University of Florida Investment Corporation (UFICO)

- Established in June 2004
- Provides investment research, counsel and investment management to UF and affiliated entities
- Outsourced investment office
- Platform enables customized allocation for investors
- Potential to manage non-UF related assets in the future
UFICO Investment Pool

- $1.8 B assets under management
- 14 investment portfolios
- Nine investors
• Approval authority
  – Strategic Investment Policy for the endowment
  – Broad asset allocation for various asset pools
  – Investment decisions involving greater than 2% of pooled assets
  – UFICO strategic objectives & budget

• Oversight authority
  – Performance monitoring of various asset pools
  – Input in manager selection process
Governance Structure
UFICO Staff Responsibilities

• Investment Strategy Development and Implementation
  – Asset allocation development
  – Asset allocation rebalancing
  – Portfolio construction
  – Manager searches
  – Manager evaluation

• Investment Portfolio Monitoring
  – Portfolio risk management
  – Performance measurement
  – Performance reporting
  – Performance and attribution analyses

• Other
  – Capital markets monitoring
UFICO Organizational Structure

Douglas Wynkoop
President and Chief Investment Officer

Kim Doak
Office Manager and Assistant to the CIO

Edward Kelly
Chief Operating Officer

Peter Landauer
Director of Private Investments

Rakesh Dahiya
Director of Marketable Strategies

Jimmy Humphries
Associate Controller

William Twible
Analyst

Brandon Baker
Senior Analyst

Richard Ritari
Accounting Coordinator & IT Administrator

Brett Gasaway
Analyst Intern

Jeff Masse
Analyst Intern

Jennifer Purdee
Office Assistant

(open position)
Analyst

Investments Staff

Operations Staff
Three Takeaways from Today’s Presentation

• Asset-liability framework for managing an endowment

• The “Endowment Model”

• How has the endowment model changed post financial crisis of 2008?
Defining an Endowment

• Donation of money to an institution
• Restricted or general use
• Provides ongoing operational budget support for the University
• A perpetual entity
• Represents the University’s financial strength
• Non-profit status as an investor
University of Florida
Purpose of Endowment Funds

Program and Research Funds

Professorship and Chair Funds

Scholarship and Fellowship funds

852
348
1,505
Three Pillars of Endowment Management

Endowment Objectives

Investment Policy

Spending Policy
Intergenerational Equity

• The principle that an institution’s spending rate must not exceed real compounded return, so that investment gains are spent equally on current and future constituents of the endowed assets

• “Trustees of endowed institutions are the guardians of the future against the claims of the present. Their task in managing the endowment is to preserve equity among generations.” – James Tobin, 1974
Financial Objectives

• To fund current and future operational needs
• To maintain intergenerational equity
• To maintain purchasing power
  – Preserve the corpus
  – Grow the endowment in real terms
• Financial objectives set by University’s financial executives
Spending Policy
Items to Consider

• Operating budget support
  – UF: 3%
  – Yale: 37%
  – Harvard: 32%
  – NACUBO average: 17%

• Overall fiscal health of the institution

• Alternative source of revenue
Spending Policy
Desired Attributes

- Imbedded flexibility
- Reflects growth in endowment assets
- Avoids nominal spending declines
- Avoids large variability in spending
- Spending level consistent with preserving long-term real purchasing power
- UF spending rate: 5.3% of current market value
- Spending policy set by University’s financial executives
• Investment Policy represents optimal investment strategy given financial objectives and spending policy

• UF investment objective
  – Achieve a total rate of return in excess of sum of Spending + Expenses + Inflation

• UF return objective: 8.3% nominal (5.3% real)
  – Spending = 4.0%
  – Expenses = 1.3%
  – Inflation = 3.0%

• Investment policy set by the UFICO board and staff
Policy Interdependence
Each Pillar Affects the Others
Investment Objective
Achieving 5% Real is Not Easy

Value of $1,000 with a 70% Stock/30% Bond Mix and 5% Spending, Using 3-Year Smoothing, 1960 – 2006

Sources: S&P, Lehman Brothers, Ibbotson, US Dept of Labor
Investment Objective
Conservatism Needed in Spending Rate

Growth of $1,000, Inflation Adjusted, 70% Stock/30% Bond Mix, Using Three-Year Smoothing, 1960 – 2006

Sources: S&P, Lehman Brothers, Ibbotson, US Dept of Labor
Investment Objective
UF Experience

Purchasing Power

Source: UFICO
Endowment Model

Key Concepts

• Long investment horizon and large return requirement lead to…
  – Bet on equity risk-premium
  – Minimum allocation to fixed income and cash

• Exploit illiquidity asset class

• Diversify into alternative strategies

• Align interest with investment managers
Endowment Model
Actual asset Allocation as of June 30, 2011

Public Equity 30% 26%
Private Equity 15% 19%
Natural Resources 12% 8%
Real Estate 10% 7%
Hedged Strategies 23% 23%
Fixed Income 13% 8%
Cash 2% 4%

Sources: UFICO, 2010 NACUBO Endowment Study, dollar-weighted averages
Endowment Model
Trends in asset allocation

Asset Weightings in Large US Endowments (Year Ended June 30)

Source: 2010 NACUBO Endowment Survey, dollar-weighted averages
Endowment Model
Larger Endowments Have Fared Better

Annualized Returns of US Endowment Funds by Size

Source: 2010 NACUBO Endowment Study
Lessons from Financial Crisis
Diversification & Correlation

Before
• Diversification - only free lunch
• Diversification used as an argument to invest in esoteric asset classes

After
• Diversification works during “normal” times but breaks down during stressed periods
• Linkages between geographies and asset classes
• Investors are either risk seeking or risk averse
• Tail hedging needed to protect against unacceptable outcomes
Lessons from Financial Crisis
Liquidity Needs

Before
• Endowments have infinite investment horizon
• Endowments should exploit illiquid asset classes

After
• Illiquidity premium too small
• Endowments have finite liquidity
• Mandatory liquidity needs: spending & capital commitments
• Limit to private equity allocation
• Re-think on fixed income portfolios
Endowment Investment Management

Rakesh Dahiya, CFA

January 13, 2012
Back-up Slides
Dynamic asset allocation
- Asset allocation changes with developing opportunities
- Wider rebalancing bands to provide maximum flexibility
- Cash has an option value

Focus on liquidity
- Limit to how much illiquidity endowments can handle
- Lower allocation to illiquid asset classes

Focus on individual objectives
- Investment strategy tailored to the needs/resources of the University
- Higher focus on long-term objectives of the University
- Less focus on investment choices of peers
Dynamic Asset Allocation
Awareness of Regime

- Differences in asset returns largely reflect differences in discounted economic conditions.
- Growth and Inflation two dominant economic factors that affect asset returns
  - The amplitude of these two factors is different for different asset class.
  - The correlation of these two factors is different for different asset class.
- Which regime are we likely to be in the future?

<table>
<thead>
<tr>
<th>Growth</th>
<th>High</th>
<th>Low</th>
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<tbody>
<tr>
<td>High</td>
<td>Commodities, Precious Metals</td>
<td>Equities, Corporate Spreads</td>
</tr>
<tr>
<td>Low</td>
<td>Real Bonds</td>
<td>Nominal Bonds</td>
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Investment Risk Management
Market Risk

• General philosophy
  – Permanent loss of capital, not volatility, is the real risk
  – Traditional risk measures are backward looking and don’t address fat tail events
  – Lean qualitative over quantitative

• Key Concepts
  – Diversification
  – Maintain appropriate liquidity to avoid forced selling
  – Define “unacceptable outcome” and curtail tail risk
  – Flexibility in asset allocation to take advantage of greed & fear cycles
• Liquidity risk a significant byproduct of the “endowment model”
• Liquidity risk mispriced during the financial crisis; liquidity premium too low
• Avoid becoming forced seller of risky assets at market troughs
• Claims on liquidity
  – Mandatory – capital calls, spending
  – Discretionary – take advantage of developing opportunities in the market
• Rethink on asset allocation
  – Objectives of fixed income
  – Amount allocated to privates
• Wider dispersion in performance among managers in alternative asset classes
• General philosophy: large AUM can dampen return potential
• Desired attributes
  – Appropriate AUM size for the strategy
  – Experienced team
  – Alignment of interest with investors
  – Sound and consistent investment process
  – Value orientation – margin of safety approach
  – Relatively concentrated portfolios
  – Single product focus
  – Lean decision-making structure
  – Quality investor base
Lessons from Financial Crisis
Investment Management Industry

Before
- Managers generally act in the best interest of their clients
- Managers limit assets and protect prospective returns
- Managers protect clients by steering risk away from frothy asset classes

After
- Managers are generally driven by profit motives
- Managers tend to be too bullish on their asset classes
- Investors need to adjust managers’ forecasts for bullish bias
- “Permanent bullishness does not serve the clients well.” – Jeremy Grantham
- “Doubt everything.” – Howard Marks
Lessons from Financial Crisis
Hedge Funds

Before
• Hedge funds provide diversification and downside protection
• Hedge funds generally invest in liquid strategies
• Leverage can enhance returns

After
• Many strategies are levered betas, not alpha. Choose wisely.
• Hedge fund structures and strategies can significantly reduce the overall liquidity of a fund
• No free lunch: Total Return = Risk Free Return + Market Risk Premium + Manager Skill
• Leverage works both ways
Asset Class Objectives

• Public Equity
  – Return generation - capture equity risk premium

• Private Equity
  – Return generation - capture equity risk premium and illiquidity premium; diversification

• Natural Resources
  – Return generation; diversification; inflation protection

• Real Estate
  – Diversification; inflation protection

• Hedge Funds
  – Equity-like returns; volatility dampener; diversification

• Fixed Income
  – Liquidity and safety; diversification

• Cash
  – Liquidity; fund operations; option value
Modeling Purchasing Power

• Monte Carlo Simulation

• Inputs
  – Spending policy
  – Expense expectations
  – Investment policy
  – Simulate future inflation and investment returns

• Calculate probability of maintaining purchasing power

• More than 50%, spending too much; less than 50%, spending too little
Higher Education Price Index and the Consumer Price Index (Fiscal Years 1961–2011)

HEPI vs. CPI