created by noninvestment activities. Using a compounded return formula, monthly returns are chain-linked to arrive at quarterly and annual returns.

The CFA Institute establishes and interprets the Global Investment Performance Standards (GIPS). GIPS are standards specifically designed to provide a standardized way investment advisors report composite returns which will allow a perspective investor to make an apples-to-apples MVR performance comparison.

Book Value Returns = (End Book Value + Earned Income) / Beginning Book Value

MVR are important measures as they provide estimated returns if securities were to be liquidated on the day of measurement, and are the "gold standard" for most investment portfolios. For certain "buy-and-hold" bond portfolios, including certain short-duration accounts, however, this method tends to offer less informational value for income projections.

Book Value Returns (BVR)

Instead of "return maximization," corporations frequently cite "preservation of capital" as the first objective when investing their excess cash. Strategies that seek this objective often take a "buy-and-hold" approach with regards to trading activities. These investors intend to derive most, if not all, of their earnings from their bonds' coupon income. BVR performance may be more appropriate for portfolios that fall in this category.

The BVR method differs from the MVR method in that it removes the unrealized gains and losses from the calculation. Its basic formula is: "(End Book Value + Earned Income) /Beginning Book Value." Book value is the purchase price of an investment plus/minus the straight-line amortization of its discount/premium from its par value ($100). For example, for a security with one-year maturity bought for $100.12, its book value is $100.11 in one month, and $100.10 in two months, and so on. At maturity, its book value becomes $100, which is the same as its par value. As with MVR, monthly returns are chain-linked to get quarterly and annual returns. A capital gain or loss occurs only when a security is sold prior to maturity at a price other than its adjusted book value.

Several major investment groups employ the book value method for return measurement.

There is wide application of the BVR method in portfolios that require great accuracy in income estimates. Money market funds, stable value funds, government investment pools and insurance portfolios are some of the portfolios that incorporate this method in return measurement.

Benefits of The BVR Method

The advantages of reporting performance based on the MVR method have been well publicized. However, the benefits of the BVR method are not as widely known. Depending on individual portfolio characteristics, book value-based performance may provide better informational value to a corporate treasurer than marked-to-market returns.

Less Volatile Returns: Short-duration portfolios with buy-and-hold strategies typically experience little impact from short-term price swings resulting from interest rate movements, credit rating changes, or other factors. These accounts typically ride out both the ups and downs of the market to collect maturity proceeds at par value. For these investors, the terminal return potential is decided at the time of purchase. When a portfolio does not benefit from the unrealized gains, nor suffer unrealized losses, returns based on the BVR method tend to present a more realistic and less volatile performance picture.

Returns tend to be less volatile and income estimates tend to be more accurate with the book value method.

Figure 1: *Quarter-over-Quarter Return Comparison (Q1 2005 - Q1 2015)*

Source: Capital Advisors Group, Inc. Data points represent the firm's quarter-over-quarter change of aggregate performance using the BVR and MVR methods for illustrative purposes only. All returns are annualized. Refer to the end of this book for important performance disclosure.

The drawbacks of the book value method include masked portfolio volatility, the impact of historical purchases on current yield, and the lack of comparable benchmarks.

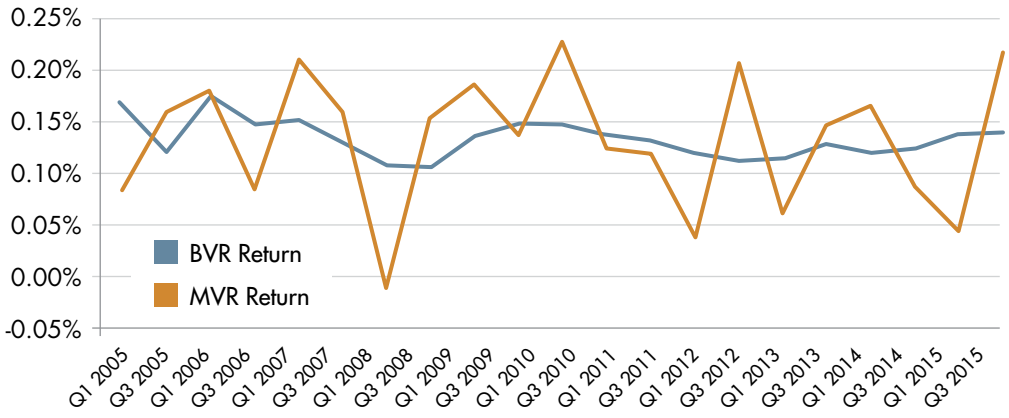
To illustrate the difference in return volatility presented by the two methods, Figure 1 depicts the quarter-over-quarter changes in aggregate performance at Capital Advisors Group, Inc. since the first quarter of 2005 (performance disclosure at the end of this book). While the BVR change line has a relatively smooth contour for most of the last ten years, the MVR line dropped as much as 2.9% in the second quarter of 2008 and surged by 1.3% in the second quarter of 2005. All returns are expressed as annualized figures.

More Accurate Income Estimates: The BVR method of performance measurement is consistent with the main benefit of buy-and-hold fixed income investing - the predictability of future cash flows. The method is generally very accurate in income projections from investments, while the MVR method does not intend to make such projections. Since income estimates are based on the yield of each security at the time of purchase, portfolio yield projections only need to take into consideration reinvestments and new transactions. In fact, the ability to forecast and budget for anticipated income is a main reason for stable value funds and insurance portfolios to use book value returns. For corporate and institutional entities with expenditures funded by income from investment portfolios, BVR can be very helpful.

Limitations of The BVR Method

Decades ago, a larger universe of fixed income portfolios was measured with the BVR performance method. Nowadays, portfolios have moved away from this method and have adopted the MVR method to be consistent with fair value reporting, either voluntarily or by regulatory mandates. Therefore, some of the drawbacks when interpreting portfolio performance using the BVR method are not well-known.

Figure 2: *Aggregate Quarterly Return of CAG Accounts*



Source: Capital Advisors Group, Inc. Data points represent the firm's quarter-over-quarter change of aggregate performance using the BVR and MVR methods for illustrative purposes only. All returns are annualized. Refer to the end of the article for important performance disclosure.

Masked Portfolio Volatility: Since the BVR method does not consider unrealized gains and losses, it may not be appropriate for securities that are subject to large interest rate risk or credit risk. By using a pre-determined schedule to set the value of securities holdings, the method causes a smoothing effect that masks the true worth of investments at any given time. Investors relying solely on BVR may be blindsided by substantial unrecognized losses in a portfolio, and when selling, may unexpectedly realize such losses. As a rule of thumb, BVR of securities with

one year or less until maturity tend to be more reliable than those with longer maturities. Once maturities move beyond a year, BVR should always be supplemented with MVR.

Figure 2 shows the quarterly aggregate performance of Capital Advisors Group, Inc. over a five-year period and indicates large marked-to-market valuation changes. Although the aggregate return difference between the BVR and the MVR methods was essentially nothing for the last five years, we can see that returns as measured by the BVR method stayed within a tight range whereas the MVR method showed significantly higher volatility, including negative returns in the third quarter of 2011.

A buy-and-hold mandate, short-maturity assets, and the need for reliable income estimates are some of the common conditions that make the BVR method appealing for cash portfolios.

Historical Yield: With BVR, the reported portfolio return is a historical figure, since the calculation is based on information at the time of purchase. This is a different concept from a portfolio's current yield to maturity, or expected rate of return from the same securities at today's market rates. A portfolio with securities purchased in a lower interest rate environment tends to report a lower book yield than its yield to maturity. The reverse is also true. For this reason, income projections should be interpreted in an "accounting" context (i.e. for financial statement reporting), not in an "economic" context (i.e. realistic expectations) when assessing the earnings power of a bond portfolio.

Lack of Comparable Benchmarks: in direct contrast to the wide variety of market value indices available, investment managers often construct book value benchmarks in house, an approach which lacks industry standards. Investors frequently use Treasury bill indices as proxies for buy-and-hold benchmarks, even though they are actually market value indices. The London Inter-Bank Offered Rate (LIBOR) series, although qualified as book value benchmarks, does not have third-party index providers that ensure data integrity. The lack of comparable book value benchmarks often leads to incorrect return comparisons.

Application of BVR in Cash Portfolios

Corporate and institutional cash portfolios, with a primary objective of capital preservation and a short-duration portfolio structure, should consider the BVR method.

Book value return and total return are two sides of a coin.

Buy-and-Hold Mandate: Performance returns using the BVR method are meaningful only for buy-and-hold portfolios. When an investor holds a bond to maturity, the overall return is the same regardless of interim price fluctuations. Investors who employ an active trading strategy should not use the BVR method as bonds are often "traded away" for relative value before their book value is fully amortized.

Short-Maturity Portfolios: The BVR method is generally well suited for short maturity portfolios. Money market funds, which have a 13-month maximum maturity limit, use the calculation method to determine share prices under most market conditions. Even though life insurance companies use BVR to manage against long-dated book yield targets, such practice is rare on cash portfolios with securities maturing beyond a year as the portfolio's interest risk increases.

Reporting returns based on book value does not substitute total return performance, and vice versa.

Income (Not Return) Forecasting: The ability to accurately forecast future portfolio income is one of the primary considerations in adopting BVR reporting. However, it's important to note that "income" is a different concept from "return", and that earned income estimates are not forecasts of future returns.

Choose Benchmarks Appropriately: A market value index rebalances itself by periodically adding new securities and removing old and ineligible ones. This rebalancing feature disqualifies all market indices as appropriate book value benchmark candidates. Today, Lipper Institutional, iMoneyNet, and Crane Data produce some of the most widely recognized BVR benchmarks, as they represent the average of money market portfolios using the amortized cost (book value) method.

Supplement, Not Substitute: It is important to recognize that BVR and MVR are two sides of a coin, and should not be mutually exclusive. A portfolio's long-term rate of return should be the same regardless of the short-term methodological differences. With increased demand for transparency in financial reporting, marking the value of investments to market has become the standard disclosure practice at most corporations. For buy-and-hold portfolios, reporting returns based on book value should not substitute total return performance, and vice versa. It is always a good practice to request and obtain both sets of returns for reporting and analytical purposes.

Conclusions

Accurate and useful performance measurement is imperative for effective portfolio management. Book value return and total return are two sides of a coin. A portfolio's long-term rate of return should be the same regardless of which method is used. For buy-and-hold portfolios, reporting returns based on one method does not eliminate the usefulness of the other. Investors need to properly identify these differences and apply the methods appropriately. When it comes to avoiding an apples-to-oranges comparison, the corporate treasurer's correct course of action is to equip herself with both sets of data in order to make an informed decision.

Chapter 3: Managing Credit and Risk in the New Era

Nine Elements of Credit Approval for Cash Portfolios

A Behind the Scenes Look

Introduction

For some treasury practitioners, the credit approval process for cash investment portfolios can be mysterious and intimidating. In day-to-day operations, they often make credit decisions, directly or indirectly, about their investments solely based on credit ratings. In the post-2008 era, a deeper understanding of the credit process is essential for cash investments, even if one uses outside managers such as money market funds. In this research commentary, we explain nine essential elements in the credit approval process for a cash portfolio.

1. Beyond Ratings – What Makes Cash Unique

First, one needs to recognize that credit approval for a cash portfolio is rather different from that of other fixed income investments. In addition to minimum credit requirements such as ratings, fundamental credit features for cash credits include:

- **Minimum Loss Threshold:** In general and by design, cash portfolios have a very low threshold for principal loss. In money market funds, a $0.01 loss on the net asset value can have grave consequences. Cash credit approval, thus, requires a higher degree of assurance.
- **Held to Maturity Bias:** Unlike trading portfolios, cash investments are often held to maturity. This means that the credits must be resilient in order to endure credit developments and market events until maturity.
- **Conservative Bias:** Because of the held-to-maturity bias, cash investments are income producing assets that often do not benefit from principal gains. The need for downside protection always outweighs any desire for upside potential.
- **Priority on Liquidity:** Due to the nature of cash accounts as sources of liquidity, the ease of converting into cash quickly and with minimum price concession is a key consideration.
- **Pre-Trade Compliance:** Because of higher demand on safety and liquidity, cash credits must typically be approved before they can be considered as candidates for a trade. Many firms maintain a list of pre-approved credits for this purpose, while non-cash credit departments typically do not.

2. The Credit Universe – It's All About Supply

Another consideration is the availability of suitable investments for cash portfolios, as a strong name is of no use if it does not borrow in short-term markets. The short-duration marketplace naturally draws certain types of borrowers over others.

- **Types of Credits:** Short-term taxable credit instruments often include repurchase agreements, corporate and financial commercial paper (CP), asset-backed commercial paper, and large denomination certificates of deposit (CDs). In the U.S., the credit universe largely consists of banks and corporate issuers.
- **Sources of Credits:** The supply of credits typically includes CP dealers and direct CP issuers, CD brokers, dealer inventory of secondary note offerings, and limited new issues of corporate notes. Analysts and traders typically comb through this universe for approval candidates.

3. Preliminary Screening – Compliance and Common Sense

From the universe of available credits, credit analysts typically conduct a preliminary screening incorporating investment policy compliance and a common sense approach.

- **Ratings and Restricted Assets:** Most firms have a minimum ratings requirement, such as the single A ratings level (A- from S&P, A- from Fitch and A3 from Moody's). Names below this threshold will be immediately disqualified. Firms may also screen out certain asset classes, industries, or countries of issuance to address unique risk preferences. Restrictions may include derivatives contracts, mortgage backed securities, airline credits, or exposure to southern Europe, for example.
- **Story Credits:** Screening also may remove candidates entangled with hot issues such as potential criminal conduct, shareholder litigation and product liability. These issues may be difficult to analyze through fundamental research. The severity of concerns will determine which credits to avoid.

4. Macro Analysis – The Panoramic View

Candidates that survive the preliminary screening are subject to further analysis, which may include a top-down macro look and a bottom-up fundamental scrub. The combined outcome from the two exercises may lead to a final credit determination.

- **Purpose of Macro Analysis:** Credit performance does not exist in a vacuum. Many external factors influence a borrower's credit ratings and its ability to repay principal and interest on time. This is especially true with financial companies, which tend to be highly sensitive to changes in interest rates, market conditions, and borrower credit statistics.
- **Elements of Macro Analysis:** Relevant macro factors may include economic resilience statistics, government fiscal health, monetary policies, maturity and stability of capital markets, the regulatory framework, interest rates, credit and business cycles, and government support assumptions, among others.

In the post-2008 era, a deeper understanding of the credit process is essential for cash investments.

5. CAMELS – The Fundamental Process

Fundamental analysis is the meat and potatoes of credit approval. The bottom-up review allows the analyst to gain a more comprehensive understanding of the borrower's credit fundamentals to assess credit strength and ratings stability.

- **The Classical CAMELS System:** This analytical system was developed by U.S. banking authorities to assess a bank's financial condition. The acronym stands for *Capitalization, Asset Quality, Management, Earnings, Liquidity and Market Sensitivity.* Although the CAMELS 1 to 5 scoring system used by banking regulators is unavailable publicly, the acronym today refers to the generally accepted method of evaluating financial firms throughout the world.
- **Quantitative and Qualitative Factors:** Assessing a borrower's ability to repay principal and interest is an involved process, guided by the established process of comparative analysis of its business, operating and financial factors against borrowers in similar situations. By definition, fundamental analysis differs from data analysis as it relies on an analyst's judgment, combining qualitative and quantitative factors. Factors under consideration often exceed the classical CAMELS framework.
- **A Dynamic Process:** The analyst may compile a credit model with relevant factors that helps to form credit decisions. Credit metrics may not be directly comparable across industries, countries, stages of a credit cycle, or even firms within a given domestic industry. This dynamic process requires individual examination and ongoing retooling of the methodology.

6. Internal Ratings Systems – A Scorecard Concept

The culmination of macro and fundamental research efforts allows the analyst to form a credit opinion. For some firms, the research process ends with an analyst recommendation for credit approval. More established firms may use internal ratings systems to better articulate the basis for credit recommendation.

- **Rationale for Internal Ratings:** Investment firms generally favor their own credit research capabilities over rating agency ratings. Financial regulators also encourage professional money managers to use credit criteria independent of agency ratings. An internal ratings system allows managers to explore opportunities from rating discrepancies.
- **Benefits of Scorecards:** Research firms, including rating agencies, may use a scorecard system to rate individual aspects of a credit. This system allows the user to understand the strength of specific parts of the credit. It also allows relative strength comparisons among similar credits.
- **Types of Internal Ratings:** Some firms may keep their internal ratings format consistent with established rating agency convention, such as "AA-" or "Low Double A". Other prefers a numerical ranking system, such as scores 1 through 5. Others may use generic tier categories to indicate relative strength that include liquidity and maturity preferences.
- **Dynamic Ratings:** In recent years, more firms have incorporated market indicators into internal ratings to be more responsive to current events. These indicators may include benchmark credit default swap (CDS) spreads, bond yield implied ratings and stock price volatility. The dynamic nature of internal ratings may be an advantage over traditional bond ratings, which tend to respond more slowly to market developments.

7. Final Credit Approval – A Group Exercise

Finally, committee approval of credit decisions is often preferred over decisions by individual analysts. The formal process provides a platform for ideas to be debated and concerns heard before a credit is approved.

- **Members of a Credit Committee:** In addition to the principal analyst and the head of credit research, key members of portfolio management, trading, strategy, risk management, and executive management teams are likely to be on the credit committee. Because of sometimes conflicting performance objectives, portfolio managers and traders generally refrain from chairing the credit committee.
- **Approval Considerations:** In addition to fundamental credit factors, the credit committee may consider other factors before approving a credit. These may include issuance size and the breadth of the market, liquidity and capital structure, bond dealers' involvement and general investor perception, price stability and secondary market liquidity during past market down cycles.
- **Forms of Approval:** Because of the unique nature of cash credits, the credit decision is not often a simple "yes" or "no", but rather a question of approval for "how much", "how long", and "for what types of accounts". The basic tenet is to ensure that, in the best judgment of the committee and over the holding period, the credit will not deteriorate below a set minimum credit and liquidity threshold.

8. Monitoring and Surveillance

- **Ongoing Monitoring:** As in many aspects of credit investments, monitoring and surveillance of credit metrics is an essential part of credit approval. Established firms have monitoring mechanisms to track business conditions, markets and products, regulatory actions, equity and bond prices, rating changes and other developments that may impact credit profiles.
- **Refreshed Recommendations:** In addition to ongoing monitoring, periodic reassessment, especially with the release of quarterly and annual financial results, is important to reassess the original credit decisions. At these intervals, it helps to update credit metrics and refresh research recommendations to revalidate earlier credit decisions.
- **Useful Tools:** External research and technology may help improve effectiveness of credit monitoring. Rating agency reports, Wall Street research, third party research, subscriptions to databases, financial software and analytical packages, automatic alerts and delivery of key statistics are some of the tools that can improve credit monitoring.

9. Credit Event Response – Risk Mitigation

Last but not least, an effective credit approval process must address risk mitigation. Even for credits perceived as safe for cash portfolios, the unexpected can happen and the credit department needs to stay prepared for these contingencies.

- **Tiered Approval Structure:** In our own experience, we find the tiered approval system to be effective in addressing credit surprises. By lengthening and reducing the maximum maturity limits in new purchases as credit conditions evolve, the economic exposure to potentially volatile credits can be significantly reduced.
- **Asymmetric Decision Tree:** Another practice often used by established firms is to give the principal analyst the discretion to tighten credit restrictions unilaterally but to require committee approval to relax them. This asymmetric credit decision tree may allow a firm to limit risk quickly and avoid being whipsawed by going back into credits on a downward spiral.
- **Credit Watch List:** Another useful tool is a credit watch list, which includes "developing" credits with negative implications. The firm may prohibit new purchases but continue to watch existing holdings for changes. Over time, watch-listed securities may reach maturity, be sold if more downside risk exists, or be removed from the watch list if the situation improves.

When to Choose a Single Over a Double

Credit Risk Comparison between AA and A Rated Corporate Bonds

Introduction

Investment-grade corporate bonds are widely viewed as a core fixed income asset class for the vast majority of investors that desire attractive yield, dependable income, safety, diversity and market liquidity. Among corporate treasury accounts managed by Capital Advisors Group, about 82% permit corporate bonds in their portfolios, and 71% view bonds rated A or better as eligible investments in their investment guidelines[1].

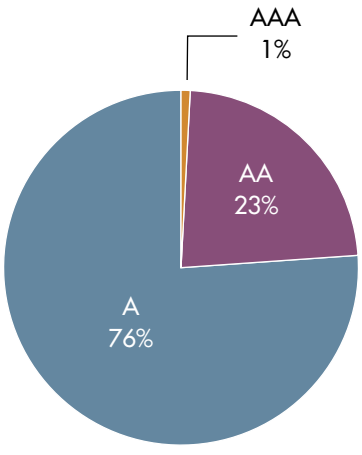
In this section, we provide a comparison of risk characteristics and portfolio considerations between corporate bonds rated single A and those rated AA by the major rating agencies (refer to the Appendix for ratings definitions). It is our belief that a portfolio including A rated corporate bonds would achieve better risk diversification and better yield potential without compromising a conservative credit bias essential to today's treasury management functions.

For data analysis, we use corporate securities in the Merrill Lynch 1-3 Year A Rated and Higher Corporate Index as of June 30, 2015, which resembles typical corporate holdings in a cash management account. In our experience, the results are applicable to accounts with shorter maturities.

A Large and Liquid Sector

According to the Federal Reserve Flow of Funds Accounts published in June 2015, the corporate bond market has a total market value of $11.7 trillion, compared to $21.0 trillion of Treasury and agency debt outstanding[2]. The large size, in addition to daily trading volume of $31.4 billion, provides ample liquidity and enhances price efficiency for fixed income investors[3].

Figure 1: *Merrill Lynch 1-3 Year A Rated and Higher Corporate Index Market Value Distribution*



Source: Merrill Lynch Global Index System as of June 30th, 2015

[1] Capital Advisors Group's Investment Guideline Matrix as of 6/30/2015

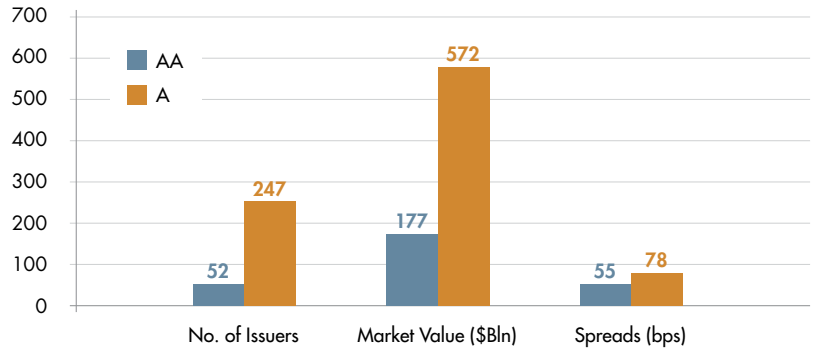
[2] Flow of Funds Report section L.4 Credit Market Debt, All Sectors, by Instrument, dated June 11, 2015

[3] U.S. Corporate Bond Trading Volume file (1Q15 from www.sifma.org/research).

As illustrated in Figure 1, about 76% of corporate bonds rated A and above carry credit ratings of single A, compared to 23% for AA rated securities. The chart excludes BBB rated debt, a segment of the index that may not be appropriate for certain treasury accounts.

Figure 2 provides a more in-depth comparison. Counting corporate issuers at the ultimate parent company level, there are 247 corporate borrowers rated single A in the index, about 4.8 times as many as double A rated entities (52). The aggregate market value of $572.2 billion also overshadows that of AA borrowers. We will revisit the spread figures later in this article.

Figure 2: *Comparison of 1-3 Year Corporate Debt by Ratings*



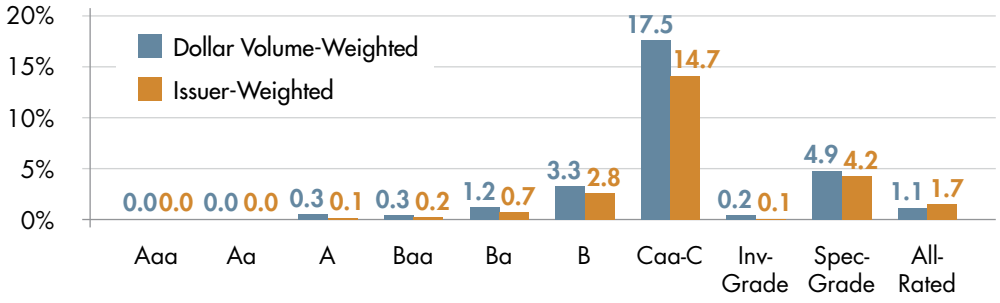
Source: Merrill Lynch Global Index System as of June 30th, 2015

Minimal Incremental Default Risk

Even though default risk is a remote probability for either rating class, it helps to put things in perspective by including results of the most recent default study published by Moody's Investors Service in March 2015.

Figure 3 indicates that about 0.3% of *dollar weighted* A rated corporate debt defaulted in a one-year period between 1994 and 2014. By contrast, only 0.1% of the *issuers* rated A were responsible for the defaults, a benign number in a time period that includes both the 1999 dot com bubble burst and the 2008 financial crisis.

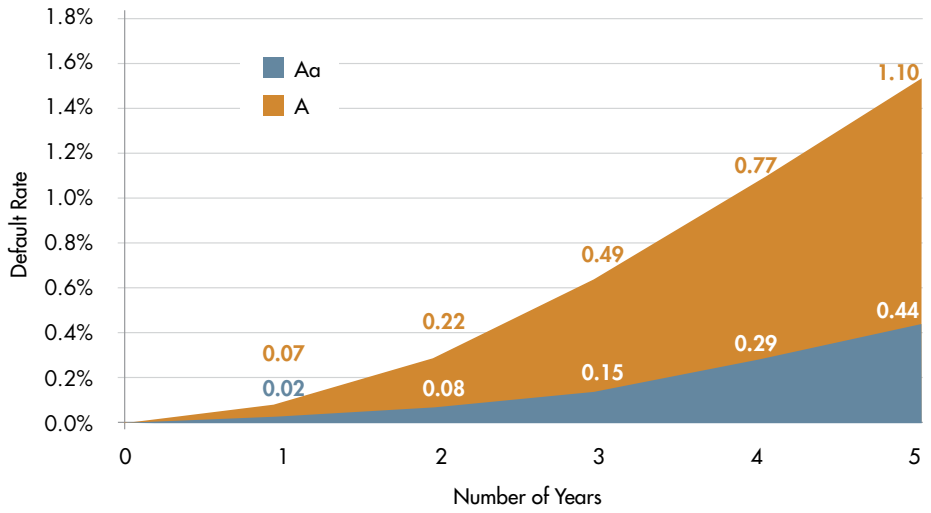
Figure 3: *US One-Year Default Rates (1994 – 2014)*



Source: Corporate Default and Recovery Rates, Moody's, March 2015.

To drive the point home, we provide a historical example of how default risk increases over time for the two rating categories. On an issuer-weighted basis, bonds rated A have a 0.07% probability of default at the end of year 1, and this increases to 1.10% at the end of year 5. This compares to 0.02% and 0.44% for an AA rated corporate name, respectively. Despite the increased risk on an absolute basis, the non-default ratio of 98.9% over a five-year period remains very high. Considering that treasury accounts rarely purchase bonds out to five-year maturities, the economic significance of a default event is minuscule.

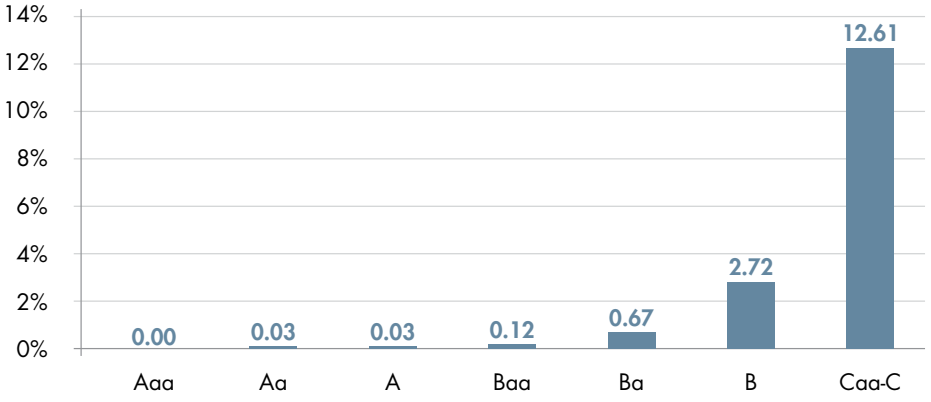
Figure 4: *Cumulative Issuer-Weighted Default Rates (1983 – 2014)*



Source: Corporate Default and Recovery Rates, Moody's, March 2015.

Lastly on the subject of default, Figure 5 combines the probability and severity of default to arrive at an expected loss rate. Single A issuers have the same average credit loss rate with double A rated names (0.03%) over a one-year period on average in the last 33 years.

Figure 5: *Average One-Year Credit Loss Rates (1982 – 2014)*



Source: Corporate Default and Recovery Rates, Moody's, March 2015.

Favorable Ratings Migration

An interesting phenomenon about ratings migration is that a single A rated bond is more likely to be upgraded and less likely to be downgraded than a double A rated bond. Historical experience argues in favor of holding the former, as it provides better upside potential while limiting downside risk.

Figure 6: *Global One-Year Rating Transitions (% of Issuers: 1970 – 2014)*

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa	Ca-C	WR	Default
Aaa	87.32	81.5	.062	0.00	0.003	0.00	0.00	0.00	3.87	0.00
Aa	0.89	84.55	8.45	0.49	0.07	0.02	0.01	0.00	5.51	0.02
A	0.05	2.41	86.15	5.54	0.54	0.11	0.03	0.00	5.12	0.06
Baa	0.04	0.16	3.96	85.42	3.83	0.71	0.15	0.02	5.56	0.16
Ba	0.01	0.05	0.33	5.59	75.78	7.33	0.58	0.06	9.26	1.00
B	0.01	0.03	0.11	0.29	4.42	73.57	6.07	0.55	11.52	3.45
Caa	0.00	0.01	0.01	0.10	0.36	8.37	63.55	3.45	12.34	11.80
Ca-C	0.00	0.00	0.06	0.00	0.35	1.94	8.91	36.54	15.04	37.17

Source: Corporate Default and Recovery Rates, Moody's, March 2015.

Using Moody's ratings migration information dating back to 1970, Figure 6 demonstrates that an A rated name would have a 2.4% chance of being upgraded and 6.3% chance of a downgrade. They are more favorable than that of a double A entity, which has an upside potential of 0.9% and a downgrade risk of 9.1%.

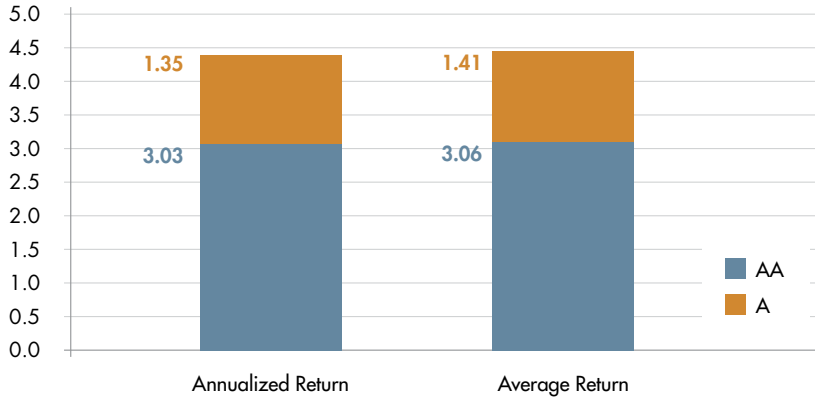
Ratings migration patterns are an important factor to consider because of potential market value gains and losses associated with ratings upgrades and downgrades.

Incremental Yield Advantage

Under normal market conditions, investors demand more yield from bonds with lower credit ratings to compensate for more assumed risk. Both empirical data and market perception confirm that A rated bonds properly compensate investors in additional yields over double A rated bonds.

The practice of investing in higher yielding securities while avoiding interest rate risk is particularly popular when interest rates are low and are expected to remain low for some time. This practice is sometimes called the "carry" trade or "clipping the coupon."

Figure 7: *Excess Return of Corporate Bonds (2009 – 2014)*



Source: Merrill Lynch Global Index System as of December 31st, 2014.

As Figure 7 indicates, despite large numbers of credit downgrades, A rated bonds still managed to outperform the better rated AA category by an average of 135 basis points a year on an annualized basis in the six years since the financial crisis. A simple average of the annual over the same period produced a similar result of 141 basis points.

Referring back to Figure 2, the A rated bond yields remain attractive, as they, on an aggregate basis, are earning an excess spread of 78 basis points a year over treasury securities, and a 23 bps advantage over AA rated bonds with comparable maturities.

Efficient Trading and Portfolio Management

Although it is difficult to demonstrate empirically, an investment guideline that allows A rated securities generally results in faster trade execution and more efficient portfolio management.

The fixed income market is largely a market-maker's market, which means investments are available only through offerings by bond dealers throughout the market hours. Unlike a stock exchange that offers all publicly traded companies at all times, a clear shortcoming of the bond market structure is that not all corporate names are available at all times.

In a market that lacks supply, broader investment guidelines allow a treasury portfolio to be fully invested more quickly, therefore earning a higher yield than a money market fund, than one that waits on the availability of a AA rated bond to be offered by a dealer. In addition, broader guidelines and faster execution allow a portfolio manager to implement any portfolio strategy changes in a more efficient manner.

In a market that lacks supply, broader investment guidelines allow a treasury portfolio to be fully invested more quickly.

Conclusion

Rating agency and market data confirm the view shared by most Capital Advisors Group corporate cash accounts that A rated corporate bonds are a valid investment class that provides better liquidity, enhanced yield potential, better chances of rating upgrades, and improved risk diversification, while the increased default risk is negligible.

The comparison between A and AA rated bonds was done on a random basis without the benefit of in-depth fundamental credit research. It is our belief that effective research capabilities will further reduce a portfolio's overall credit risk and increase yield potential relative to an unmanaged index.

Appendix: Ratings Definitions

There are three nationally recognized statistical rating agencies on corporate debt: Moody's Investors Service, Standard & Poor's, and Fitch Ratings Ltd. Generally, an investment-grade issuer is rated by at least two of the three agencies. Each uses a letter rating system that evaluates a company's likelihood of timely repayment of principal and interest. The rating scales are largely comparable, although different credit assessment may lead to different ratings for the same corporate issuer.

Here we provide a ratings table and the "official" definition of double A and single A ratings from each agency. As a matter of market convention, a simple reference of a letter rating (e.g. single A) includes all three numerical levels (e.g. A1, A2, A3), not the mid-point alone (A2).

Moody's

Aa: Obligations rated Aa are judged to be of high quality and are subject to very low credit risk.

A: Obligations rated A are considered upper-medium grade and are subject to low Credit risk.

Source: https://www.moodys.com

Standard & Poor's

AA: An obligation rated 'AA' differs from the highest-rated obligations only in small degree. The obligor's capacity to meet its financial commitment on the obligation is very strong.

A: An obligation rated 'A' is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher-rated categories. However, the obligor's capacity to meet its financial commitment on the obligation is still strong.

Source: http://www.standardandpoors.com

Fitch Ratings

AA: Very high credit quality. 'AA' ratings denote a very low expectation of credit risk. They indicate very strong capacity for timely payment of financial commitments. This capacity is not significantly vulnerable to foreseeable events.

A: High credit quality. 'A' ratings denote a low expectation of credit risk. The capacity for timely payment of financial commitments is considered strong. This capacity may, nevertheless, be more vulnerable to changes in circumstances or in economic conditions than is the case for higher ratings.

Source: http://www.fitchratings.com

CREDIT RATINGS

Credit Risk	Moody's	Standard & Poor's	Fitch Ratings
INVESTMENT GRADE			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (strong)	A	A	A
Medium grade	Baa	BBB	BBB
NOT INVESTMENT GRADE			
Lower medium grade (somewhat speculative)	Ba	BB	BB
Low grade (speculative)	B	B	B
Poor quality (may default)	Caa	CCC	CCC
Most speculative	Ca	CC	CC
No interest being paid or bankruptcy petition filed	C	C	C
In default	C	D	D

Source: An Investors' Guide to Corporate bonds, The Bond Market Association, 2004

Do BBB Corporate Bonds Belong in Treasury Management Portfolios?

A Closer Look at Their Risk Reward Profiles

Introduction

About a decade ago, we concluded that A rated corporate bonds offer sound liquidity, yield advantage and improved risk diversification with only negligible incremental risk when compared to a portfolio with a AA rated mandate.

Since 2008, a lot has changed in the cash investment industry landscape. On the one hand, as the generally downward rating migration continues, AAA and AA rated corporate bonds are fast becoming museum collections. On the other hand, credit intermediation dynamics in the capital markets since the 2008 financial crisis resulted in strong issuance and acceptance of BBB rated (and Tier 2 short-term commercial paper) debt in recent years.

In this section, we will take a closer look at the lower rung of the investment grade ratings ladder and discuss the suitability and considerations of BBB rated corporate securities in a short-duration liquidity portfolio.

BBB Ratings Explained

For starters, the BBB designation refers to a level of "investment grade" creditworthiness evaluation used by nationally recognized statistical rating organizations (NRSROs, or "rating agencies"). Moody's, Standard & Poor's and Fitch, designate investment grade debt in one of four categories – AAA, AA, A and BBB – representing "highest quality", "high quality", "upper medium grade" and "medium grade," respectively. Ratings of BB, B, CCC, CC, C and D are considered "below investment grade" or "Junk[4]".

Similarly, short-term commercial paper obligations have short-term ratings, with a "Tier 1" (P-1 by Moody's, A-1 and A-1+ by S&P, F1 by Fitch) designation roughly corresponding to AAA, AA, and mid-level A ratings, "Tier 2" to lower-level A through mid-level BBB, and "Tier 3" to lower-level BBB. Below investment grade issuers typically have their short-term ratings assigned "Not Prime" (NP).

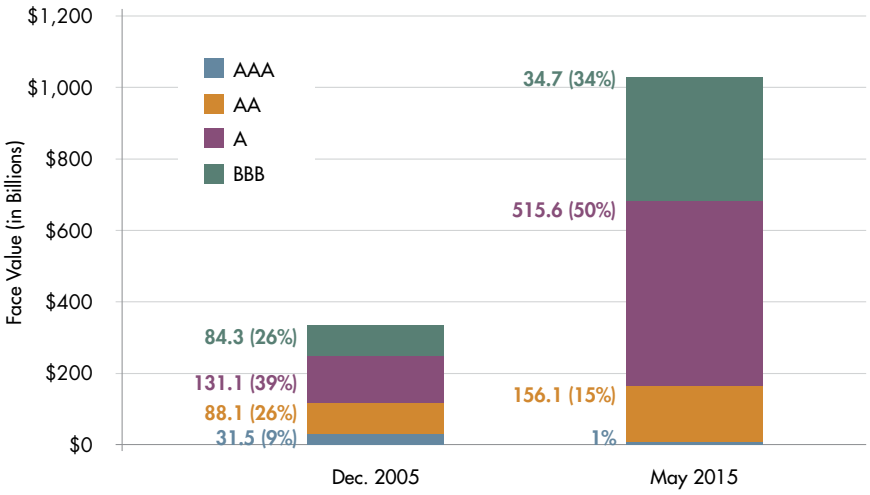
In other words, when we speak of BBB rated securities, we are referring to debt instruments still of investment grade quality, albeit at the lower rung of the credit ladder. For simplicity's sake, we'll use BBB long-term and Tier 2 short-term designations interchangeably.

Strong Presence in the Corporate Debt Market

The BBB segment of the debt market has grown significantly. With the Merrill Lynch 1 to 3 Year Corporate Index as a proxy, total face value tripled from $335 billion in December 2005 to $1,075 billion in May 2015. The number of issues in the index doubled from 619 to 1,364.

[4] Refer to SIFMA's bonds website (www.investinginbonds.com).

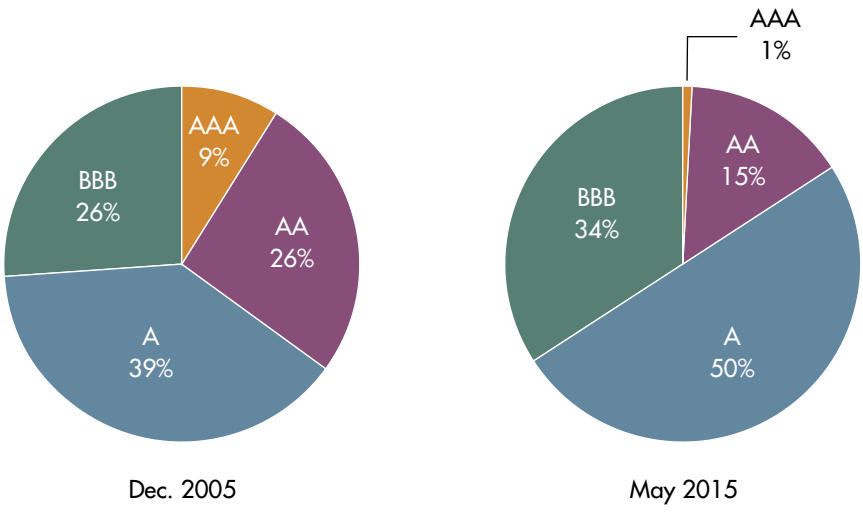
Figure 1: *Growth of the Merrill 1-3 Year Corporate Index (Dec. 2005 vs. May 2015)*



Source: All Merrill Lynch index data are as of May 31, 2015 as available on Bloomberg.

Figures 1 and 2 indicate that, over the last decade, downward ratings migration continued its recent trend. Debt rated A and BBB grew to represent 50% and 34%, respectively, of the overall index. Conversely, AA rated debt shrank to 15%, and the AAA representation is all but eliminated.

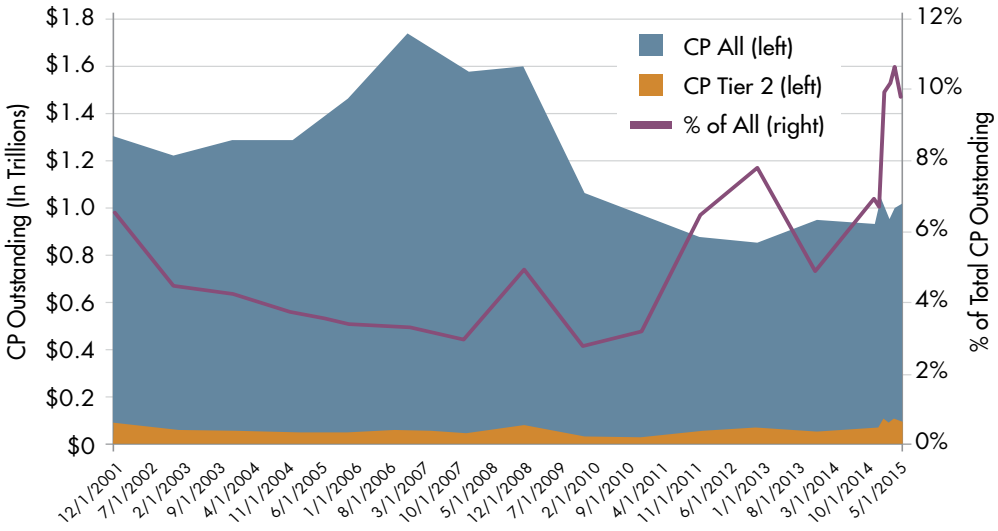
Figure 2: *Merrill 1-3 Year Corporate Index Value Distribution by Ratings (Dec. 2005 vs. May 2015)*



Source: All Merrill Lynch index data are as of May 31, 2015 as available on Bloomberg.

Similarly in the short-term debt market, Tier 2 commercial paper (CP) issuance grew while overall CP outstanding declined steadily since the financial crisis through 2013. From this trough, overall CP outstanding grew 6.7% to $1.0 trillion as of May 31, 2015. Tier 2 CP outstanding grew 116% to $99.6 billion, representing 10% of the overall market during the same period. (See Figure 3)

Figure 3: *Commercial Paper Outstanding*



Source: Federal Reserve Commercial Paper data download package as of May 31, 2015.

To conclude, BBB (Tier 2) debt has become a much larger component of the corporate investment grade debt market in recent years. It now represents about one third of the short-duration bond market and about 10% of the CP market.

The larger representation, in and of itself, does not indicate its creditworthiness for treasury investment purposes. It does, however, speak to the breadth and liquidity of this type of debt issuance when compared to decades past and relative to debt in other rating groups. The shift in the overall ratings composition also validates the market concern for the lack of high quality liquid investments in the short-term market.

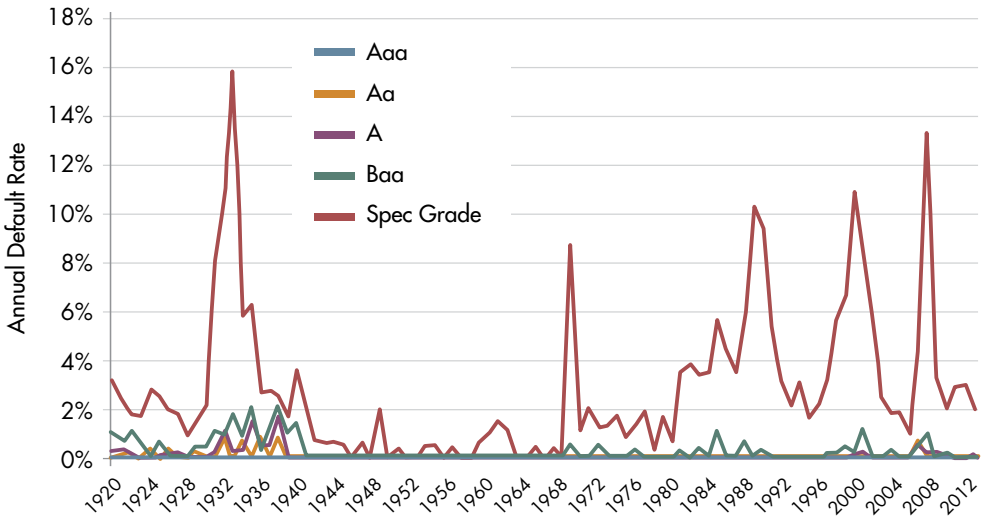
This new reality speaks to the necessity of taking a closer look at BBB non-financial issuers, as they may provide necessary risk diversification and supply relief in a market traditionally exposed to confidence-sensitive financial institutions debt.

BBB (Tier 2) debt has become a much larger component of the corporate investment grade debt market in recent years. It now represents about one third of the short-duration bond market.

Marginally Higher Credit Risk

For credit instruments to be considered as potential investments, the most relevant question is whether the risk assumed is consistent with the principal preservation and liquidity objectives of treasury investments. To evaluate incremental credit risk, we will review the annual default studies and ratings migration reviews conducted by Moody's[5].

Figure 4: *Moody's Annual Corporate Default Rates by Ratings (1920 – 2014)*



Source: Moody's[6]

Figure 4 shows almost indistinguishable differences in default experiences among various investment grade rating categories in the past 96 years. The average annual default rate among BBB (Baa) issuers during 1920-2015 was 0.26%, compared to 0.10% for A rated issuers and 0.06% for AA corporate.

Figure 5 lists all defaulted entities in the United States in 2014. Note that none of the entities had investment grade ratings in the one and five-year periods before the default event. In fact, very few of them had ratings above single-B, or two steps below the investment grade designation. This observation confirms common understanding that investment grade credits rarely go into default status within a short period of time. The exceptions, when they do occur, often involve extreme liquidity shortages, regulatory threats, or fraud.

[5] Sharon Ou et al., Special Comment: Annual Default Study: Corporate Default and Recovery Rates, 1920-2014 (with Excel data package), Moody's Investors Service. March 4, 2015.

[6] Sharon Ou et al., Special Comment: Annual Default Study: Corporate Default and Recovery Rates, 1920-2014 (with Excel data package), Moody's Investors Service. March 4, 2015.

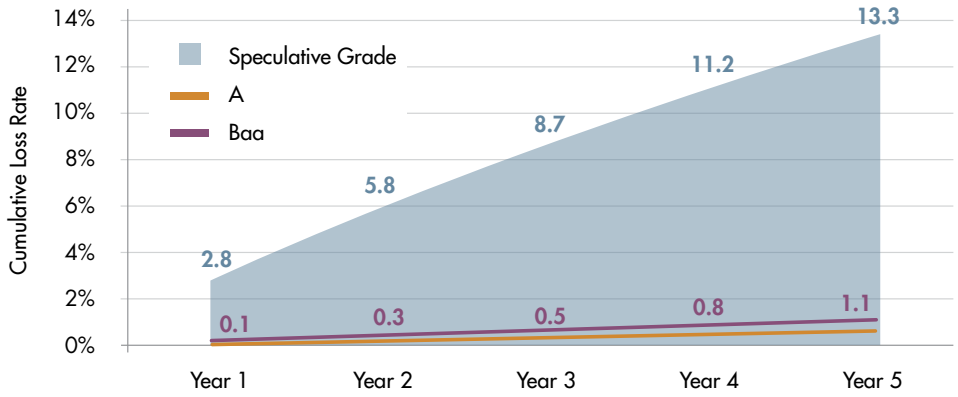
Figure 5: *Moody's Rated U.S. Corporate Bond and Loan Defaults in 2014*

Company	Default Type	Bonds ($mil)	Sr. Unsec. Recovery	Rating 5YRs Prior	Rating 1YR Prior
Affinion Group Holdings	Distressed exchange	89		B2	B2
Alion Science and Technology Corp	Distressed exchange	213	82%	B3	Caa2
Allen Systems Group, Inc.	Missed interest payment	300		B2	Caa2
Altegrity, Inc.	Distressed exchange	599	90%	B3	Caa2
Ameican Media, Inc.	Distressed exchange	121		B3	B3
Endeavor International Corporation	Missed interest payment	705	3%	Caa2	Caa1
Energy Future (3 entites)	Chapter 11	8,359	52%	Caa2	Caa2
Global Geophysical Services	Chapter 11	250	55%	B3	B3
GSE Environmental, Inc.	Prepackaged Chapter 11	-		B3	B3
Guitar Center Inc.	Distressed exchange	535		B3	B3
Harlan Laboratories, Inc.	Distressed exchange	-		B3	B3
iPayment (2 entities)	Distressed exchange	134	53%	B2	B3
James River Coal Company	Chapter 11	473	7%	Caa2	Caa1
Mmodal Inc.	Chapter 11	250	5%	NR	Caa1
Momentive Performance Meterials Inc.	Chapter 11	3,077		Caa1	Caa1
New Sbarro Intermediate Holdings, Inc.	Prepackaged Chapter 11	-		Caa1	Caa1
NexTag, Inc.	Distressed exchange	-		B1	Caa2
Sorenson Communications, Inc.	Prepackaged Chapter 11	735		NR	Caa2
Texas Competitive Electric Holdings	Chapter 11	8,2334	10%	Caa1	Caa3
Travelport LLC	Distressed exchange	389		B2	B1
UniTek Global Services	Missed interest payment	-		NR	Caa2
USEC Inc.	Chapter 11	530	34%	Caa1	Caa1
Verso Paper Holdings LLC	Distressed exchange	401		B1	B3
Waterford Gaming LLC	Missed principal payment	42		Caa2	Caa2
YRC Worldwide Inc.	Distressed exchange	51		Caa2	Ba2
	Total	25,487			

Source: Moody's[7]

The table below (Figure 6) provides the cumulative loss experience for different rating categories in the more recent period of 1982-2014. The loss figures combine the occurrence of default with recovery value given defaults. The table shows that, for a given five-year period, BBB rated debt has an expected loss of 1.06%. The figure is higher than 0.6% for A rated debt, but far less than all of the speculative grade debt.

Figure 6: *Average Cumulative Credit Loss (1982 – 2014)*



Source: Moody's[8]

[7] Sharon Ou et al., Special Comment: Annual Default Study: Corporate Default and Recovery Rates, 1920-2014 (with Excel data package), Moody's Investors Service. March 4, 2015.

[8] Sharon Ou et al., Special Comment: Annual Default Study: Corporate Default and Recovery Rates, 1920-2014 (with Excel data package), Moody's Investors Service. March 4, 2015.

Instead of default and recovery statistics, let us consider ratings migration, as downgrade risk is probably a more relevant factor for investors of short-duration high grade debt. Figure 7 shows the one-year rating migration between 1920 and 2014 that, on average, 86.5% of BBB ratings will remain the same or be upgraded, while 5.8% downgraded and 7.6% having their ratings withdrawn.

Figure 7: *Average 1-Year Rating Migration (1920 – 2014)*

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa	Ca-C	WR	Default
Aaa	86.5%	7.9%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	4.6%	0.0%
Aa	1.1%	83.5%	7.5%	0.8%	0.2%	0.0%	0.0%	0.0%	6.7%	0.1%
A	0.1%	2.7%	84.2%	5.7%	0.7%	0.1%	0.0%	0.0%	6.3%	0.1%
Baa	0.0%	0.3%	4.1%	82.1%	4.7%	0.7%	0.1%	0.0%	7.6%	0.3%
Ba	0.0%	0.1%	0.4%	5.9%	73.5%	6.9%	0.6%	0.1%	11.3%	1.2%
B	0.0%	0.0%	0.1%	0.5%	5.4%	71.6%	5.8%	0.5%	12.8%	3.2%
Caa	0.0%	0.0%	0.0%	0.4%	0.7%	8.2%	64.5%	3.4%	12.3%	10.7%
Ca-C	0.0%	0.0%	0.1%	0.1%	0.5%	2.9%	7.8%	50.6%	12.7%	25.3%

Source: Moody's[9]

For short-term debt, the most recent default and ratings migration study by Moody's was as of 2009. It found that, over a period of 365 days, 4.8% of initial P-2 ratings were downgraded, 6.7% of which were withdrawn and 0.1% defaulted. This data series was based on an observation period of 1972-2009[10].

We should note that these Moody's statistics include financial firms whose ratings tend to be more vulnerable under extreme market conditions. The expected holding period of corporate securities in a typical liquidity portfolio also may be shorter than the three to five-year time horizon in our examples.

To summarize, although lower ratings generally correlate with more adverse credit experiences, both the probability of default and expected losses of BBB corporate debt are within the confines of investment grade quality and are far less onerous than in speculative ratings categories. As in all credit instruments, the expected loss rate for BBB securities is non-zero. Treasury investors should reach their own conclusions consistent with their own risk tolerance.

Although lower ratings generally correlate with more adverse credit experiences, both the probability of default and expected losses of BBB corporate debt are within the confines of investment grade quality.

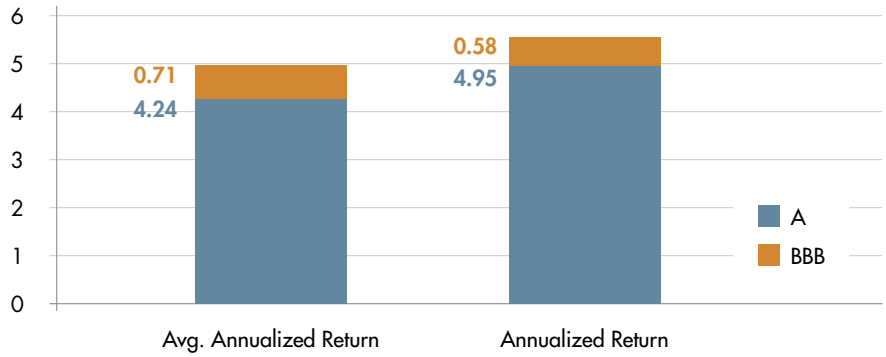
Incremental Return Potential

In addition to sources of supply and risk diversification, one of the expected benefits of BBB debt is higher income potential to compensate for the incremental credit risk. Empirical evidence over the last 20 years in Merrill Lynch 1-3 Year Corporate Index component returns tends to support this risk-reward expectation.

[9] Sharon Ou et al., Special Comment: Annual Default Study: Corporate Default and Recovery Rates, 1920-2014 (with Excel data package), Moody's Investors Service. March 4, 2015.

[10] Sharon Ou et al., Special Comment: Default and Recovery Rates of Corporate Commercial Paper Issuers, 1972-2009, Moody's Investors Service, June 22, 2010.

Figure 8: *Excess Returns by Ratings (Merrill 1-3 Year Corporate Index components, 1995 – 2004)*

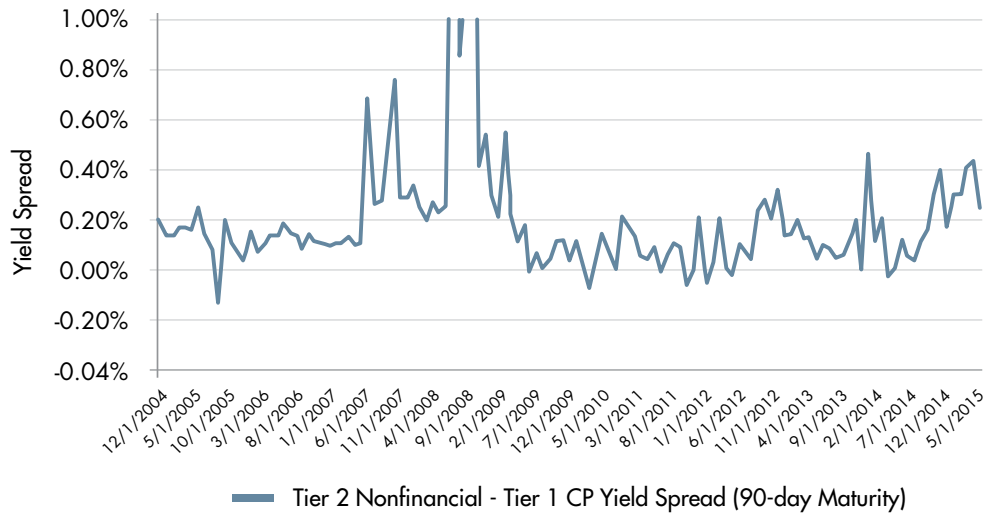


Source: All Merrill Lynch index data are as of May 31, 2015 as available on Bloomberg.

Figure 8 shows that, over the last 20 years, the A rated cluster in the Merrill 1-3 Year Corporate Index returned 4.95% per year. The BBB cluster returned 0.58% more in the same period, or 11.8% higher on a relative basis. Similarly, the simple average of the 20 annual returns for BBB rated debt outperformed A rated debt by 0.71%. In terms of annual return volatility, the BBB cluster outperformed the A cluster in 15 of the 20 years.

As of June 30, 2015, the BBB rating cluster has a yield advantage of 0.48% (2.00% vs. 1.52%) over the A rating group.

Figure 9: *Yield Spread of 90-Day Tier 2 Non-financial to Tier 1 Dealer Placed CP*



Source: Bloomberg Money Market Rate Curve as of June 30, 2015.

In the CP market, the average yield spread of Tier-2 90-day non-financial CP to Tier-1 dealer placed CP has been 0.23% for the last twenty years, which is roughly the same level today. In 2015, the widest month-end spread was 0.43% on May 29th and the narrowest was 0.17% at January month-end. During the financial crisis in 2008, this spread understandably spiked to 4.88% shortly after the Lehman Brothers bankruptcy.

An Opportunity Set Unavailable in the Money Market Fund World

With the passage of the Securities and Exchange Commission's (SEC's) new money market fund reform in July 2014, participants in the money market fund space are acutely aware of the supply shortage in high-quality eligible investments. Rating downgrades of bank debt and counterparties further reduce eligible investments for money market funds. In fact, the general decline in average portfolio credit ratings led to Moody's changing its outlook on the money market fund industry to negative[11].

Against this backdrop, BBB rated securities introduce an additional source of supply unavailable to most money market funds. Tier 2 ratings are typically ineligible securities for funds rated AAA. For all money market funds, SEC rules limit Tier 2 concentration to 3% of a portfolio and with a maximum maturity of 45 days. Single issuer concentrate is set at 0.5%. Note that rating agencies often have more stringent criteria for funds to retain their AAA ratings than the rules prescribed by the SEC.

Accounts unconstrained by these restrictions will have the flexibility to add credit or duration exposures to BBB securities through direct purchases or separately managed accounts.

BBB corporate bonds have the positive attributes of broader supply, improved risk diversification, moderate default and ratings migration risk and attractive yield potential.

Treasury Portfolio Considerations

BBB rated corporate bonds have the positive attributes of broader supply, improved risk diversification, moderate default and ratings migration risk and attractive yield potential. These attributes need to be viewed in the context of treasury management organizations, which tend to emphasize principal preservation and liquidity more than income objectives in general fixed income portfolios. Institutional cash investors may do well observing the following guiding principles.

1. Expect lower market liquidity. Although BBB rated corporate securities are of investment grade quality, market acceptance tends to be more limited. The lower acceptance often leads to lower secondary market liquidity as fewer potential buyers are available. The trend may improve as market acceptance improves. For the time being though, one should rely more on maturity proceeds than secondary market for means of liquidity from BBB rated corporate securities.

2. Steer clear of BBB financial issuers. Both corporate and financial debt issues can be found in the corporate debt market. It would be a mistake to think that all BBB rated debt is alike. The creditworthiness of an issuer depends on many factors, including its business model, operating and financial conditions and susceptibility to external factors. Decades of empirical evidence has shown that ratings on financial firms tend to be more volatile due to the confidence-sensitive nature of their business models and reliance on market funding. Staying with non-financial issuers may help limit ratings risk and reduce market value swings.

3. Credit research is essential. Credit investors are aware that ratings may be the first line of defense; they should not be the last. BBB debt issues require more credit scrutiny than those of higher ratings as they usually have credit issues that deserve closer attention. At the lowest rung on the investment grade ladder, slippage in credit performance may land a BBB investment in "junk" status. The potential speed of credit deterioration also may be faster than higher rated debt.

[11] Announcement: Moody's changes outlook for money market fund industry to negative, in face of challenging market conditions, December 2014.

4. Use BBB debt as part of a conservatively constructed core portfolio. For investors who deem BBB debt suitable for a treasury portfolio, portfolio construction should start with a core base of high quality liquid investments, while BBB debt is layered in as attractive risk diversifiers and yield enhancers. When this portion is managed as part of an integral portfolio or as a separate sleeve within a larger portfolio, investors should be aware of the liquidity and market value implications.

Conclusion – BBB Debt is not for Every Treasury Portfolio

In light of recent corporate debt market developments, we surveyed the landscape of BBB and Tier 2 corporate issuers and found that this rating category, long shunned by mainstream treasury investment managers, may offer benefit in supply, risk diversification, and yield enhancement without greatly sacrificing credit quality. On the other hand, BBB issues tend to have lower market liquidity and higher market-related value erosion. They are not ideal for all treasury organizations, as risk cultures, liquidity constraints, and return expectations vary. As yield and supply challenges intensify in the short-duration debt market, organizations that are able to take advantage of this new debt class may be well compensated for the moderately higher credit and liquidity risk they represent.

Demystifying Asset-Backed Commercial Paper:

A Fresh Perspective on Opportunities and Risks

Introduction

Created in the mid-1980s, asset-backed commercial paper (ABCP) trailed its term asset-backed securities (ABS) cousin in acceptance by fixed income investors, especially corporate cash managers. The stigma against ABCP started to fade in the new millennium, when event risk of corporate names caused the unsecured commercial paper market to shrink dramatically.

Meanwhile, increasing demand from institutional investors for this asset class resulted in the proliferation of innovative ABCP structures that made it more difficult for buyers to discern risk among various programs. Despite that, the market grew rapidly to reach its peak in July 2007, when ABCP outstanding stood at $1.2tn.

Liquidity concerns following the onset of the subprime mortgage crisis pummeled the ABCP market, complemented by the fact that ABCP and the more exotic, now infamous, structured investment vehicles (SIVs) shared some structural similarities. After the Lehman Brothers bankruptcy in September 2008, outflows from prime money market funds, the predominant buyers of ABCP paper, intensified and directly resulted in the reduction of programs outstanding by ABCP sponsors.

As of August 5, 2015, total ABCP outstanding stood at $224 billion, a reduction of 82% from its 2007 peak. By comparison, overall CP outstanding was reduced by 52% to $1.07 trillion over the same period. Two main factors contributed to the reduction in ABCP outstanding, the deleveraging of banks' off-balance sheet activities and regulatory pressure.

In this section, we will provide a refresher course on the instrument and a brief history since the crisis, highlight regulatory forces that shape the industry today, discuss its common advantages and risks, and provide a practical investment guide. We stand by our previous assertion that ABCP is a legitimate investment vehicle for corporate treasury accounts thanks to its liquidity, flexibility, and yield advantages. In fact, the market's self-selection process and recent regulations resulted in generally stronger credit profiles of the programs that remain. Meanwhile, we recognize that ABCP investing requires dedicated credit expertise and regular asset collateral monitoring.

ABCP Primer

ABCP is a type of short-term money market instrument issued at a discount and maturing at face value. Unlike corporate commercial paper, which is a borrower's unsecured promissory note to investors, a pool of financial assets provides the collateral to secure ABCP claims.

The development of ABCP paralleled that of the ABS market. In the early 1980s, several US banks started to offer ABCP as another short-term funding channel for their corporate clients. Acting as program administrators, they earned a modest fee by helping their clients borrow from investors directly using trade receivables as collateral and thereby reduced their own balance sheet leverage. The arrangement also allowed corporate borrowers to treat ABCP as off-balance sheet financing. This strong bond between an ABCP program and its sponsor bank has been largely carried forward to this day.

An ABCP issuer is usually a "bankruptcy remote special purpose entity," a structure intended to protect its investors from the bankruptcy risk of the bank sponsor. Credit support for a particular issue comes from the estimated value by which the pool of financial receivables and short-term loans exceeds the face amount of the CP obligation. Specific asset collateral information is unavailable to investors, but program administrators prepare periodic aggregate asset pool reports. Most programs also have credit and liquidity enhancement measures such as standby purchase agreements to address asset quality and liquidity concerns.

To ABCP investors, the standard feature of at least 100% standby liquidity from a strong bank is especially important. This is to protect investors from the risk of the program failing to issue new paper to roll over from upcoming maturities.

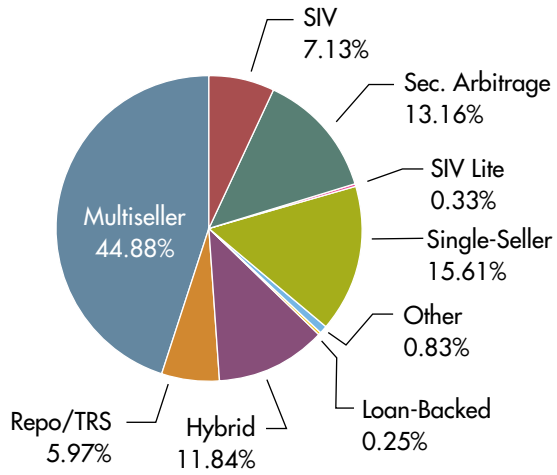
ABCP is a legitimate investment vehicle for corporate treasury accounts thanks to its liquidity, flexibility, and yield advantages.... Meanwhile, we recognize that ABCP investing requires dedicated credit expertise and regular asset collateral monitoring.

A Brief History of Recent Events

More Exotic Program Features: In the period preceding the subprime mortgage crisis, the growth of the ABCP market encouraged the roll-out of more complex program structures. In an attempt to enhance profitability, some structures no longer purchased full liquidity or credit support. Some conduits added illiquid assets of questionable credit quality to their collateral pools, for which data also became less accessible. The inability of investors to gain insight into the collateral pools became a direct cause for investors to step away from all conduits when a small number of them were revealed to have subprime exposures.

As an example, essentially all conduits were traditional multi-seller programs and were fully supported by sponsor banks at their genesis in the 1980s. By June 30th, 2007, this more conservative group of groups comprised only 45% of total ABCP outstanding, while only 21% of all programs were fully supported[12].

Figure 1: *Moody's Rated ABCP Outstanding by Program Type (June 2007)*



Source: Moody's ABCP Program Index, Moody's Investors Service

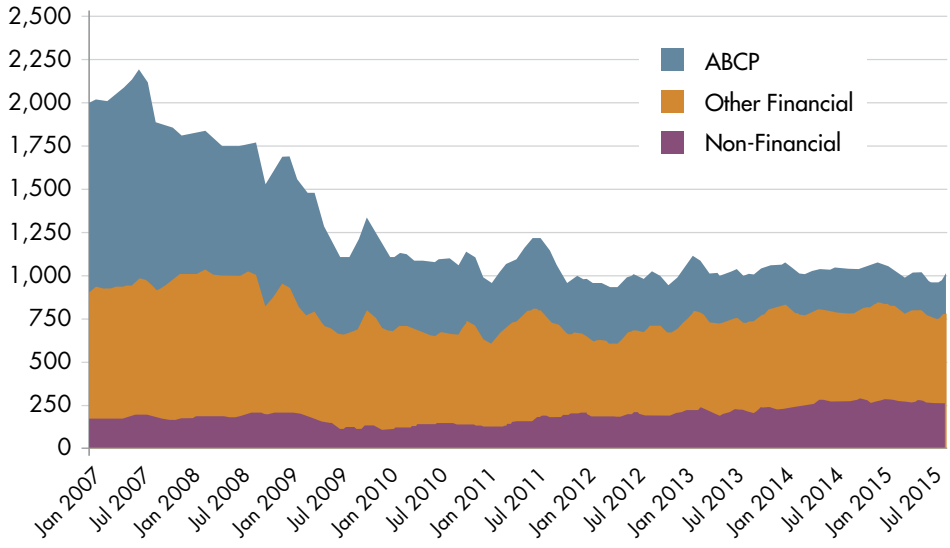
[12] Moody's ABCP Program Index as of 6/30/2007, Moody's Investors Service

The SIV Debacle: In hindsight, the ABCP market represented a perfect candidate for shadow banking activities, to which it ultimately fell victim. Using the conduits to finance illiquid, hard to value, and often long-maturity financial assets with little transparency and oversight, sponsors reaped financial gains in a process of maturity and credit transformation. Most notable were structured investment vehicles (SIVs) whose sole purpose was to profit from the yield spread between long-term, higher yielding assets and short-term, lower cost borrowings. Loosely connected with banks, SIVs relied heavily on ABCP as funding vehicles. In late 2007, several SIVs quickly got caught up in the subprime crisis and eventually became insolvent. Their demise led to a rapid fall in popularity of ABCP in general.

Government Support: ABCP played an important role during and after the financial crisis as the government sought to stabilize the financial system and promote recovery. The Federal Reserve provided liquidity to the money markets by purchasing qualified ABCP from money market funds between September 2008 and February 2010. Between April 2009 and December 2013, the Treasury department operated Straight-A Funding, a government-backed ABCP program, to support the funding of government student loans originated by private firms. Several European government agencies also turned to the ABCP market to fund the run-off assets of the failed banks they took over during the crisis.

Steady Decline: Despite government involvement in this space, the ABCP market experienced a steady outflow of assets since its peak. Figure 2 shows a breakdown of the CP market. Total ABCP outstanding went from $1.2 trillion in July 2007 to $222 billion in July 2015. Its decline was the most severe among the three categories depicted. This trend was generally the result of three factors: investors' ongoing skepticism, reduced off-balance-sheet funding needs by banks, and more stringent regulations.

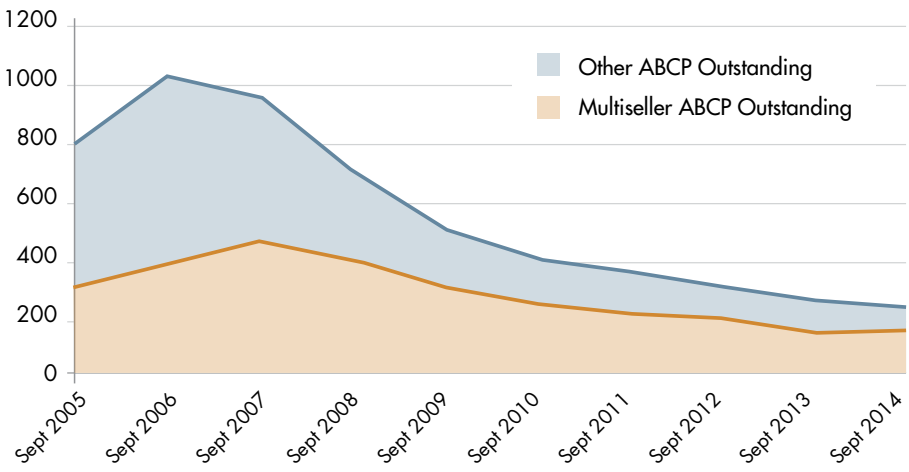
***Figure 2**: Commercial Paper Outstanding by Type (USD Billions)*



Source: Board of Governors of the Federal Reserve System (US), FRED Economic Data, St. Louis Fed.

Resilient Multi-seller Programs: It is important to note that not all ABCP structures were affected the same. Traditional multi-seller programs were able to continue issuing ABCP during the turmoil, albeit on an overnight basis for some time. This demonstrates an important distinction in investor risk perception and market acceptance among different program types. Figure 3 contrasts the decrease in multi-seller ABCP outstanding from other conduits rated by Moody's.

Figure 3: *Moody's Rated Total vs. Multi-seller ABCP Outstanding (USD Billions)*



Source: Moody's Investor Service, 2015 Outlook – Global ABCP, December 18th, 2014

Regulatory Changes

In the aftermath of the crisis, regulatory focus shifted sharply towards enhancing and safeguarding financial stability. To that end, a series of reforms were enacted which, though generally not directly impacting the ABCP market, benefit investors by strengthening sponsor banks and encouraging them to fully support their conduits. On the flip side, new regulations also resulted in some bank sponsors abandoning this funding channel on cost and capital considerations. We consider the following to be the most important:

The Volcker Rule: Adopted on Dec. 10th, 2013 the Volcker Rule was aimed at preventing banks from engaging in risky investment activities. As it relates to the ABCP market, it states that a bank can only own or sponsor a conduit that has "full and unconditional liquidity coverage" from a "regulated liquidity provider." Unlike a standard liquidity support agreement which does not cover problems due to credit concerns, this liquidity support essentially also provides 100% credit support. As a result, it effectively transfers the conduit's liabilities to the support provider's balance sheet.

Risk Retention Rule: To prevent excessive risk taking by securitization sponsors, several regulators in the U.S. jointly implemented the Risk Retention Rule in October 2014. Under the rule, sponsors must retain at least 5% of the credit risk in their securitized portfolios. The rule's special ABCP option requires each eligible "originator-seller" within the conduit, as opposed to the sponsor itself, to retain a 5% economic interest. However, the sponsor is responsible for monitoring and enforcing the rule, or else it is itself on the hook for any shortfalls. In addition, eligible conduits must have 100% liquidity support which covers asset and other concerns, similar to Volcker Rule's provisions.

LCR Ratio: The liquidity coverage ratio requirement, adopted in the US in September 2014, requires banks to hold at all times sufficient amounts of high quality liquid assets to cover all possible net cash outflows within a period of 30 days. With respect to bank-sponsored conduits, the sponsor itself is deemed to have issued the ABCP and is required therefore to assume an outflow equal to 100% of ABCP maturing within 30 days. This ensures the availability of liquid assets to fulfill any liquidity obligations to the conduit.

In recent years, conduits began adding language to permit the issuance of notes with put/call provisions. This development was in response to the LCR ratio requirement, in that it provides greater flexibility in managing maturities so as to reduce exposure under the LCR calculation. The LCR Rule led to some banks' decision to exit the ABCP market because of the liquidity impact on their balance sheet.

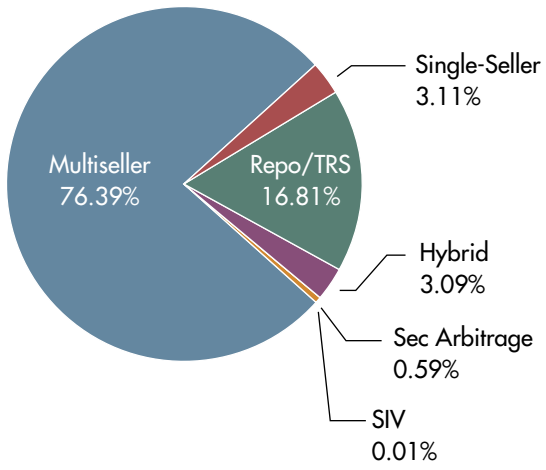
Regulation AB II: In 2010 and 2014, the SEC proposed and re-proposed revisions to Regulation AB regarding disclosure, communication, and reporting for asset-backed securities (ABS). Dubbed Regulation AB II, the new rule would improve asset level information disclosure. The final rule adopted in August 2014 excluded most ABCP programs from the expanded information and delivery requirements as part of the Rule 144A exemption. Without the exemption, concerns with releasing individual consumers' credit statistics to the public would have had negative impact on the conduits' practical use.

ABCP can be an appropriate investment vehicle in large corporate treasury accounts due to its liquidity, flexibility, and yield potential. Different risk concerns among programs require dedicated credit expertise and regular asset collateral monitoring.

The Market Today

Over the last eight years, the ABCP market has evolved significantly. Flawed structures disappeared and surviving programs are fully backed by stronger sponsors, or participating liquidity providers. Regulations enhanced market transparency and require explicit risk retention by sellers, resulting in a more stable market. As seen in Figure 4, the market make-up has tilted substantially toward the more traditional multi-seller structures.

Figure 4: *Moody's Rated ABCP Outstanding by Program Type (June 2015)*



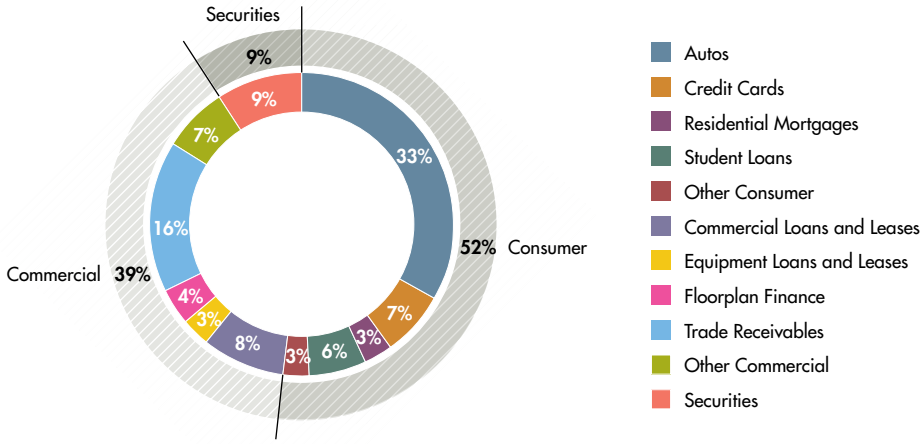
Source: Moody's ABCP Program Index, Moody's Investors Service

ABCP Advantages

With sufficient understanding of the underlying credit risk, the inclusion of ABCP in a corporate cash portfolio may enhance potential yield while reducing portfolio risk. Examples of the benefits of ABCP include:

Better Risk Diversification: ABCP offers investors a wider selection of commercial paper programs with less risk correlation to other investment types, such as corporate and agency securities. Multi-seller ABCP programs in particular, may help to reduce issuer and asset concentration risk, while the inclusion of ABCP in investment policies may allow short-term investors to better comply with diversification requirements.

Figure 5: *Asset Types Financed in Moody's Rated US Multi-seller Conduits (As of August, 2014)*



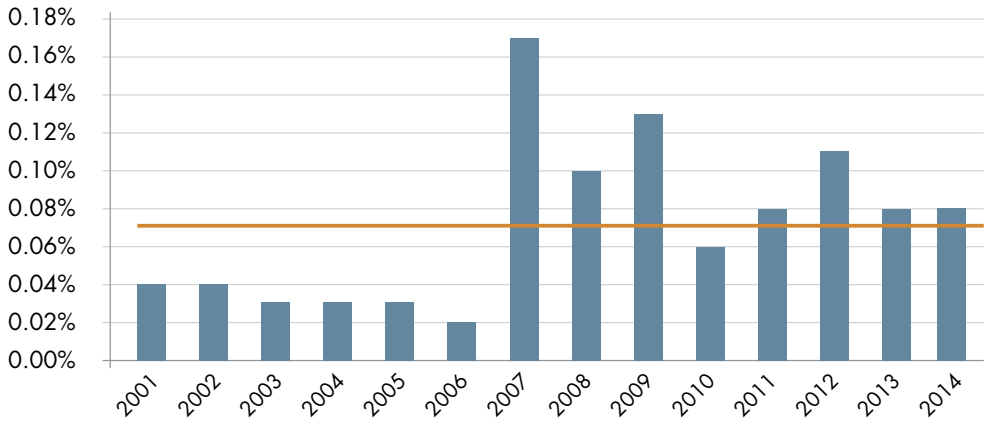
Source: Moody's Investor Service, 2015 Outlook – Global ABCP, December 18th, 2014

Reduced Idiosyncratic Credit Risk: During past credit cycles, many investors were exposed to unsecured investment-grade securities that lost their A-1/P-1 status in a short period of time. Multi-seller ABCP programs backed by portfolios of assets help limit credit risk of individual conduits, thereby reducing exposure to issuer-specific credit risk. The full unconditional liquidity support requirements from sponsors add an additional layer of protection against default. Figure 5 illustrates the general composition of a multi-seller asset portfolio

Attractive Yield: In their early days, ABCP programs generally offered competitive yields relative to unsecured corporate CP. Due to its complexity and the need for extensive research, ABCP usually rewards investors with 2 to 20 basis points in extra yield. Today, ABCP spreads over traditional CP remain a prime motivator for investors.

In comparing the yields of 90-day ABCP rated A-1(+)/P-1 against similarly rated non-asset backed commercial paper yields, we found the yield advantage to be 7 basis points on average between 2001 and 2014. As Figure 6 indicates, the yield spread remained high following the financial crisis as demand continued to be subdued despite improved risk characteristics. Between 2011 and 2014, the yield advantage averaged 9 basis points.

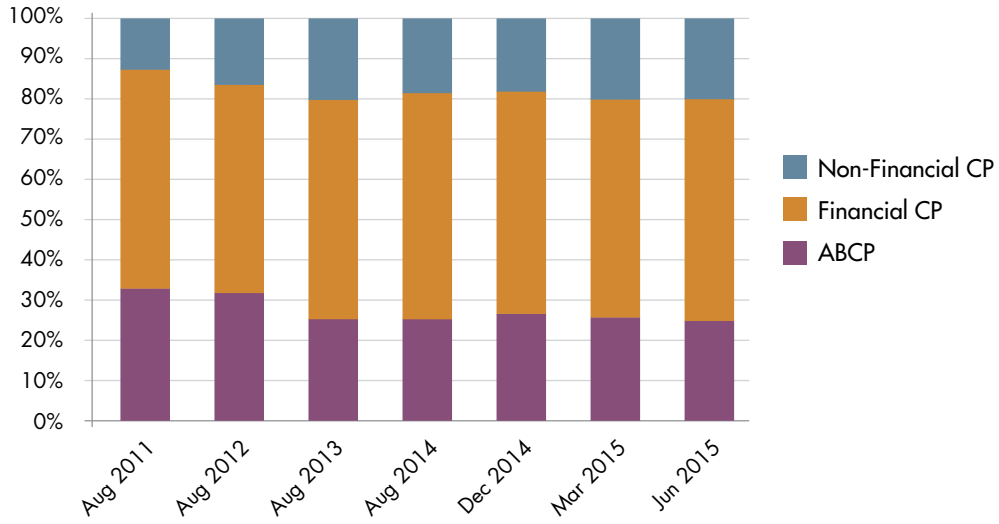
Figure 6: *Excess Yield of 90-Day ABCP over Financial CP (A-1 (+), P-1*



Source: Board of Governors of the Federal Reserve System (US), FRED Economic Data, St. Louis Fed.

Investor Acceptance: Despite the negative association with the financial crisis, ABCP continues to be a core asset category in prime money market fund portfolios. With economic recovery on the way and regulatory uncertainties resolved, we expect ABCP outstanding to remain stable and investor acceptance to grow.

Figure 7: *CP Holdings as Percentage of US Taxable Money Market Fund Holdings*



Source: ICI, Monthly Taxable Money Market Fund Portfolio Data

Figure 7 shows the composition of commercial paper holdings in US taxable money market funds. It indicates that, over the last four years, about 25% of all CP held by the funds was in ABCP.

Risk Considerations

While ABCP may provide some risk mitigation in an investment portfolio, it may carry other risks associated with securitized debt.

Structural Risk: Unlike a traditional corporate issuer, whose business and financial risks are relatively easy to understand and analyze, the creditworthiness of an ABCP program is affected by its status as a special purpose entity, which involves risks due to multiple parties and complex legal arrangements. For example, even though voluntary bankruptcy of the issuer is prohibited, some language may be subject to interpretation by a local court of law. Because the structure is difficult to understand, the program may be subject to abuse or neglect.

Credit & Liquidity Risk: The liquidity risk of ABCP is the danger that collections from collateral assets may not arrive in time to provide funds to repay maturing balances. The credit risk addresses the likelihood that collateral will suffer losses and ultimately not be fully collectible. In the post-crisis regulatory environment, both risks are transferred to the sponsoring bank. This means that the counterparty risk of the sponsor is more important today than before the financial crisis.

Operational Risk: This risk stems from the complex administrative tasks performed by the sponsor. The bank personnel are responsible for the purchases and collections of collateral assets, making payments to ABCP investors, coordinating among all parties to an ABCP program (see Appendix A), ensuring proper documentation, performing due diligence, and so on. Since this risk is difficult to assess by an outsider, investors should consider the credit strength of the sponsor bank, its history and experience in ABCP administration, and the program's relevance to the bank's economic interest as some of key operational risk measures.

ABCP can be an appropriate investment vehicle in large corporate treasury accounts due to its liquidity, flexibility, and yield potential.

Untangling the ABCP Web for Cash Investors

Recent financial reforms have had a profound impact on the structure of the ABCP market, altering significantly the factors and circumstances that the diligent corporate cash investor must take into account prior to investing. Here we provide a practical guide of evaluating program risks for the novice ABCP investor. Bear in mind that some of the complicated subjects have been oversimplified for illustrative purposes.

Strength of Program Administrators: ABCP programs are special-purpose entities that exist only in legal documents. For a bank sponsored program, the sponsor is ultimately responsible for the program's liabilities under the full support requirement of the Volcker Rule. This means that the credit strength of a program is closely tied to that of its sponsor bank, making this the focal point of the selection process. Investors should refrain from purchasing ABCP administered by banks that they would not invest in directly.

Types of External Support: Some programs are run directly by the sponsor banks, while others by independent administrators who run a collection of fully supported collateral pools. Investors should evaluate independent programs based on the credit strength of the syndicate of sponsors as a whole and individually. Since ABCP is backed by the sponsors collectively, a weak sponsor could weaken the entire program.

Types of Programs: Of all the ABCP programs outstanding, the majority are traditional multi-seller programs. In a multi-seller program, the sponsoring bank combines collateral assets from several sellers who bring in a multitude of obligors in a wide variety of industries, offering ABCP investors instant risk diversification. Multi-seller programs backed by trade, auto, and credit card receivables are generally easier to understand and less risky than other types.

"Repo-backed CP" programs are backed by tri-party repurchase agreements that the conduit enters into with a number of banks. This type of structure invests the proceeds from the issuance of ABCP into repo agreements with matching maturities. Investors should be aware that credit risk of this type of instrument is dependent on the credit quality of the conduit's counterparties.

Collateral Asset Quality: Investors should distinguish the programs by their collateral asset quality by type, maturity, credit ratings, country of origin, and establish a tolerance threshold prior to investing. The data quality of periodic portfolio performance statistics provided by the program administrators can be a relevant investment selection consideration. Although still a good practice, the 100% unconditional liquidity support requirement makes asset collateral examinations a secondary consideration after the counterparty risk of the sponsor.

Conclusion

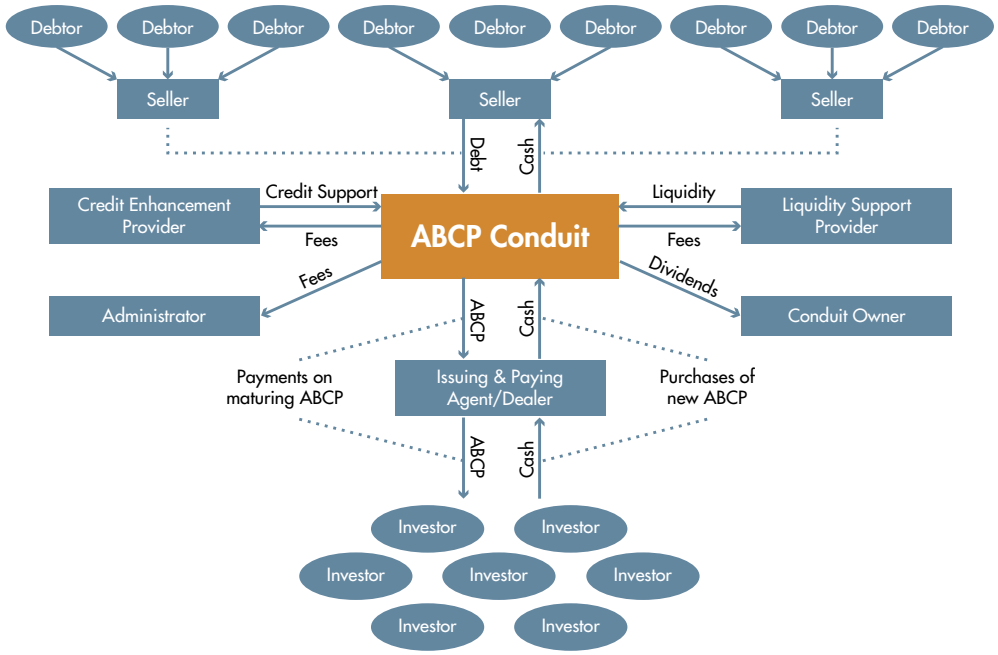
ABCP can be an appropriate investment vehicle in large corporate treasury accounts due to its liquidity, flexibility, and yield potential. Different risk concerns among programs require dedicated credit expertise and regular asset collateral monitoring.

The recent financial crisis revealed shortcomings of the less creditworthy structures, while the more traditional multi-seller conduits persevered. Despite lower issuance and on-going investor skepticism, the mechanism of ABCP structures improved due to new regulatory measures.

While the complexity of various programs may be intimidating, corporate cash investors may benefit from selecting some of the more traditional, conservative, and higher quality ABCP names for their portfolios. Specifically, investors may be well served by investing in traditional, multi-seller, receivables-backed programs associated with banks with strong credit ratings and track records of ABCP expertise.

Appendices

Appendix A: *Major Components of the traditional multi-seller ABCP structure*



Appendix B: *Largest ABCP Programs (As of March 2015)*

Rank	Program Name	Administrator	CP Outstandings	Program Type
1	Kells Funding LLC	FMS Wertmanagement	15,602.00	Repo/TRS
2	Old Line Funding LLC	Royal Bank of Canada	11,461.46	Multiseller
3	LMA S.A. / LMA Americas LLC	Credit Agricole	11,170.81	Multiseller
4	Alpine Securitization Corporation	Credit Suisse	9,643.60	Multiseller
5	Chariot Funding Limited / Chariot Funding LLC	JPMorgan Chase Bank	8,970.00	Multiseller
6	MetLife Short Term Funding LLC	Lord Securities Corporation	8,907.76	Single-Seller
7	Collateralized Commercial Paper Co., LLC	JPMorgan Chase Bank, N.A.	8,681.35	Repo/TRS
8	Jupiter Securitization Company LLC	JPMorgan Chase Bank	8,632.00	Multiseller
9	Cancara Asset Securitisation Limited / Cancara Asset Securitisation LLC	Lloyds Bank PLC	8,611.11	Multiseller
10	Bedford Row Funding Corp.	Royal Bank of Canada (New York)	8,258.00	Repo/TRS
11	Regency Markets N. 1 LLC	HSBC Bank PLC	8,187.86	Multiseller
12	Victory Receivables Corporation	Bank of Tokyo-Mitsubishi UFJ	7,961.00	Multiseller
13	Gotham Funding Corporation	Bank of Tokyo-Mitsubishi UFJ	7,612.00	Multiseller
14	Collateralized Commercial Paper II Co, LLC	JPMorgan Chase Bank, N.A.	6,782.73	Repo/TRS
15	CHARTA, LLC	Citibank, N.A.	6,360.00	Multiseller
16	Atlantic Asset Securitization LLC	Credit Agricole	6,347.80	Multiseller
17	CRC Funding LLC	Citbank, N.A.	6,320.00	Multiseller
18	CAFCO, LLC	Citibank, N.A.	6,254.00	Multiseller
19	Sheffield Receivables Company LLC	Barclay's Bank PLC	5,877.00	Multiseller
20	CIESCO, LLC	Citibank, N.A.	5,867.00	Multiseller

Sources: Moody's Investors Service

Appendix C: *Largest Program Administrators (As of March 2015)*

20 Largest ABCP Program Administrators

1Q15 Average ABCP Outstandings

Administrator	$ Millions	# Issuers	Market Share (%)
JPMorgan Chase Bank	35,934	6	*11.4%*
Royal Bank of Canada	28,375	6	*9.0%*
Citibank, N.A.	28,001	5	*8.9%*
Bank of Tokyo-Mitsubishi UFJ	26,300	9	*8.4%*
Credit Agricole	17,519	2	*5.6%*
FMS Wertmanagement	15,602	1	*5.0%*
TD Securities Inc.	10,577	6	*3.4%*
Credit Suisse	9,644	2	*3.1%*
Societe Generale	9,590	2	*3.1%*
Lord Securities Corporation	8,908	1	*2.8%*
Barclay's Bank PLC	8,862	2	*2.8%*
Lloyds Bank PLC	8,611	1	*2.7%*
HSBC Bank PLC	8,188	1	*2.6%*
Bank of New York Mellon	7,450	3	*2.4%*
Sumitomo Mitsui Banking Corp.	6,650	3	*2.1%*
BNP Paribas	6,103	2	*1.9%*
Bank of Nova Scotia	5,446	1	*1.7%*
Rabobank Nederland	4,933	1	*1.6%*
Natixis	4,883	2	*1.6%*
Deutsche Bank AG	3,353	4	*1.1%*
other	59,413		*18.9%*
Total	**314,341**		**100%**

Sources: Moody's Investors Service

Staying Afloat in a Floating Net Asset Value Money Market Fund

Managing Liquidity in a Reformed Liquidity Vehicle

Introduction

It is fall of 2016. The dust has settled on money market fund reform. Institutional prime money market funds have adopted floating net asset values (NAVs) with optional liquidity fees and gates provisions. Institutional investors demanding NAV and liquidity certainty have eschewed the product for other liquidity options. Will floating NAV funds retain a critical mass to stay afloat as a viable cash management tool? How will fund dynamics be different? For remaining shareholders, what are the liquidity challenges?

Assets in institutional prime funds more than doubled in less than a decade after the start of the new millennium, from $496 billion in 2000 to $1.1 trillion in 2009. For the first six months of 2015, fund balances dropped from $1.0 trillion to $968 billion[13]. For a liquidity product that will undergo dramatic structural changes as prescribed by the 2014 SEC rule amendment, little is known about the liquidity characteristics of the institutional prime fund come October 2016.

Our baseline assumption is that there will be a meaningful core base of corporate cash investors who will continue to use institutional prime funds based on economic, relationship or risk management reasons. In this paper, we will address a few liquidity concerns resulting from the forthcoming changes to institutional prime funds.

First Look – Reasons to Remain Constructive

Assuming that fund sponsors are able to successfully accommodate outflows in the implementation phase, we think that the first few months after October 2016 may be less hectic than one might fear. There are reasons to remain positive on floating NAV funds as viable cash management tools.

NAV Stability: With the SEC allowing fund advisors to "top off" on fund NAVs on Day One, one should expect the funds to start with a rounded $1.0000 NAV from the start. For the first few months at least, fund managers likely will manage their portfolios conservatively to keep the NAVs as close to $1.0000 for as long as possible. Strategies may include shorter portfolio weighted average maturity (WAM) and less use of credit instruments maturing beyond 60 days.

The Federal Reserve's steady and patient approach to interest rate normalization may help dampen, but not eliminate, NAV volatility in a rising rate environment. For a portfolio with a 45-day WAM, each 0.25% increase in the fed funds rate translates into a market value decline of $0.0003 ($1 * 45/365 * 0.25%). To avoid deviation of market-based NAVs (less than $0.00005 with rounding) from $1, the portfolio's WAM will need to be seven days or shorter ($1 * 7/365 * 0.25% = $0.0005). Stated differently, the smaller the fed fund increases, the longer time gaps between increases, and the shorter the portfolio WAM, the less NAV volatility.

Low Risk of Fees and Gates Becoming Reality: Despite the spotlight on potential liquidity fees and gates, the likelihood of such events occurring is quite low. For fees and gates to be triggered, the so-called seven-day liquidity level must be at 10% or less, or about one third of 30% as prescribed by the SEC in 2010. Even at this level, a fund's board of directors still has the discretion to withhold such measure if it is not in the best interest of all shareholders.

[13] Source: iMoneyNet Analyzer historical Domestic Market Share table from total money market fund assets designated as "institutional" and "prime."

We think that, in the initial months after October 2016, funds have the incentive to keep the level of seven-day liquidity well in excess of 30%. As long as a fund's liquidity remains well above 10%, the issue of fees and gates is not a practical matter. In the example of a prime fund with no securities maturing beyond seven days, shareholders may be further assured of not having to worry about this threat, since the goal is to maintain liquidity as defined by the SEC at 100%.

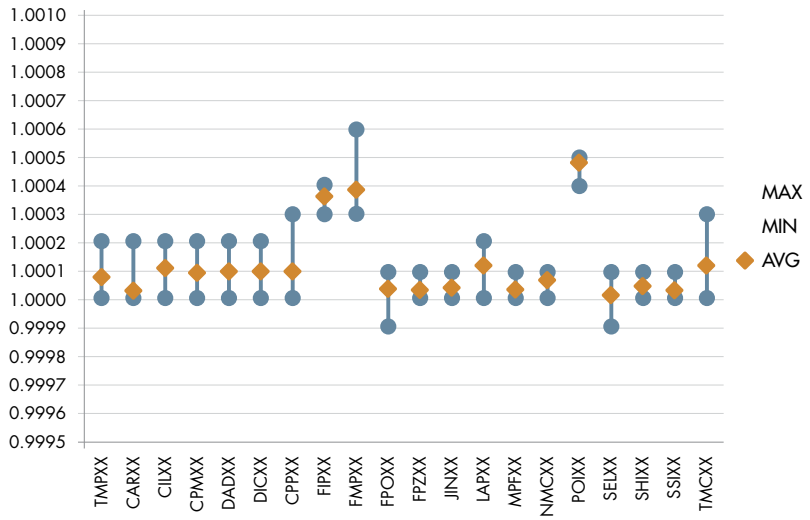
Accounting and Tax Relief: Two important relief measures concerning accounting and tax treatment came with the 2014 SEC rule amendment. First, the SEC will allow floating NAV funds to be treated as cash equivalents. Second, the Treasury Department and the Internal Revenue Service will allow simplified tax reporting by consolidating realized gains and losses within a year as a single net transaction and by exempting fund transactions from the so-called "wash sale" rules in short-term loss calculations. These measures addressed significant industry concerns regarding the operational complexity of implementing the new rules.

In short, shareholders need not worry about a doomsday scenario just yet. Barring major credit or interest rate events, risk limiting features in recent rule amendments have greatly minimized potential NAV volatility. Practically speaking, fees and gates are not a threat as long as funds keep liquidity levels sufficiently high. Although the new rule brings about major operational and technological headaches to service providers, the accounting and tax impact on the end shareholders does not appear onerous.

Managing Intra-Day Liquidity in Floating NAVs

While less desirable than the constant $1 NAV, floating NAVs are not necessarily a deal breaker from an investment viewpoint. As seen in Figure 1, historical market-based NAV data shows that NAVs have rarely deviated by more than $0.0002 per share under normal market conditions. For institutional shareholders, volatility of such magnitude rarely indicates economic significance. The issue is intra-day liquidity.

Figure 1: *Market NAVs (2013 – 2015)*



Source: Crane Data and fund websites.

As of this writing, there is no definitive industry answer as to whether floating NAV funds can function as sweep vehicles. As financial transactions happen throughout the day in an investor's account, sweeps automatically move funds to cover expenditures and invest excess balances at the end of a business day at a predicable $1.00 NAV. Without a stable NAV, shareholders may need to sell fund shares on one day and get their cash the next day.

Fund companies are actively working to solve the intra-day liquidity challenge, with proposals ranging from calculating intra-day NAVs twice a day to once per hour. While the technical details of these discussions are beyond our expertise, one may surmise that operational procedures may be too clumsy or costly to be practical.

With this intra-day liquidity challenge in mind, cash investors may need to think of institutional prime funds as de facto next day liquidity (T+1) vehicles much the same as overnight repurchase agreements today. In that regard, transactional deposit accounts and stable NAV government funds may be more suitable for unplanned same-day liquidity.

Managing Seven-Day Liquidity is Job One

With little doubt, institutional investors generally view the "fees and gates" provision as a bigger challenge than floating NAVs, as it cuts to the heart of the utility of money market funds. Although the provision is intended to protect all remaining shareholders, the notion of being denied liquidity when liquidity is most needed is a deal breaker for many treasury professionals. Those who can tolerate this low probability but high impact risk may continue to enjoy potential yield benefits provided by prime funds, as long as they can effectively track and forecast liquidity triggers.

Monitoring & Alerts: Effective October 2016, all prime funds are required to disclose the levels of seven-day liquidity daily. Shareholders should have procedures in place to monitor this key data point. They can look up the figures at the fund companies' websites or through a third-party data portal. There also may be services that allow investors to set automatic alerts based on liquidity levels. Note that 30% is the minimum required by the SEC, but funds are recommended but not required to make the fees and gates decision unless liquidity drops to 10%, when the decision becomes mandatory. Shareholders may set different priority levels of alerts based on liquidity levels, so that they can actively engage fund managers to correct liquidity deficiencies before fees and gates become necessary.

Institutional investors generally view the "fees and gates" provision as a bigger challenge than floating NAVs.

Understanding Liquidity Dynamics: The passive act of monitoring misses the point that liquidity could evaporate quickly due to the unrestricted daily redemption feature in money market funds. Comprehensive understanding of a fund's liquidity dynamics is needed for effective liquidity management. For example, any Treasury debt plus agency debt maturing within 60 days are part of the weekly liquidity figure. They are, however, not cash in a literal sense. In a rising interest rate environment, a fund selling these instruments to raise cash will inadvertently create realized losses, which may lead to NAV erosion. NAV deterioration may encourage more redemption, exacerbating liquidity shortage. Likewise, shareholders may simultaneously decide to redeem shares from funds with low liquidity levels in periods of market volatility, resulting in a self-perpetuating liquidity drain from these funds. Maturity and coupon structure of fund portfolios, shareholder concentration, and managers' ability to forecast liquidity needs also may affect liquidity dynamics.

In summary, a big challenge in an institutional prime fund is to understand its liquidity dynamics. Tracking liquidity levels regularly and frequently is important, but shareholders need to incorporate other important liquidity drivers to form more confident and forward-looking assessments in order to reduce liquidity risk imposed by fees and gates.

Beware of Shared Liquidity – the Institutional Shareholder Symptom

Easily overlooked, the biggest liquidity challenge in an institutional fund may come not from a floating NAV or fees and gates, but the separation of shareholder groups and fund types. High flow volatility and shareholder sophistication may cause institutional prime funds to be less stable or reliable sources of liquidity.

Institutional Designation Implies Faster Money: Attracted by stable NAVs offered by retail prime funds, a meaningful population of institutional prime shareholders, such as retirement savings and wealth management accounts, likely will exit. Remaining shareholders may be represented by cash management accounts with comparatively larger volatility in fund flows and higher sensitivity to liquidity shortages. The integration of fund trading platforms into treasury workstation technology also assists in faster funds transfers with a push of a button. Higher cash flow volatility, profit maximization motives and risk management objectives may subject institutional prime funds to higher run risk.

More Active Shareholders through Self Selection: Institutional shareholders who are extremely risk averse may gravitate towards Treasury or government funds. Those who remain in the prime space may be more risk tolerant, but also more sophisticated in understanding the shared liquidity dynamics and thus more active in managing their fund balances. This self selection process adds to the characterization of faster money movement in institutional prime funds than in other fund types. When herd mentality and extreme market conditions are combined, active shareholders could lead to undesirable consequences for the funds and exacerbate liquidity situations.

Shared Liquidity Is An Example of Game Theory in Practice: Banks cannot accommodate all depositors who want their money back all at once. The same is true with money market funds. In extreme situations, demand to redeem shares may quickly drain a fund's available liquidity and force it to liquidate holdings to raise cash. While the collective rational thinking is to sit tight and not worsen the liquidity situation, individual rational thinking is exactly the opposite: to limit one's risk, especially if doing so does not have financial penalty. This game theory in practice is exactly what fees and gates are intended to address in protecting all shareholders. Being clear-minded about shared liquidity in a fund of highly sensitive institutional shareholders requires the sensible investor to exercise restraint, diversify sources of liquidity and keep a Plan B handy.

Conclusion – Managing Shared Liquidity in a Portfolio Context

Managing liquidity in a liquidity vehicle seems redundant in terms but is necessary because of scaled-back utility in the institutional prime fund. While it is not clear how well received it will be when the new rule takes effect, we raised related liquidity issues concerning the floating NAV, fees and gates, and the institutional shareholder syndrome. Of the three, we think the institutional shareholder syndrome in the context of a shared liquidity vehicle deserves the most attention.

In light of the challenges discussed thus far, we could foresee a portfolio approach with liquidity instruments that complement each other. The portfolio may consist of stable NAV government funds, floating NAV prime funds, and direct purchases of government and other highly liquid securities. Government fund shares may accommodate unforeseen intraday liquidity needs. Prime fund shares may provide extra yield potential and function as next-day source of liquidity. A laddered portfolio of government and other liquid securities may provide back-up liquidity through maturities or open market sales in the unlikely event of liquidity becoming inaccessible in prime funds. As government securities are expected to become scarcer with rising demand for government money market funds, procuring a sufficient stock of them in the months leading up to October 2016 may be necessary. Additionally, next day liquidity in prime funds could be impacted by the issues mentioned throughout this white paper.

This diversified liquidity approach may be the best compromise since many things remain unknown, including how other institutional shareholders will perceive and accept the reformed prime product, how effective liquidity monitoring tools will be, and whether intra-day liquidity is possible. While we think there may be room and potential for prime funds to belong in cash management accounts, managing liquidity risk through this period of its metamorphosis and beyond demands a lot of attention and caution from all stakeholders.

The Transformation of Corporate Deposits in a New Regulatory Environment

And Seven Tips to Cope with the New Reality

Introduction

For centuries, businesses and individuals used banks for the majority of their financial transactions. The creation of the Federal Reserve System in 1913 and the Federal Deposit Insurance Corporation (FDIC) in 1933 gave the United States one of the strongest, safest and most trustworthy banking systems in the world. It is no surprise that treasury organizations rely heavily on deposits as their primary liquidity management vehicle.

The two decades before the U.S. financial market crisis of 2008 can be characterized as a period of rapid deregulation and disintermediation along with waves of bank mergers. The subsequent dramatic re-regulation to reduce systemic risk presents new challenges to corporate cash investors. On the one hand, transactional deposits become less profitable for large banks, motivating the institutions to move them off balance sheet or impose stiff fees. On the other hand, institutional prime money market funds, a popular alternative cash vehicle, must adopt floating net asset values (NAVs) and optional redemption fees and gates by October 2016, limiting their utility as liquidity tools.

With these concerns in mind, we seek to help corporate treasury professionals to refocus attention on the mundane world of transactional deposit relationships, understand the current market dynamics, and carve out a balanced approached to cash investment solutions.

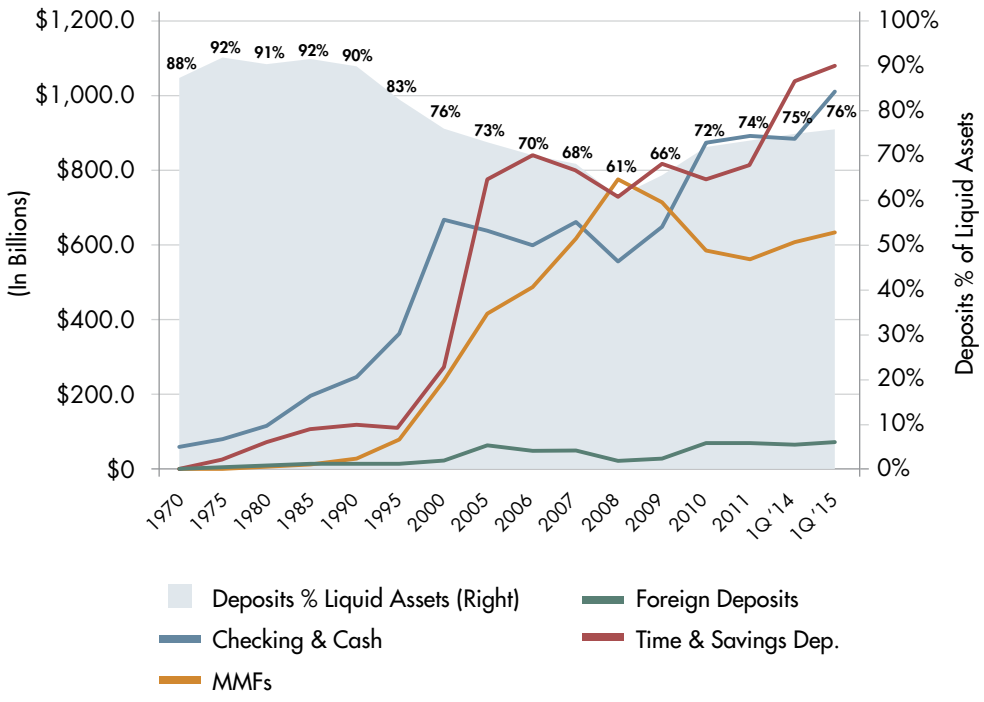
With the approach of the October 2016 deadline to float the NAVs and impose optional redemption fees and gates, expectation is growing that more assets will flow out of money market funds into deposits.

Corporate Deposits in Historical Perspective

Checking and savings deposit balances typically represent the majority of liquid balances at businesses and other institutional entities. In recent decades, the banking industry went through the dismantling of interstate banking restrictions and the re-integration of commercial and investment banking. Banks grew larger and more complex. Recent financial crises also produced shotgun marriages that resulted in still larger banking complexes. Sweeping post-crisis financial regulations under the umbrellas of the Basel III Accord and the Dodd-Frank Act added new dynamics to institutional deposit relationships.

Alternative liquidity vehicles, most notably money market funds, took on more important roles during the disintermediation period. Credit concerns with prime funds after the Lehman Brothers bankruptcy and subsequent unlimited government deposit guarantees caused the tide to turn back in favor of deposits. With the approach of the October 2016 deadline to float the NAVs and impose optional redemption fees and gates, expectation is growing that more assets will flow out of money market funds into deposits.

Figure 1: *Deposit and Money Market Fund Balances at Nonfinancial Businesses*



Source: Federal Reserve's Flow of Funds Report – Section L.101 Nonfinancial Businesses as of the first quarter of 2015.

According to the Federal Reserve's Flow of Funds reports (Figure 1), the proportion of deposits held by non-financial businesses as a percentage of overall liquid balances declined steadily from 92% in 1985 to 61% in 2008. Coincidentally, money market funds gained popularity since the mid-1990s, with balances surpassing checking balances at $780.0 billion in 2008 before a multi-year decline. Meanwhile, deposit balances reversed direction as a percentage of liquid balances in 2008 and reclaimed market share lost to money market funds.

Recent Deposit Growth Trend

The Fed's flow of funds report captures the three types of deposits held by nonfinancial businesses in the U.S.: checking & cash, time & savings deposits, and foreign deposits. In the decade through the first quarter of 2015, checking account balances in the U.S. grew 58%, or at a 5% annual compounded rate, compared to the 40% growth, or 3% per annum, in time and savings account balances. Foreign deposits grew 16% growth, at 1% per year, over the same period.

As Figure 1 indicates, both checking and savings balances grew at the expense of money market fund balances, which dropped sharply after the financial crisis of 2008. Fund balances have resumed an upward trend since 2011. As an extraordinary measure shortly after the Lehman Brothers bankruptcy, the FDIC provided guarantees without the $250,000 limit on all noninterest bearing transaction accounts (NIBTAs, essentially all business checking accounts), through December 2012[14]. By contrast, the U.S. Treasury guaranteed a stable $1.00 NAV on money market funds balances through September 2009[15]. The time lapse between the two expiration dates may partially explain directional changes in funds movement.

[14] See the FDIC's "Notice of Expiration: Temporary Unlimited Coverage for Noninterest-Bearing Transaction Accounts", (www.fdic.gov/news/news/financial/2012/fil12045.html#cont).

[15] See "Investor Alerts – Treasury Guarantee Program for Money Market Mutual Funds: What You Should Know" on FINRA's website (www.finra.org/investors/alerts/treasurys-guarantee-program-money-market-mutual-funds-what-you-should-know).

Types of Deposits Available To Institutions

Checking: Also known as a transactional account or demand deposit account (DDA), the non-interest bearing checking account is the standard and most widely used deposit type and cash management vehicle available to businesses. Funds are available on demand without restrictions as to the number of checks or electronic funds transfers drawn on available funds. It comes with the FDIC deposit guarantee of $250,000 per taxpayer identification. The Dodd-Frank Act of 2010 repealed the prohibition of paying interest on DDAs, but the vast majority of business checking accounts continue to be non-interest bearing.

Savings and Money Market Deposit Accounts (MMDAs): As the name indicates, funds in savings accounts earn interest income but funds' availability may be delayed. Depositors may make up to six withdrawals in a statement cycle of one month. These restrictions diminish the utility of savings accounts as cash management vehicles. MMDAs are a variation of savings accounts that allow limited check writing privileges but total withdrawals are still limited to six per month.

Time Deposits (TDs): More widely known as certificate of deposits (CDs) in the U.S., time deposits are similar to savings accounts but generally earn higher interest income because depositors are committed to pre-determined dates of maturity. Access to funds before maturity may be unavailable or may incur early penalties, including principal losses set by law or the depository institution. Liquidity restrictions on TDs and CDs reduce their utility as cash management vehicles.

Offshore Sweep TDs: Popular with some money market funds and institutional depositors, a type of time deposit exists at some U.S. banks and U.S. branches of foreign banks. The depositor allows the bank to deposit (sweep) its excess balances to an affiliate branch in a foreign country (see Eurodollar TDs below), typically for an overnight period, before receiving it back the next morning. Functionally equivalent to interest bearing checking sweeps, offshore sweeps bear the credit risk of the foreign bank affiliated, cross-border financial transaction risk, and reduced supervision by U.S. financial regulators. Although funds are typically available overnight with comparatively attractive yield, offshore sweep TDs are not considered liquid funds.

Large Denomination CDs: Also known as jumbo CDs, negotiable CDs, or broker CDs, CDs with face values of $100,000 or more are sold to institutional depositors, often through securities brokers as marketable securities. Jumbo CDs may receive higher yield and may be more liquid than regular CDs as a secondary market exists to buy them before maturity. Market conditions and interest rate changes, though, may result in principal losses in jumbo CD transactions. Jumbo CDs do not receive FDIC deposit guarantee on principal above $250,000. Banks also report deposit notes, issued to institutional investors in $1 million denominations with features similar to corporate bonds, as large denomination CDs.

Yankee CDs and Eurodollar TDs: They are subsets of large denomination CDs. Yankee CDs are issued by U.S. branches of foreign banks seeking to obtain funding from U.S. money market funds and other liquidity investors. Eurodollar TDs are dollar denominated TDs issued and held outside the U.S. Neither Yankee CDs nor Eurodollar TDs receive a FDIC deposit guarantee. Because the latter exists outside of the U.S., liquidity may be poor and credit risk higher for U.S. based depositors.

Liquidity Coverage Ratio and New Deposit Relationships

The term Liquidity Coverage Ratio (LCR) has received a lot of attention lately among institutional depositors, especially after JPMorgan, in response to LCR, sought to reduce $100 billion of non-operating deposits to save capital. This ratio could have wider ramifications on depositors at other banks.

The 2010 Basel III Accord introduced two liquidity standards for banks, the LCR and the net stable funding ratio (NSFR). In the U.S. the LCR rule came into effect on January 1, 2015. The NSFR is expected to be introduced in 2018. The LCR applies to bank holding companies with assets of more than $50 billion, although restrictions on banks with over $250 billion in assets are most severe.

In essence, the new rule requires banks to hold sufficient high quality liquidity assets (HQLAs) against potential run-offs of deposits in the next 30 days. Both assets and deposits are subject to calculation maneuvers of limits and haircuts to arrive at a required ratio of 100% or higher. On the deposits side, for example, 97% of retail deposits are expected to be retained, with 3% lost to run-offs in the next 30-days. Table 1 provides the run-off assumptions for wholesale deposits.

Table 1: *Assumed Wholesale Deposit Run-offs for LCR Calculation (non-FDIC Insured)*

Deposit Type	Assumed Run-off Rate
Operating Deposits	25%
Non Operating Deposits – Non-Financial Depositor	40%
Financial Deposits (Operating or Non-operating)	100%

For a non-financial institutional depositor, this means that, for every dollar deposited, the bank must use 25 cents to purchase low yielding HQLAs, leaving only 75 cents towards more profitable lending activities. Should a deposit account be classified as non-operating, which generally means standalone deposits, the bank needs to keep 40 cents on the dollar in HQLAs and lend out 60 cents. For financial depositors, such as those from pension and investment funds, the entire balance is assumed prone to runs.

The implication on institutional depositors is that banks now expect more services out of them to maintain current relationships. Accounts that receive earning credit rates (ECRs) to offset fees on banking services should expect such rates to decrease. Banks also may impose higher fees for accounts they deem less desirable. In fact, many banks already pass higher FDIC assessment charges on to depositors. This trend likely will become more prevalent now that banks will not have full use of the deposits towards lending.

Takeaway: The LCR implication means that large banks have a strong disincentive towards accepting short-term non-operating deposits. Regulations, not the banks themselves, dictate deposit relationships. Deposits with fixed terms longer than 30 days and deposits at smaller banking institutions (less than $50 billion assets) are not directly impacted by the LCR rule.

Net Stable Funding Ratio and Deposits

Similar to LCR, the Basel III Accord requires banks' long-term assets to be sufficiently funded (Stable Funding/ Weighted Long-term Assets =/> 100%). While the LCR addresses a 30-day run-off scenario, the NSFR focuses funding risk over a one-year horizon. Wholesale short-term deposits are not stable funding sources.

While the NSFR rule is delayed until 2018 in the U.S., it is easy to see that banks will encourage more customer deposits to term out beyond a year to improve their NSFR status. Overnight and term wholesale deposits less than one-year will soon come under pressure.

Global Systemically Important Bank (G-SIB) Capital Surcharge and Deposits

A phrase now familiar with most cash management professionals, G-SIB refers to a group of 30 large, complex and globally interconnected banks named each year by the Financial Stability Board (FSB). FSB is a consortium of G-20 economies established after the 2008 financial crisis to monitor risks in global financial systems. The G-SIBs, formerly referred to as too-big-to-fail banks, face higher regulated capital burdens over and above what is required of all banks, called G-SIB capital surcharges.

Based on their current standing, additional capital surcharge ratios for the eight G-SIBs above the minimum required 7% Common Equity Tier 1 (CET1) capital ratio are: JPMorgan (4.5%), Citigroup (3.5%), Goldman Sachs (3.0%), Bank of America (3.0%), Morgan Stanley (3.0%), Wells Fargo (2.0%), State Street (1.5%), and Bank of New York Mellon (1.0%). Among the 22 other G-SIBs, many are active in the U.S., including HSBC (2.5%), Barclays (2.0%), BNP Paribas (2%), Deutsche Bank (2.0%), Credit Suisse (1.5%) and Mitsubishi UFJ (1.5%).

Wholesale deposits are impacted by G-SIB designations because the capital surcharge is based on a scoring system that takes non-operating deposits into account. In fact, Federal Reserve officials specifically pointed out the need to tie G-SIB capital surcharges to a bank's reliance on short-term wholesale funding. In order to maintain profitability and maximize shareholder values, G-SIBs have an incentive to reduce capital surcharges by reducing short-term wholesale funding needs, including non-operating deposits. Alternatively, G-SIBs need to collect additional fees on wholesale deposits in order to make up for the higher capital surcharges.

Things to Consider In the New Deposit Environment

The old workhorse, the transactional deposit account, is changing as a cash management tool, driven by regulatory initiatives. New rules allow banks to pay interest on checking balances, but they have little incentive to do so any time soon. Quite the opposite, many institutional depositors have to pay FDIC assessment fees for their entire balances, even though the fees only get them covered for the first $250,000. Large banks are compelled by a myriad of post-crisis financial regulations to shrink balance sheets and turn away non-operating deposits. Smaller banks, less impacted by the regulations but still recovering from the past downturn, are facing revenue challenges from low interest rates and may be less credit worthy for institutional deposits.

The old workhorse, the transactional deposit account, is changing as a cash management tool.

Faced with this new reality, cash managers should prepare for these changes and carefully evaluate their options. As they do so, we would like to offer these seven tips.

1. Deepen existing relationships: It is evident that banks prefer to retain operating deposits. An account is considered an operating deposit when it is part of a depositor's overall banking relationship including corporate trust, treasury services, and credit facilities. Consolidate banking services to a smaller number of banks and reduce standalone deposit accounts to become more attractive to the banks and reduce overall costs.

2. Diversify: It may seem contradictory to the first point, but diversification remains important for business as well as counterparty credit reasons. It pays to keep relationships at a few strong banks suiting the depositor's needs rather than putting all of your eggs in one basket. Banks have different cost structures and objectives, which may result in different and shifting policies and incentives. Since banks prefer to bundle lending and treasury services with deposits, making a switch on the fly may not be easy should certain situations develop at a primary bank.

3. Size still matters: Despite regulatory issues and recent credit rating debacles at large banks, we still caution against moving deposit relationships to banks below the level of domestic systemically important institutions (D-SIBs, $50 billion asset threshold in the U.S.). For deposit protection reasons, we value extra regulatory oversight, including period stress tests, at G-SIBs and D-SIBs. Smaller banks receive less such attention, which may lead to higher risk to uninsured deposits.

4. Integrated counterparty risk assessment: Since the 2008 financial crisis, counterparty risk assessment has become a higher priority in corporate treasury management. We think it is imperative to incorporate deposit relationships into an organization's overall counterparty risk management in an integrated approach. Deposits as unsecured lending to banks need to be combined with credit exposures from money market funds, direct debt security holdings, derivatives and trade finance contracts. This integrated approach helps puts counterparty risk in the right perspective.

5. Liquidity is the name of the game: Depositors like to improve liquidity by staying in overnight deposits. Banks like to improve liquidity by accepting long-term deposits. This tension creates a liquidity-yield trade-off that presents both challenges and opportunities. Institutions better able to forecast and manage liquidity needs may improve yield potential by reducing transaction account balances, and increasing balances in long-term CDs and TDs, as well as in less liquid ECDs and YCDs.

6. Alternative liquidity vehicles: Challenges in corporate transaction deposits and prime money market funds open up opportunities to alternative liquidity vehicles. Such options may include separately managed accounts (SMAs) and direct purchases of government and corporate debt as well as repurchase agreements, private liquidity funds, ultra short-term bond mutual funds and exchange traded funds (ETFs). Although few alternative vehicles can truly replace the functions of transaction accounts, especially as sweep vehicles, they may fulfill certain functions not readily available in deposits alone.

7. Beware of higher interest rates: Lastly, institutional depositors should be aware of the impact of higher interest rates. After nearly seven years of near zero interest rates, higher short-term rates should bring higher yield potential and better bank profitability. However, some banks' credit profiles may deteriorate from higher credit costs to borrowers. This requires more scrutiny of counterparty credit assessment. Additionally, yield on time and savings deposits, set by individual banks, tends to lag some of the other liquidity vehicles, with yield set by the financial market.

Conclusion

Conclusion

Solutions for the New Era

This book has provided a close-up look at many of the issues corporate treasurers will face in the post-reform era of cash management. At Capital Advisors Group, we are dedicated to helping our clients deal with these issues as they navigate change in this new era.

Much of the advice we provide to corporate cash managers is based on research data and insights found in the three chapters of this book:

1) Investment Management in the new era may include a return to investing in portfolios of directly purchased securities in **separately managed accounts** (SMAs) as a supplement to bank deposits and money market funds. As reforms alter the incentives for holding cash in deposits and money funds, separate accounts may provide the stability, liquidity and yield many corporate cash investors require. Among other services, Capital Advisors Group sets up and manages separate 30-, 60- and 90-day **Liquidity Accounts** for clients who benefit from our experienced portfolio management capability and our broad and deep research. The Capital Advisors Group research team, supported by our **FundIQ®** online research product, enables qualified choices on investments and ongoing portfolio management.

2) Investment Policy Statements will be essential in responding successfully to the challenges of the new era of cash management. But more than 20% of corporate cash investors currently have no written investment policy. At Capital Advisors Group, we manage separate accounts following written investment policies that utilize benchmark selection and performance measurement tools customized to the individual needs of each portfolio. Additionally, peer group policy benchmarking allows for unique insights into policy construction. Therefore we are well positioned to help our clients develop their own investment policies that are both flexible and rigorous enough to balance their needs for portfolio risk management, liquidity and yield.

3) Credit and Risk Management will also require a new focus and discipline, to protect principal and ensure liquidity in corporate cash accounts. Many treasury departments don't have the resources to identify and aggregate counterparty exposures. Even when they do, they often lack the expertise to fully analyze their counterparties and to properly assess associated risk. Our credit and risk management services, along with our web-based **CounterpartyIQ®** platform that captures, analyzes, and rates counterparty exposures, allow Capital Advisors Group portfolio managers and clients' treasury teams to understand and actively manage counterparty risk.

The new era of cash management has begun, and now is the time to start developing and applying new, research-based investment strategies, backed by comprehensive counterparty risk management. For more information on how Capital Advisors Group may help you thrive in the new era, contact us at (617) 630-8100 or email info@capitaladvisors.com.

Sample of Investment Guidelines

ABC Company

These Investment Guidelines (the "Investment Guidelines") shall govern the investment of ABC Company's cash balances.

1. Objectives

The objectives of the Investment Guidelines are, in order of priority: (a) preservation of capital, (b) fulfillment of liquidity needs and (c) maximization of investment performance.

2. Eligible Investments

ABC Company's cash balances may only be invested in the following U.S.-dollar denominated investments (the "Eligible Investments"):

(a) **U.S. Treasury bills, notes and bonds;**

(b) **U.S. agency and government-sponsored entity debt obligations,** including debt obligations guaranteed by U.S. agencies or government-sponsored entities;

(c) **Corporate debt obligations;**

(d) **Bank debt obligations,** including those insured by the Federal Deposit Insurance Corporation;

(e) **Taxable and tax-exempt municipal debt obligations;**

(f) **SEC-registered money market funds** that have a minimum of one (1) billion dollars in assets;

(g) **Repurchase agreements** that are collateralized with cash, U.S. Treasury bills, notes or bonds and/or U.S. agency and government-sponsored entity debt obligations, including U.S. agency and government-sponsored entity mortgage debt obligations;

(h) **Sovereign, sovereign agency, sovereign provincial and supranational debt obligations** ("Sovereign Debt");

(i) **Asset-backed securities** ("ABS") that are collateralized by non-mortgage consumer receivables;

(j) **Asset-backed commercial paper** ("ABCP") that has at least 100% liquidity support from entities that meet the minimum rating requirements set forth in section 3.(a) below; and

(k) **U.S. agency and government-sponsored entity collateralized mortgage obligations** ("CMO's").

The Eligible Investments shall include, as applicable, putable, callable, floating-rate, Eurodollar and Yankee debt obligations and variable-rate demand notes.

3. Ratings Requirements

(a) The issue or issuer of the following Eligible Investments must carry a minimum rating as detailed below from at least two (2) of the following three (3) Nationally Recognized Statistical Rating Organizations.

	Moody's	Standard & Poor's	Fitch
Corporate Debt	A3 or P-1	A- or A-1	A- or F1
Bank Debt*	A3 or P-1	A- or A-1	A- or F1
Municipal Debt	A3, P-1, MIG 1 or VMIG 1	A-, A-1 or SP-1	A- or F1
Sovereign Debt	Aa3 or P-1	AA- or A-1+	AA- or F1+
ABS	Aaa or P-1	AAA or A-1+	AAA or F1+
ABCP	P-1	A-1	F1
CMO's	Aaa or P-1	AAA or A-1+	AAA or F1+

** Bank debt obligations insured by the Federal Deposit Insurance Corporation may be unrated.*

(b) Capital Advisors Group, Inc. shall promptly notify an authorized representative of ABC Company if any investment held in ABC Company's portfolio falls short of the ratings requirement specified in section 3.(a) above.

(c) Capital Advisors Group, Inc. may rely on securities rating information obtained from Bloomberg.

4. Concentration Limits

(a) There shall be no limit to the percentage of ABC Company's portfolio that may be invested in U.S. Treasury debt obligations, U.S. agency and government-sponsored entity debt obligations, SEC-registered money market funds, repurchase agreements or bank debt obligations that are insured by the Federal Deposit Insurance Corporation.

(b) With the exception of those investments listed in section 4.(a), the book value of the securities of any one issuer or group of issuers from the same holding company shall not exceed ten (10) percent of the book value of ABC Company's portfolio at the time of purchase.

5. Maturity Limits

(a) The maximum maturity of individual securities in ABC Company's portfolio shall not exceed thirty-six (36) months.

(b) The weighted-average days to maturity of ABC Company's portfolio shall not exceed eighteen (18) months.

(c) For securities that have put or expected average maturity dates, the put or expected average maturity dates shall be used, instead of the final maturity dates, for maturity limit purposes.

(d) For securities that have call dates, the final maturity dates shall be used for maturity limit purposes, unless callable securities are purchased at significant premiums, in which cases Capital Advisors Group may determine in its discretion to use call dates, instead of final maturity dates, for the purpose of calculating the weighted-average days to maturity of ABC Company's portfolio.

(e) For securities that have reset dates, the reset dates shall be used to calculate weighted-average days to maturity of ABC Company's portfolio.

6. Sale of Securities

The sale of securities prior to maturity must be pre-approved by an authorized representative of ABC Company.

7. Custody

Assets must be held in a segregated bank custody account and shall not be held by any investment manager or securities broker-dealer.

Agreed and Acknowledged:

ABC Company

BY: _____ DATE:_____

NAME: _____

TITLE: _____

Disclosure Information

Any projections, forecasts and estimates, including without limitation any statement using "expect" or "believe" or any variation of either term or a similar term, contained herein are forward-looking statements and are based upon certain current assumptions, beliefs and expectations that Capital Advisors Group, Inc. ("CAG", "we" or "us") considers reasonable. Forward-looking statements are necessarily speculative in nature, and it can be expected that some or all of the assumptions or beliefs underlying the forward-looking statements will not materialize or will vary significantly from actual results or outcomes. Some important factors that could cause actual results or outcomes to differ materially from those in any forward-looking statements include, among others, changes in interest rates and general economic conditions in the U.S. and globally, changes in the liquidity available in the market, change and volatility in the value of the U.S. dollar, market volatility and distressed credit markets, and other market, financial or legal uncertainties. Consequently, the inclusion of forward-looking statements herein should not be regarded as a representation by CAG or any other person or entity of the outcomes or results that will be achieved by following any recommendations contained herein. While the forward-looking statements in this report reflect estimates, expectations and beliefs, they are not guarantees of future performance or outcomes. CAG has no obligation to update or otherwise revise any forward-looking statements, including any revisions to reflect changes in economic conditions or other circumstances arising after the date hereof or to reflect the occurrence of events (whether anticipated or unanticipated), even if the underlying assumptions do not come to fruition. Opinions expressed herein are subject to change without notice and do not necessarily take into account the particular investment objectives, financial situations, or particular needs of all investors. This report is intended for informational purposes only and should not be construed as a solicitation or offer with respect to the purchase or sale of any security. Further, certain information set forth above may be based upon one or more third-party sources. No assurance can be given as to the accuracy of such third-party information. CAG assumes no responsibility for investigating, verifying or updating any information reported from any source. Photocopying or redistributing this book in any form is strictly prohibited. This book is a confidential document and may not be provided or disclosed to any other parties than the intended recipient(s) without the prior written consent of CAG. FundIQ® and CounterpartyIQ® are registered trademarks of Capital Advisors Group.

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CAPITAL ADVISORS GROUP, INC.

The New Era of Cash Management: Beyond Bank Deposits and Money Market Funds