Creating An Optimal Investment Policy
Monte Combe

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Optimal Investment Policy Framework

- Process
  - ALM Analysis
  - Strategic Allocation Target
  - Annual Allocation Target
  - Risk Management
  - Investment Portfolio Reviews

- People
  - Asset Managers
  - Investment Portfolio Manager
  - Business Portfolio Manager
  - Risk Manager

- Technology
  - Investment Mandate
  - Risk/Capital Models
  - Scorecards/Objectives
  - Available Asset Classes
  - Operating Constraints

- Strategy
  - Utility Function
  - Multi-Year Performance Targets
  - Multi-Year Portfolio Targets
### Optimal Investment Policy Implementation

- **Minimum Requirements**
  - Utilize widely available contemporary investment policy frameworks
  - Engage value added asset management organization

- **Differentiators**
  - Rationalize investment policy framework to business application using skilled investment resources independent from asset management
  - Manage investment policy execution and evolution with skilled investment resources within business unit

- **Case Study Result**
  - GIC business
  - Smallest business unit in organization able to:
    - Grow by finding unconstrained investments in general account
    - Grow during tight credit-spread environments

### Optimal Investment Policy People Elements

- **Asset Management**
  - Tap full team of professionals across full-range of asset classes

- **Investment Portfolio Management**
  - Investment professional with broad investment management organizational knowledge

- **Business Portfolio Management**
  - Broad business unit/model knowledge

- **Risk Management**
  - Comprehensive risk management framework
  - Focused outsourcing utilized across organization
## Optimal Investment Policy People Differentiators

- **Asset Management**
  - Use of targeted Individuals
  - Expansion to entire team over time
- **Investment Portfolio Management**
  - Asset management experience in critical asset class
- **Business Portfolio Management**
  - Investment management experience
  - Significant resource investment
- **Risk Management**
  - Investment management experience in critical asset class
  - Organizational responsibility combined with portfolio management for better ALM result

## Optimal Investment Policy Technology Elements

- **Investment Mandate**
  - 50 page description of investment objectives, approach, constraints, etc.
- **Risk/Capital Models**
  - Utilize regulator, rating agency, investment management, and corporate parent risk/capital models
- **Scorecards/Objectives**
  - Utilize clear scoring mechanisms for asset managers
- **Available Asset Classes**
  - Utilize full pallet of “offered” asset classes
- **Operating Constraints**
  - Develop clear investment constraints to manage limits in credit quality, liquidity, duration mismatch, etc.
### Optimal Investment Policy Technology Differentiators

- **Investment Mandate**
  - Rely on working relationship and daily interaction between investment management and business unit portfolio management functions
- **Risk/Capital Models**
  - Develop and utilize internal risk/capital models most relevant for particular business model
- **Scorecards/Objectives**
  - Use buy and hold rather than total return strategy
  - Develop scorecards related to volume and precision of execution against specified asset purchases
- **Available Asset Classes**
  - Push new asset classes that fit business model
  - Aggressively overweight some asset classes

### Optimal Investment Policy Process Elements

- **ALM Analysis**
  - Analyze capital and performance results with a combined view of assets and liabilities
- **Strategic Allocation Target**
  - Targets established to optimize risk/return profile
- **Annual Allocation Target**
  - Establish reasonable short-term targets to move to strategic allocation
- **Risk Management**
  - Establish procedures to manage all risks required by regulator, rating agency, investment management, and corporate parent
- **Investment Portfolio Reviews**
  - Participate in all standard investment management reviews
## Optimal Investment Policy Process Elements

<table>
<thead>
<tr>
<th>Element</th>
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<tbody>
<tr>
<td>• ALM Analysis</td>
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<tr>
<td>• Analyze segmented combinations of assets and liabilities</td>
</tr>
<tr>
<td>• Annual Allocation Target</td>
</tr>
<tr>
<td>• Allow for significant variances from annual targets to optimize long-term results</td>
</tr>
<tr>
<td>• Risk Management</td>
</tr>
<tr>
<td>• Make significant investments in managing specific risks that come from opportunistic and “overweight” investments</td>
</tr>
<tr>
<td>• Investment Portfolio Reviews</td>
</tr>
<tr>
<td>• Establish regular reviews to validate investment hypothesis</td>
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## Optimal Investment Policy Strategy Elements

<table>
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<tr>
<td>• Utility Function</td>
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<tr>
<td>• Multi-Year Portfolio Targets</td>
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</table>
Optimal Investment Policy Feedback

- Imitation is the sincerest form of flattery
Elements of an Ideal Investment Policy

- Robust and diverse Asset Class management expertise
- Disciplined investment process
- Leading edge surplus and FI asset allocation methodologies
- Recognition that liability profiles and risk management views require customization of asset management approach
- Ability to identify attractive risk adjusted relative value opportunities
- Delivery mechanism for a cost effective, customized solution
Insurance Surplus/Pension Plan Methodologies  
*Focus on Absolute Returns*

GEAM Pension Asset Allocation Process

I. Periodic Asset/Liability Study
   - Investment and Liability Inputs
   - Modeling
   - Work With Actuary
   GEAM will work with Client to gather pertinent data for this step of the Asset Allocation Process

II. Target Allocation
   - Optimized
   - Diversified Portfolio
   - Investment Ranges

III. Tactical Asset Allocation Committee
   - GEAM Team
   - Review Market Conditions
   - Provide Feedback to Client

IV. Semi-Annual Investment Review
   - Performance
   - Asset Allocation
   - Market Outlook

V. Semi-Annual Meeting
   - Strategic Asset Allocation Meeting
     - Review Strategic Asset Allocation Targets Due to Changes in Market and Asset Classes
     - Review Investment Performance

Rigorous Process Built on GEPT Foundation

Strategic Decisions
GEAM Capital Market Return Assumptions

Return Assumptions Supported by Bottom-Up Building Blocks...
More Conservative Due to Lower Interest Rates and Inflation

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GE Pension Trust - $55.1B

Allocation as of December 31, 2006

AUM ($B) 22.6 12.1 9.3 10.1 1.0

Note: GE Pension Trust (GEPT) Asset Allocation has been provided solely to illustrate how a large pension plan may invest its assets under certain conditions. However, such allocation is not intended to constitute investment advice, nor sales material, and no conclusions should be drawn concerning the appropriateness of such an allocation for any entity. In addition, the asset allocation indicated above may change from time to time and neither GE Asset Management (GEAM) nor GEPT shall have any responsibility to provide any notice of such change.
Fixed Income Optimization for Portfolios Backing Insurance Reserves (Focus on Net Investment Income)

Insurance Investment Strategies

- GEAM focuses its portfolio construction by evaluating the dynamics of the insurance company to determine:
  - Relatively unconstrained absolute return investing for “surplus” funds, and
  - Constrained fixed income, after tax investment income focused, GAAP reality for public companies
Insurance Investment Process

Customized
- Identify client objectives
  - Investment guidelines
  - Return objectives:
    - Absolute
    - Relative
    - Total
  - Asset / liability management
  - Achieve asset spreads to support product pricing
  - Gain / loss requirements

Fundamentally driven
- Asset allocation
  - Identify asset sector opportunities / risks
  - Analyze supply / demand fundamentals
  - Tax efficient yield curve evaluation
  - Asset allocation recommendation

Security selection and execution
- Bottom-up fundamental research & credit analysis
- Proprietary analytics
- Analyze relative value
- Assess liquidity
- Review compliance limits
- Market presence facilitating best execution

Leverage technology
- Portfolio monitoring
  - Credit surveillance
  - Deep dive sector review
  - Ongoing relative value analysis
  - Duration management

Risk Management
- Independent risk function
- Proprietary risk systems
- Compliance analysis

Disciplined investment process

Portfolio Optimization
- Developed by GE Global Research Center
- Proprietary and patented process to investigate risk-return tradeoff in insurance portfolio management
- Objective: Optimize Risk/Return profile by increasing yield or reducing risk

Input | PROFITS Tool | Output
---|---|---
Liabilities | Optimization | "Sell" list
Holdings | Linear programming and SLP* engine | Purchase targets
Market Availability | Yield | Parametric IR Risk
Risk Appetite | Constraints: 
- Credit 
- Sourcing 
- Cap.Gains 
- ALM | Constraints: 
- Credit 
- Sourcing 
- Cap.Gains 
- ALM

* SLP = Sequential Linear Programming, which can optimize non-linear risks
Portfolio strategies are chosen to meet business objectives and support long-term corporate strategies within a risk management context of:

- Seeking investment opportunities for acceptable returns
- Appropriately quantifying assumed risk
- Identifying risk/return tradeoffs

**GEAM Fixed Income Optimization Methodology**

- The following sample optimization results are for an insurance company with a liability duration of 3 and an asset duration of 6

**Key Rate Duration Profile on next page shows:**

- Breaks out liability duration along the yield curve
- Places the current asset portfolio alongside liabilities, highlighting areas of match and mismatch, and
- Suggests a more optimal portfolio with less expected risk and more projected return

**Risk/Return Improvements of Proposed Repositioning show the key elements of the optimization from two perspectives:**

- After tax net investment income (Book yield view)
- Economic value changes of proposed portfolio under various interest rates scenarios

**Book Yield/Economic Value Views** provide back up detail on the risk/return optimization from both a book yield and economic value perspective

- Our insurance clients typically review both book yield and economic value views, but tend to focus most intently on the metric that best suits them
Key Rate Duration Profile
Liabilities, Current Portfolio, Proposed Repositioning

Risk/Return Aspects of Proposed Repositioning

- Improved Credit Quality From BBB to A
- Reduced A/L Mismatch from 3.10 (yrs) to 2.44 (yrs)
- Improved Book Yield 14 basis points from 6.72% to 8.30% (projected)
- Reduced risk in Standard Deviation of returns from 72.32 to 58.69

Evaluate Average Surplus Development

Book Yield: After Tax Net Investment Income View
Economic Value View
### Book Yield View: Projected Net Investment Income

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Market Yield (%)</th>
<th>Effective Duration of Assets (years)</th>
<th>Effective Duration of Liabilities (years)</th>
<th>Duration Mismatch (years)</th>
<th>Duration Mismatch Improvement (years)</th>
<th>% Assets Exceed Liabilities</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>72.32</td>
<td>58.69</td>
<td>3.06</td>
<td>2.44</td>
<td>-0.66</td>
<td></td>
<td>80%</td>
<td></td>
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<tr>
<td>58.69</td>
<td>55.76</td>
<td>3.06</td>
<td>2.30</td>
<td>-0.81</td>
<td></td>
<td>75%</td>
<td></td>
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<tr>
<td>55.76</td>
<td>52.67</td>
<td>3.06</td>
<td>2.14</td>
<td>-0.96</td>
<td></td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>52.67</td>
<td>49.41</td>
<td>3.06</td>
<td>1.98</td>
<td>-1.13</td>
<td></td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>49.41</td>
<td>45.93</td>
<td>3.06</td>
<td>1.79</td>
<td>-1.31</td>
<td></td>
<td>59%</td>
<td></td>
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<tr>
<td>45.93</td>
<td>42.19</td>
<td>3.06</td>
<td>1.62</td>
<td>-1.49</td>
<td></td>
<td>53%</td>
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<tr>
<td>42.19</td>
<td>38.12</td>
<td>3.06</td>
<td>1.42</td>
<td>-1.68</td>
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<td>46%</td>
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<td>38.12</td>
<td>33.65</td>
<td>3.06</td>
<td>1.20</td>
<td>-1.90</td>
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<td>33.65</td>
<td>28.62</td>
<td>3.06</td>
<td></td>
<td>-2.16</td>
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<td>31%</td>
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</table>

- Current Investment income relevant, especially to stock insurers
- GAAP filers likely to have a strong interest in this viewpoint
- A risk lies in relying too heavily upon “current” yields where sizable portfolio positions are callable, or subject to prepayment

### Economic Value View

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic Value (In $ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>$392</td>
</tr>
<tr>
<td>5</td>
<td>$407</td>
</tr>
<tr>
<td>10</td>
<td>$388</td>
</tr>
</tbody>
</table>

- Viewpoint may be most palatable for a well-capitalized mutual life or P/C insurer
- Process easily extendable to stochastic, or sampled stochastic realm, as principles-based reserving approaches are implemented
- Approach lends itself to better tail risk management strategies
- Useful as an additional view in conjunction with book yield
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Disclosure Notes

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