Holistic Management of Investment Portfolios

Integrating Credit Union Operational Needs while Managing Investment Portfolio Yield and Performance Expectations

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Holistic

• “relating to or concerned with wholes or with complete systems rather than with the analysis of, treatment of, or dissection into parts.”

  – Merriam-Webster Dictionary
Presentation Outline

I. Approaches to managing the investment portfolio
II. How do credit union CFOs select their investments
III. The portfolio, an alternative to loans or manager of risk?
IV. Defining your credit union’s measure of risk
V. Managing is more than just investing
VI. Laddering maturities versus active management
VII. Making the cash investment decision easy
VIII. Assessing investment options
Approaches to Managing the Investment Portfolio

I. “Michael, broadly, there are three approaches a credit union can take to manage their investment portfolio: internally, outsourced to a registered investment advisor, or broker/dealer dependent. I manage our portfolio internally but know that many credit unions rely on brokers for advice, and Federal regulation 703 places restrictions on discretionary management; what is your advice to credit unions on the best approach to managing their investment portfolio?”
Approaches to Managing the Investment Portfolio

A. Outsourced to Registered Investment Advisor
   1. Pros – Frees up time for CFO to focus on other duties, cost effective for portfolios with high turnover, provides generic returns for credit unions with higher loan/share ratios
   2. Cons – Fees reported as line item expenses on income statement, some commissions still embedded in security transactions, advisory fees still paid on “assets under management” regardless of transaction volume, can limit value of security selection process

B. Broker/Dealer Dependent
   1. Pros – Commissions proportional to transaction volume, access to multiple sources of market information/analytics, competitive pricing when using more than 1 B/D, commissions effectively “soft-dollared”
   2. Cons – most B/D business platforms transactional in nature, potential conflicts of interest if Tbv (Trust but Verify) not followed, B/D rep may not be a CU specialist or may fail to account for “holistic additives” such as IRR management (esp. liabilities), liquidity and credit

C. Internally Managed
   1. Pros – Often provides top quartile performance without increasing risk, minimized transaction costs due to market familiarity
   2. Cons – Is the cost of a dedicated internal portfolio manager justified by the size and expected performance of the portfolio? Talent retention?
How do Credit Union CFOs Select their Investments

II. “Michael, sector allocation, duration targets, credit risk exposure, liquidity and individual security selection are usually mentioned as important components of the investment selection process. How would you describe the role that each plays based upon your work with credit union CFOs? Do you notice any commonality of themes amongst those credit unions ranked in the top quartile of investment yields?”
# The Investment Selection Process

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
</table>
| Duration               | • Becomes proxy for rates bet w/out sound IRR mgt practices  
                          • Too often thought of in static terms. Affected by optionality  
                          • Advanced duration management techniques: barbells, etc… |
| Credit Exposure        | • FCUs: 12 CFR 703 limits exposures relative to banks  
                          • State charter: Some allow corp bonds…ratings range varies  
                          • Opportunistic buying: Taxable munis example |
| Sector Allocation      | • More constricted than banks (regs, investment policy, etc…)  
                          • Over or under-weight based upon performance expectations  
                          • Significant impact in volatile markets |
| Liquidity              | • Timing of cash flows to meet expected loan demand  
                          • Held to maturity vs. Available for Sale classification: FAS 115 |
| Individual Selection   | • Usually the most important determinant of performance  
                          • MBS/CMO: understanding collateral attributes  
                          • The apples vs. oranges dilemma: price-based execution |
The Portfolio: An Alternative to Loans or Manager of Risk

III.

“Jeff, over the past 6+ years, the investment portfolios of credit unions have grown approximately 112%. On average, they represent ~37% of the credit unions’ total assets.¹ Obviously, deposits have gone into the investment portfolio as member loans have not kept pace with deposit growth and overall cash flow. Regulators, though, are routinely reminding credit unions about managing interest rate risk. What has been your experience with this need to generate income but manage risk?”

¹ Source: Callahan Peer to Peer
Investment Portfolio Objectives

Conflicting Objectives

While typically being 3rd in investment priority, the first question usually asked about a security purchased is “what is its yield?”

The Three Most Common Objectives in Investment Policy Statements:

1. Safety
2. Liquidity
3. Income
The Challenge to Balance Income and Risk

Credit unions can typically ‘feel and spend’ current investment income but often find it difficult to ‘see and account for’ the preservation of future market value or the avoidance of a future loss.

**Portfolio Manager Dilemma**

How do you balance near-term need for income with long-term preservation?
Using the Portfolio as an Alternative to Loans or to Manage Risk

Balancing the need for income with the need to manage interest rate risk has created a “portfolio manager’s dilemma” in the current low rate environment.

<table>
<thead>
<tr>
<th>Loan Alternative</th>
<th>Risk Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of investment portfolio to supplant credit union loans</td>
<td>Use of investment portfolio to manage balance sheet risk(s)</td>
</tr>
<tr>
<td>Used when loan growth is less than credit union cash flow and investment growth is exceeding deposit growth</td>
<td>Used when liquid deposits becoming a large percentage of liabilities and/or long-term loans are a large percentage of assets</td>
</tr>
<tr>
<td>Focus on yield of investments</td>
<td>Focus on rate sensitivity and/or extension of duration of investments</td>
</tr>
<tr>
<td>Risk is higher amortization expense, higher unrealized losses and/or duration extension</td>
<td>Risk is market yields do not rise quickly and/or sharply and the credit union forgoes higher near-term income</td>
</tr>
</tbody>
</table>
Defining Your Credit Union’s Measure of Risk

IV. “Michael, the greatest challenge that I have found in my 25 years managing balance sheet investments is that there is not a single definition of risk. I have found that members of Boards frequently blur their personal risk tolerance with that of the credit union. How do you help credit unions identify and define what risk they are willing to take?”
How Does Your Credit Union Define Risk?

Risk — an outcome that an investor is unable, unwilling or uncomfortable living with should the event occur.

Absent a clear risk benchmark, how does your credit union define risk?

Credit
- Non-performing Loans / Charge-offs
- Downgrade / Bankruptcy
- Change in NII, NEV or Capital
- Prepayment/Option

Interest Rate
- Unrealized loss in position
- Slower / faster return of principal

Liquidity
- Too little liquidity
- Unacceptable or no sell price
- Average Life extension
“Jeff, you managed client portfolios for 20 years prior to joining VyStar; what similarities and differences have you found between managing an investment portfolio internally versus externally? Also, any key takeaways you can share from your years of actively managing performance-benchmarked securities portfolios that would have some applicability for credit union investment managers?”
Needs of Credit Union Boards and ALCOs are the Same as Clients

Use same process as managing clients:

1. Objectives of balance sheet assets will change
2. Understand needs, and fears, of clients
3. Educate clients on investments
4. Inform on past performance
5. Prepare for future events
Listening to management and ALCO

1. We need $250,000, maybe $500,000, more income from the Investment Portfolio next year, can we get it done by year-end and what will it take?

2. The duration has increased by 0.5 to 2.0 over the past year, what is your target duration and are you buying securities with the intent to sell before maturity?

3. I do not want to take any more risk in the Investment Portfolio. Let’s reduce risk over the next year.

4. You have over 90% of the portfolio in MBS, how are you going to answer Regulators when they say that is too much real estate concentration?

5. I hear other credit unions are selling floating rate securities because they consider them “dead investments” while the Fed is on hold through mid-2015; should we sell our low yielding floating rate securities?

6. You sold securities during the month for liquidity, does the credit union have a liquidity problem?
Looking at key words in statements to identify “needs” and “fears”

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A “Portfolio Manager’s Dilemma” is created when they are left to define risk

“We need $250,000, maybe $500,000, more income from the Portfolio…”

“I just got out of the budget meeting for next year. We will need $250 – 500,000 more income from the portfolio. We’ve also budgeted $1 million of realized gains in Q3. What will it take to generate this additional income?”

“I am concerned about our interest rate risk position. You are suggesting selling floating rate securities and buying longer mortgage securities to generate the income. I lived through 1994. What will happen if we have a repeat of 1994?”

“I know in the past that I have said I am concerned with our earnings out 3 – 4 years (rather than the next year) given this economic malaise. With the positive signs from our loan growth, my concern is now over the next couple years. Will this action limit our flexibility in the future?”
Solving the “Portfolio Manager Dilemma” requires management, ALCO and the Board to understand how the investment portfolio fits within the credit union’s balance sheet. It is the *only* discretionary asset on the balance sheet that can be used to drive earnings and manage risk.

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>Driver</th>
<th>LIABILITIES</th>
<th>Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment</td>
<td></td>
<td>Segment</td>
<td>Driver</td>
</tr>
<tr>
<td>Cash – excess deposits</td>
<td>Members</td>
<td>Liquid Deposits: Checking / Savings / Money Market</td>
<td>Members</td>
</tr>
<tr>
<td>Investments</td>
<td>Credit Union</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortgage Loans</td>
<td>Members</td>
<td>Certificates of Deposit</td>
<td>Members</td>
</tr>
<tr>
<td>Auto Loans</td>
<td>Members</td>
<td>FHLB Advances / Borrowings</td>
<td>Credit Union</td>
</tr>
<tr>
<td>Credit Cards</td>
<td>Members</td>
<td>Equity</td>
<td>Calculated</td>
</tr>
<tr>
<td>Business Lending</td>
<td>Members</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Preparing management and ALCOs for the future

**Management as Your Client** – preparing clients for the future is actually more important than reviewing current performance. Management, ALCO and the Board need to be prepared for future risks.

**Define Acceptable Risk** – Without clear risk parameters, portfolio managers may be left to imply risk tolerance from statements. Credit unions need to define the balance between income and preservation (“safety”) they are willing to accept.

**Assessing Yield Curve Shifts** – Rates are not likely to move in “parallel and instantaneous” 100 basis point increments. Reviewing partial duration, which measures sensitivity to changes along the yield curve, is critical.

**Loan Growth** – If loan growth improves and the portfolio is needed to fund loan growth, does it have sufficient securities that it is “able” to sell?

**Balancing Rate Risk** – Will the credit union need floating rate securities to offset liquid deposits or an improving economy? Does the credit union have sufficient resources to evaluate and monitor floating rate securities?
Lessons Learned from 20+ Years of Client Service

Three lessons from the past that I try to remember:

1. Duration math works – 1st quarter 1994

2. “Yield Greed” will bite you – 1994, Enron & Subprime

3. Total return is great, …until you realize (large) losses
“Michael, an equity portfolio manager I once worked with said to me, ‘investing bonds is easy, you just ladder – mature – repeat.’ I also see many posts on the CFO Council Forum that discuss laddering bonds within the portfolio for cash flow. What advice do you give credit unions on the topic of laddering versus active management of the investment portfolio?”
Laddering vs. Active Management

Maturity Ladders

- Allows diversification of cash flows to meet liquidity needs
- Manage IRR. Avoids locking into bond(s) for set duration
- Usually structured with bullet maturity securities (CDs, Agencies, Treasuries)
- Best suited for CUs with higher loan/share ratios needing liquidity source to fund anticipated loan demand
- Ladders using amortizing securities
- Performance considerations

Active Management

- Items to consider:
  - Current loan/share ratio
  - Economic outlook / Expected loan growth
  - Net Interest Margin (NIM) situation
  - IRR position (loan composition, percent of NMDs in share draft or money market accounts)
  - Experience / Education
- Analytical tools and resources
- Doesn't necessarily preclude laddering
- Can be accretive to NII and NIM when properly managed and monitored
Make the Cash Investment Decision Easy

“Jeff, on average, credit unions are holding 115% more cash than they were 5 years ago.¹ CFOs that I speak with say the hardest decision they have is what to do with all the cash coming into the investment portfolio. How do you address the investment of excess cash?”

¹ Source: Callahan Peer to Peer
Make the Cash Decision Easy: First Step

Without a benchmark for the portfolio, determining the maturity with which to invest excess cash is made easier by assessing available investments and removing the losers.

1. Regularly assess the credit union’s cash position – both current and projected near-term cash
2. Establish “realistic” interest rate scenarios – could have two sets
3. Determine applicable investment horizon – could have a short-term and long-term
4. Assess investment options – easiest to start with Agency notes or current portfolio holdings
5. Risk evaluation – use “can you live with the risks if you are wrong?” as a guide
Make the Cash Decision Easy: Interest Rate Scenarios

My current seven “plausible” interest rate scenarios for a 2-year horizon

• **Little-to-No Change in Rates**
  
  No Change
  
  10-Year = 1.5%  (average yields during 6/30/12 – 7/31/12)
  10-Year = 2%  (average yields during 8/31/11 – 4/30/12)

• **Rates Higher with no Action by Federal Reserve**
  
  10-Year = 3%  (average yields during 6/29/10 – 6/30/11)
  10-Year = 3.5%  (average yields during 12/16/10 – 4/15/11)

• **Rates Higher with Action by Federal Reserve**
  
  10-Year = 3% with (1) 25bp rate increase by the Fed
  10-Year = 3.5% with (2) 25bp rate increases by the Fed
Investing Cash – No Change in Rates

Yield and total return of 1-10 year Agency notes if rates do not change over the next two years. Calculations assume bonds “age” down the yield curve over the two year period.

Securities contained in Bank America Merrill Lynch (BAML) 1-10 Year Agency Universe (G5PB). Prices as of 01/02/13 from BAML system via Bloomberg. Total return calculations performed by YieldBook.
Investing Cash – No Change in Rates

Assess the return profile of Agency notes if rates “don’t change” reveals 4 periods of returns: (A) 1/15 – 7/15, (B) 7/15 – 12/15; (C) 3/16 – 12/17 & (D) 1/18 – 9/22.

Securities contained in Bank America Merrill Lynch (BAML) 1-10 Year Agency Universe (G5PB). Prices as of 01/02/13 from BAML system via Bloomberg. Total return calculations performed by YieldBook.
Investing Cash – Multiple Scenarios

Yield and total return of 1-10 year Agency notes over the next two years in multiple rate scenarios. Calculations assume bonds “age” down the yield curve of the two year period.
Investing Cash – Multiple Scenarios

Maturities in June 2016 – June 2017 ("A") have a return advantage while July 2017 – July 2018 maturities ("B") provide some upside with limited downside in 3 of 4 rising rate scenarios.

Securities contained in Bank America Merrill Lynch (BAML) 1-10 Year Agency Universe (G5PB). Prices as of 01/02/13 from BAML system via Bloomberg. Total return calculations performed by YieldBook.
Assessing Investment Options

VIII. “Jeff, you mentioned earlier in the presentation that you were asked to increase the interest income from the portfolio; but I know you also have talked to me about the need to preserve principal ‘if you are wrong.’ How did you assess and present this investment decision?
Security Selection & Investment Decision

Objective: Generate an additional $250,000 in net investment income

There are three options to increasing the book income by $250,000 per year: (1) extend duration, (2) add credit or mortgage risk and (3) expand permitted investments.

The key assessment is, “can the credit union live with the risk if it is wrong?”

1. Establish “realistic” interest rate and credit scenarios
2. Determine applicable investment horizon
3. Identify currently holdings with lowest book yield
4. Assess investment alternatives
5. Compare performance and risks of current holdings to new holdings
Assessing Investment Options

10-year CMBS would appear to be a better option than 7-year CMBS for reinvest of the proceeds from selling lower yielding floating rate CMOs as it requires less money and has a higher yield.

<table>
<thead>
<tr>
<th>Swap Summary</th>
<th>Swap into 10-year Agency CMBS</th>
<th>Swap into 7-year Agency CMBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swap Amount</td>
<td>$14 million</td>
<td>$28 million</td>
</tr>
<tr>
<td>% of Portfolio</td>
<td>1.7%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Sell Book Yield</td>
<td>0.67%</td>
<td>0.67%</td>
</tr>
<tr>
<td>Buy Yield</td>
<td>2.15%</td>
<td>1.39%</td>
</tr>
<tr>
<td>Realize Gain/Loss on Sell</td>
<td>+17,000</td>
<td>+$30,000</td>
</tr>
<tr>
<td>Change in Portfolio Avg. Life</td>
<td>+0.09 years</td>
<td>+0.06 years</td>
</tr>
<tr>
<td>Change in Portfolio Duration</td>
<td>+0.14</td>
<td>+0.17</td>
</tr>
<tr>
<td>Portfolio Duration after Swap</td>
<td>2.44</td>
<td>2.47</td>
</tr>
<tr>
<td>Additional Interest Income</td>
<td>+200 – 257,000</td>
<td>+230 – 262,000</td>
</tr>
</tbody>
</table>

Data and analysis as of 10/27/12. Calculations by YieldBook. Investment horizon is Fed’s mid-2015 low interest rate date (6/30/15).
Comparing Risks of Investment Options

The 7-year CMBS option, though, becomes a better investment to the 10-year CMBS when balancing for the risk of having to sell the position at a “sizeable” loss in the future if rates rise.

<table>
<thead>
<tr>
<th>Unrealized Gain/(Loss) Of Swap In Interest Rate Scenarios</th>
<th>Swap into 10-year Agency CMBS</th>
<th>Swap into 7-year Agency CMBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swap Amount</td>
<td>$14 million</td>
<td>$28 million</td>
</tr>
<tr>
<td>No Change</td>
<td>$407,000</td>
<td>$412,000</td>
</tr>
<tr>
<td>10yr = 1.5%</td>
<td>$683,000</td>
<td>$535,000</td>
</tr>
<tr>
<td>10yr = 2%</td>
<td>$259,000</td>
<td>$396,000</td>
</tr>
<tr>
<td>10yr = 3%</td>
<td>($604,000)</td>
<td>($173,000)</td>
</tr>
<tr>
<td>10yr = 3.5%</td>
<td>($948,000)</td>
<td>($284,000)</td>
</tr>
<tr>
<td>10yr = 3.0% &amp; 1 Fed Action</td>
<td>($768,000)</td>
<td>($366,000)</td>
</tr>
<tr>
<td>10yr = 3.5% &amp; 2 Fed Actions</td>
<td>($1,274,000)</td>
<td>($808,000)</td>
</tr>
</tbody>
</table>

Data and analysis as of 10/27/12. Calculations by YieldBook. Investment horizon is Fed’s mid-2015 low interest rate date (6/30/15).