CURRENT TOPICS

UW-MADISON RETIREMENT ASSOCIATION

KEITH BOZARTH

APRIL 19, 2011
SWIB’S JOB

Make Money

Manage Risk

Control Cost
### Ongoing Recovery from 2008

<table>
<thead>
<tr>
<th>Fund</th>
<th>2009</th>
<th>2010</th>
<th>2011 YTD*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Trust Fund</td>
<td>22.4%</td>
<td>12.4%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Variable Trust Fund</td>
<td>33.7%</td>
<td>15.6%</td>
<td>5.6%</td>
</tr>
</tbody>
</table>
ECONOMIC RECOVERY

• Global recovery appears ongoing, BUT:
  – Oil Price Spike?
  – Euro area debt crisis?
  – Further U.S. home price decline?
  – Emerging Market inflation?
  – China?
  – U.S. monetary and fiscal policies?
ECONOMIC ASSUMPTIONS

• Capital Market Expectations:
  – What **Investment Return** should you expect over the long term?

• Wage Expectations:
  – What will **Wage Growth** be over the long term?

• Together they influence the current required contributions

• An ETF decision, but SWIB advises
DECLINING RETURN EXPECTATIONS
December 2001

<table>
<thead>
<tr>
<th></th>
<th>Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Equity</td>
<td>57.0%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>34.0%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>4.0%</td>
</tr>
<tr>
<td>Alternatives</td>
<td>5.0%</td>
</tr>
<tr>
<td>Cash</td>
<td>0.0%</td>
</tr>
<tr>
<td>Expected Return</td>
<td>8.46%</td>
</tr>
<tr>
<td>Expected Risk</td>
<td>11.54%</td>
</tr>
</tbody>
</table>
# Declining Return Expectations

**December 2010**

<table>
<thead>
<tr>
<th>Allocation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Equity</td>
<td>55%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>29%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>6%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>6%</td>
</tr>
<tr>
<td>Active Risk</td>
<td>1%</td>
</tr>
<tr>
<td>Multi-Asset Strategies</td>
<td>3%</td>
</tr>
<tr>
<td>Cash</td>
<td>0%</td>
</tr>
<tr>
<td>Expected Return</td>
<td>7.56%</td>
</tr>
<tr>
<td>Expected Risk</td>
<td>12.64%</td>
</tr>
</tbody>
</table>
VERY SLOW JOB RECOVERY

Percent Job Losses in Recessions:
Total Nonfarm Payroll - All Employees

Source: U.S. Department of Labor; Bureau of Labor Statistics
Monthly, Seasonally Adjusted, 2007 numbers are ex-census
ASSUMPTION CHANGES

• Previous
  – Investment Return – 7.8%
  – Wage Growth – 4.0%

• Current
  – Investment Return – 7.2%
  – Wage Growth – 3.2%
Risk Management

• Qualified and Adequate Staffing
• Judicious Use of External Resources
• Alignment of Incentives
• Asset Allocation Appropriate to Liabilities
• Robust Monitoring Structure
STAFF QUALIFICATIONS

• Total Employees 124
• PhD 3
• MBA 46
• Masters degrees other than MBA 11
• Chartered Financial Analysts (CFA) 35
• Completed CFA exams, but not yet chartered 4
• Attorneys 6
• Certified Public Accountants 24
EXTERNAL ADVISORS

Primary Consultants
- Asset Allocation
- Manager Monitoring
- Benchmarking

Specialty Investment Consultants
- Private Equity
- Real Estate
- Hedge Funds
- Risk Parity
- Manager Search

Governance Consultants
- Governance
- Fiduciary Counsel
ALIGNMENT OF INTERESTS

• Significant portion of staff pay depends on performance
• Primary focus on 5-year results, not 1-year
• Core Fund results affect all staff
• Virtually all staff are “at-will”
• Employers, employees and retirees share in results
• Use performance fees where sensible
ASSET ALLOCATION CONSIDERATIONS

Manage Risk

Core Fund Asset Allocation 2010
- Equities: 55%
- Fixed Income/TIPS: 30%
- Private Markets: 12%
- Multi-Asset: 3%

Contribution to Risk 2010
- Equities: 87%
- Fixed Income/TIPS: 8%
- Private Markets: 2%
- Multi-Asset: 3%

Legend:
- Equities
- Fixed Income/TIPS
- Private Markets
- Multi-Asset
CONTROL AND MONITORING STRUCTURE

Board Audit Committee

Internal Audit
- Risk Assessment
- Annual Audit Plan
- Audit Reports

Staff Compliance Committee
- Internal Control Plan
- Compliance Monitoring
- Best Practice Reviews
- Risk Reviews

Legislative Audit Bureau
- Annual Financial Statement Audit
- Semi-annual Economic Interest Review
- Biennial Performance Evaluation Audit
ENHANCED TOOLS

• Research Management
• Risk Aggregation
• Collateral Management
• Market Data Management System
• Counterparty Risk Mitigation
COMPARISON WITH PEERS*

- SWIB 5-year **policy return** exceeded U.S. median and peer median
- SWIB 5-year **value added** equal to U.S. median and above peer median
- **Low cost fund** because of implementation style and paid less for external management
- **Total risk** comparable with U.S. median

*Report prepared by CEM Benchmarking Inc. on Core Fund investment benchmarking results for five year period ending December 2009.
CONTINUING RESOURCE NEEDS

Cutter Associates
Benchmark Findings on Support Functions

• “SWIB needs to increase IT and Operations capacity through adding staff, outsourcing and examining / improving internal processes”

March 2010
CONTINUING RESOURCE NEEDS

Hewitt EnnisKnupp, Internal Portfolio Review

• “While the current portfolio management teams are strong, there does not appear to be resources available to step in should SWIB lose a key investment professional.”

• “In a few areas of SWIB’s internal asset management capabilities, resource constraints have prevented full research coverage of the investment opportunity set.”

March 2011
## Current Process for Obtaining SWIB Staffing

<table>
<thead>
<tr>
<th>Steps</th>
<th>Timeline Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWIB develops request for positions and Board approves.</td>
<td>None</td>
</tr>
<tr>
<td>Request is submitted for review to DOA budget office.</td>
<td>No required timeline for review</td>
</tr>
<tr>
<td>Request is submitted to Legislature for passive review.</td>
<td>14 days</td>
</tr>
<tr>
<td>• Request is approved if no hearing requested.</td>
<td></td>
</tr>
<tr>
<td>• Legislature can schedule a hearing to discuss requirements.</td>
<td>No required timeline for hearing</td>
</tr>
<tr>
<td>During state position freezes, request must be resubmitted to DOA for approval to fill each specific position.</td>
<td>No required timeline for review</td>
</tr>
<tr>
<td>Begin recruitment.</td>
<td></td>
</tr>
</tbody>
</table>