

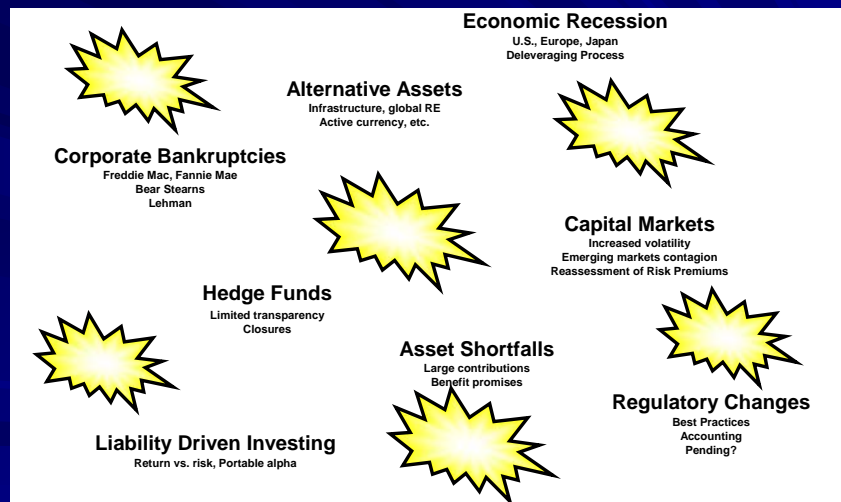
# THE ASSET MANAGEMENT PROCESS - AN OVERVIEW -

Monday, September 22, 2008

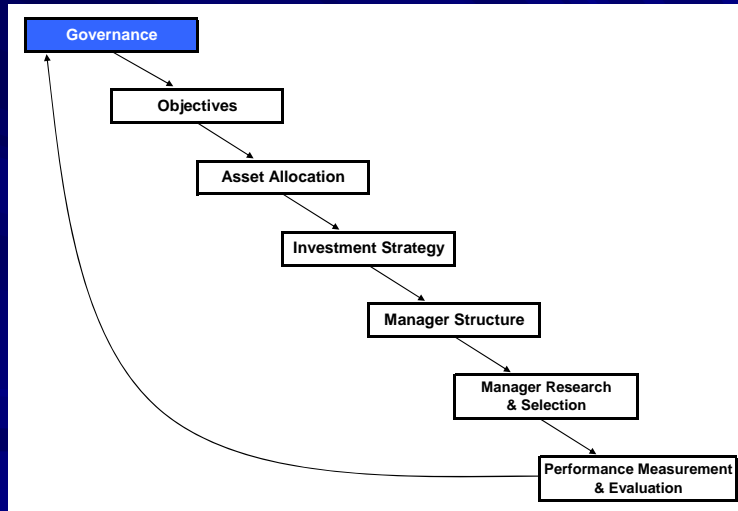


William W. Moriarty  
President and CEO, UTAM

## Interesting times.....

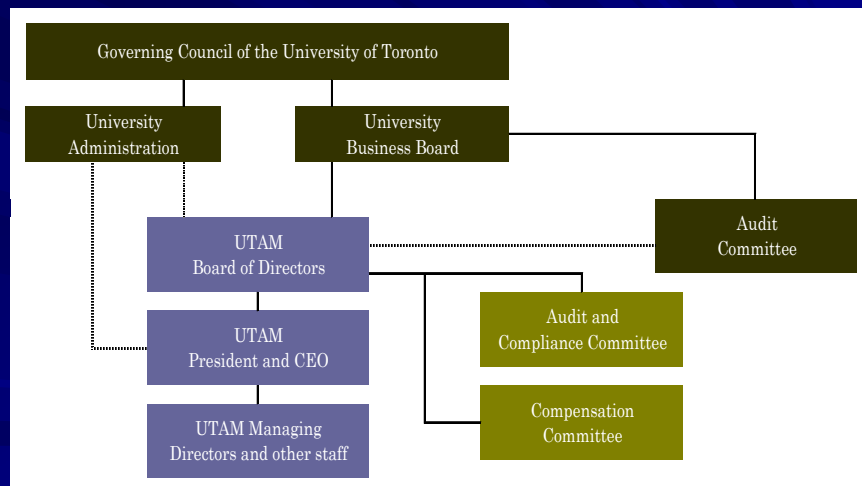


# Asset Management Decision Flow



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# Organization Chart



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## **Business Board Terms of Reference with Respect to UTAM**

- Approval of Delegation of Authority to UTAM
- Approval of the investment policies for University funds and pension funds
- Authorize President or designate responsibility to negotiate an investment management agreement between the University and UTAM and to prepare a Pension Statement of Investment Policies and Procedures (SIP&P)
- Receipt of reports on investment performance

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## **University Investment Policies**

- University Funds Investment Policy
- Pension Fund Master Trust Investment Policy
- Long Term Capital Appreciation Policy
- Policy for the Preservation of Capital of Endowment Funds

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# UTAM Board of Directors

(as of June 30, 2008)

Ira Gluskin - Chair  
- Independent

Robert W. Morrison - Vice Chair  
- Independent

Sheila Brown - Administration Representative

Catherine A. Delaney - Independent

William E. Hewitt - Independent

Eric F. Kirzner - Chair, Audit & Compliance Committee  
- Academic Staff Member

Florence R. Minz - Governing Council Member

William W. Moriarty - UTAM President & CEO

Catherine J. Riggall - Administration Representative

Thomas H. Simpson - Chair, Compensation Committee  
- Independent

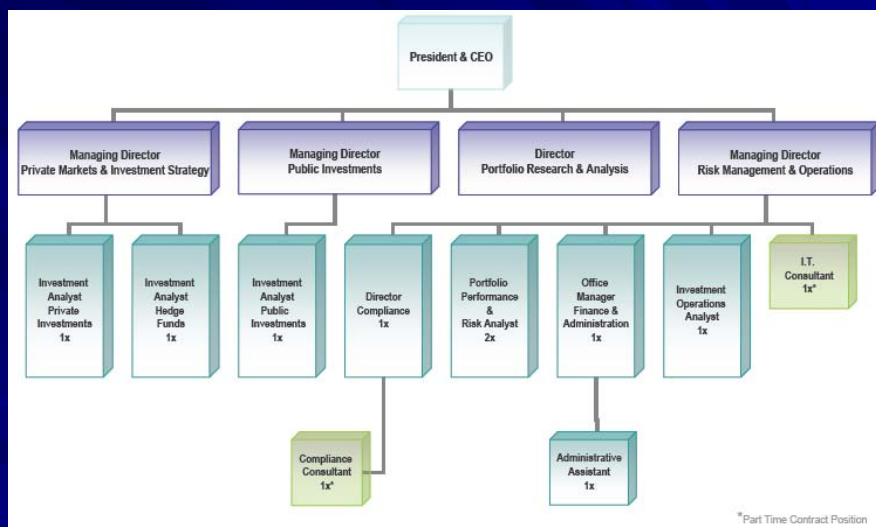
Bonita Then - Independent

John Varghese - Independent

Neil H. Dobbs - Secretary to the Board

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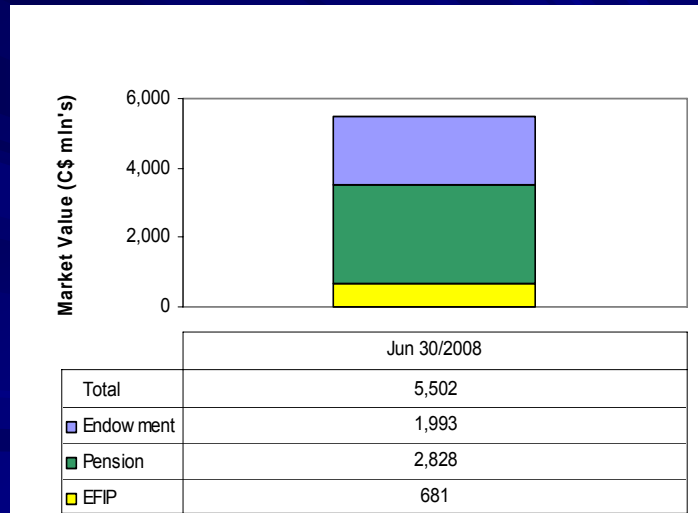
# UTAM Organizational Chart



\*Part Time Contract Position

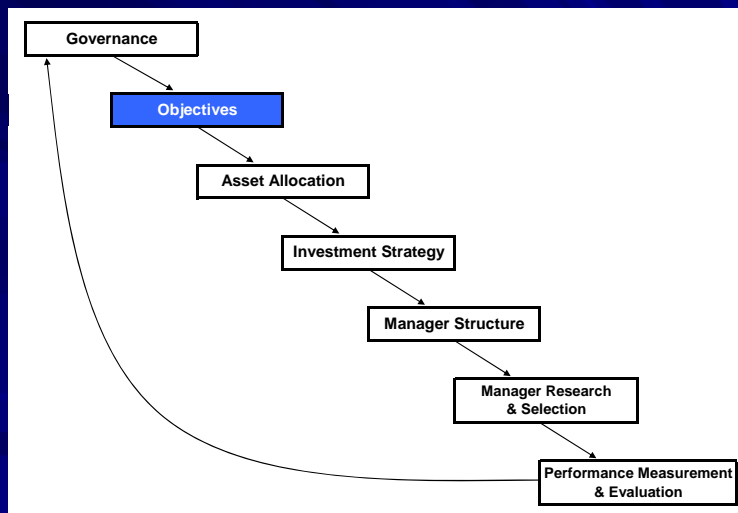
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# Assets Under Management (as at June 30, 2008)



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# Asset Management Decision Flow



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## Establishing Objectives is a Key Building Block

- Encourages decision-makers to focus on key priorities
- Protects sensible long-term policies and strategies from ad-hoc revision
- Provides continuity and discipline through times of change
- Demonstrates clear thinking, planning and attention to fiduciary responsibilities
- Promotes communication among decision-makers and advisors
- The whole concept of risk and risk management is central to objective setting

Source: Russell Investments

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## Risk - A Key Fiduciary Question

- Risk is the constant companion of return
  - Some risks are unrewarded and should be avoided
  - Those risks that offer a reward can (and must) be managed
  - Risk and return are inseparable, so some amount of risk is desirable
- The challenge is to determine the best possible expected return for a given level of risk
- There is no limit to how much return is desired, but there is a limit to how much risk you can tolerate

Source: Russell Investments

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## What is Risk Tolerance?

- Risk tolerance is the ability to suffer a loss (absorb risk) without dramatically changing long term policy or strategy
- Few committees know their true tolerance
  - In many cases the true risk tolerance is only known when tested by market experience

Source: Russell Investments

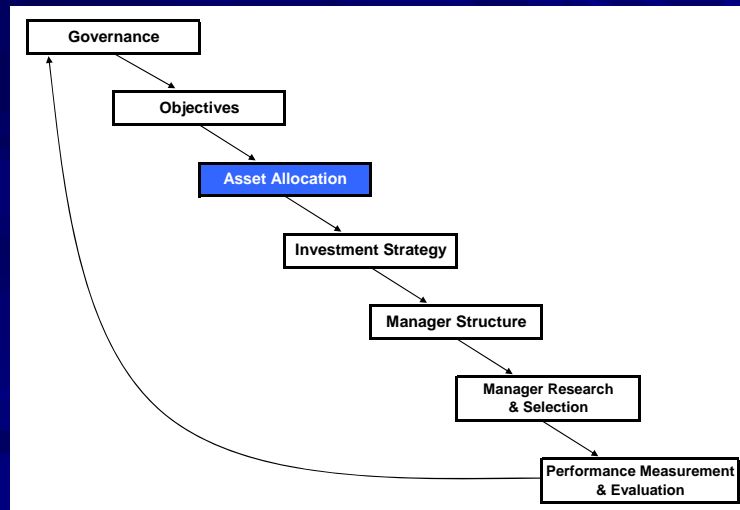
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## Return Expectations & Risk Tolerances

	Return Objective	Risk Target
<b>PENSION FUND</b>	4% real over a 10 year period	annual std. dev. of 10% or less over 10 year period
<b>ENDOWMENT FUNDS</b>	4% real over a 10 year period	annual std. dev. of 10% or less over 10 year period
<b>EFIP</b>	1 year T-bill return plus 50bp	Minimum risk

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# Asset Management Decision Flow



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## Importance of Asset Allocation

- Establishing asset mix policy is one of the key UTAM Board responsibilities
- The goal of asset allocation is to select a long-term policy that has the best chance of achieving the desired financial outcome within the desired risk tolerance
- Establishes a “road map” for implementation

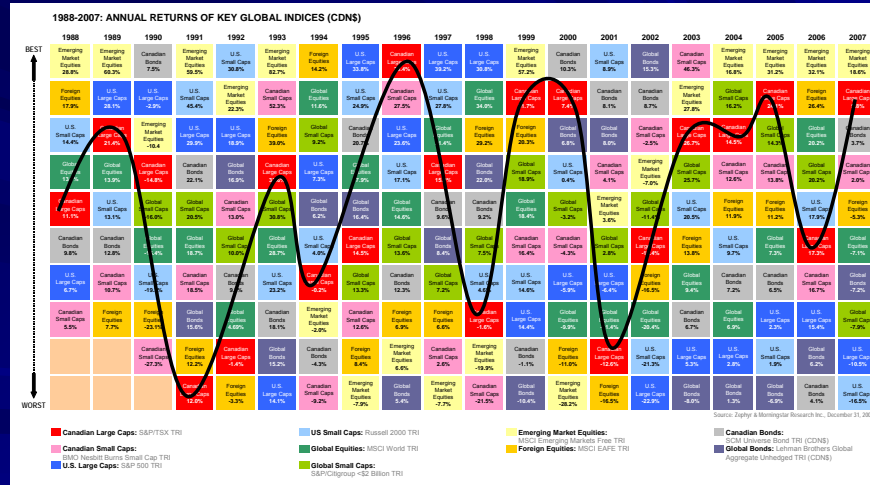
Source: Russell Investments

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# Investing is Difficult

No single asset class has been a consistent top performer



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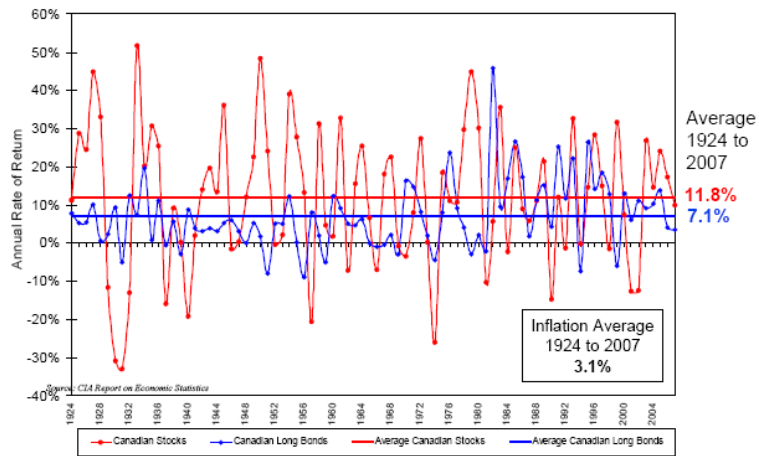
## Understanding Asset Class Behaviour

- We characterize asset class behaviour using three statistical measures:
  - Expected return
  - Standard deviation - measures risk, or volatility
  - Correlation - describes how closely the returns of two investments move together
- Estimating future characteristics is difficult!
  - Historical data analysis is a practical start

Source: Russell Investments

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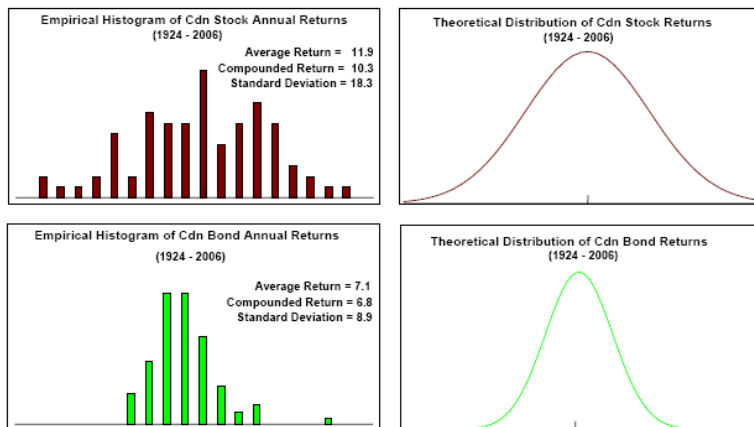
## Canadian Stock and Bond Returns Nominal Returns: 1924-2007



Source: Russell Investments

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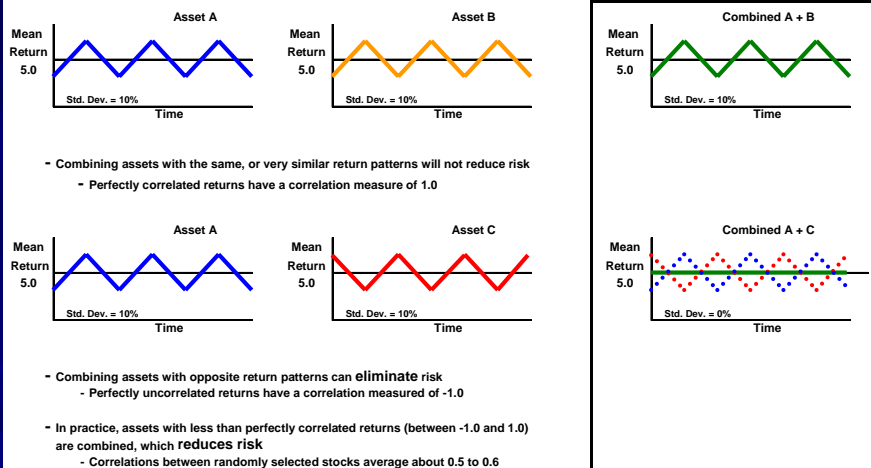
## Return Distributions



Source: Russell Investments

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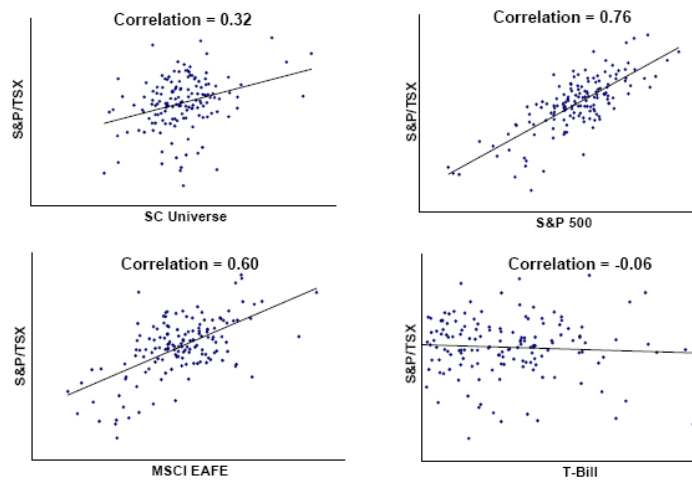
# Correlation & Risk Reduction



Source: Russell Investments  
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## Correlations of Quarterly Returns

(1970 - 2006)

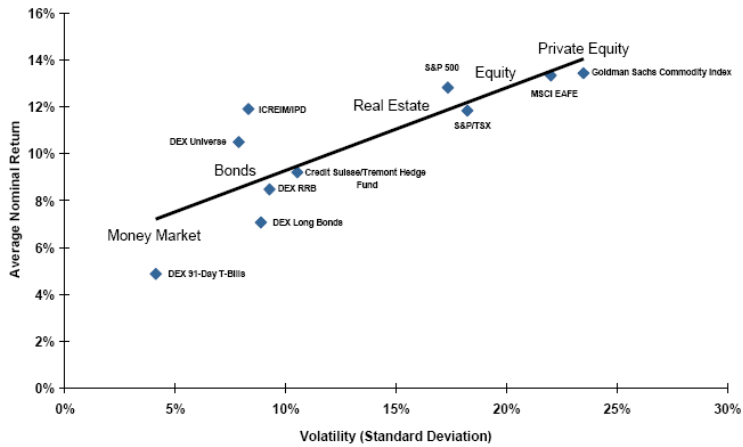


Source: Russell Investments

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## Actual Returns And Ordinal Rankings of Returns

### The Risk vs. Reward Trade-Off\*



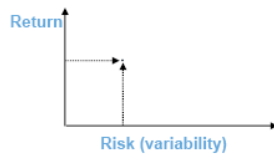
\*Results Calculated over various time horizons ending 2007

Source: Russell Investments

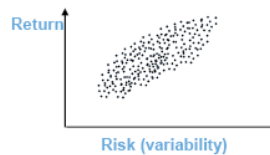
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## Mechanics of Portfolio Risk Reduction and the Efficient Frontier

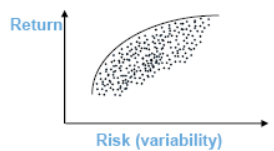
- Any portfolio can be expressed as a risk/return combination



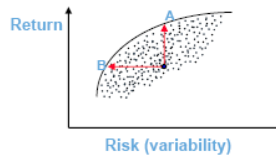
- Computers can do the same calculation for a large number of portfolios



- The efficient frontier



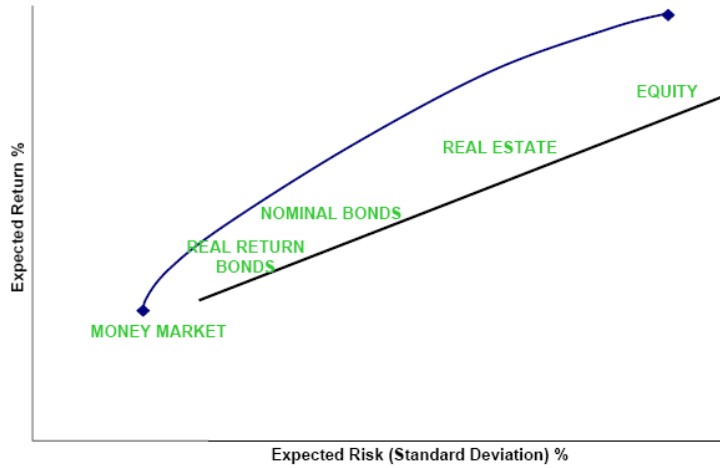
- Portfolios on the frontier are preferable to those under the frontier



Source: Russell Investments

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## Capital Market Line and Efficient Frontier



Source: Russell Investments

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## Capital Market Assumptions 10-year Horizon

	Canadian Equity	U.S. Equity	EAFE Equity	Canadian Bonds	Absolute Return	Private Equity	Real Estate	Commodities	Canadian RRB's	Global RRB's	Global Bonds	US Bonds	Emerging Markets Equity
Expected Return <sup>1</sup>	6.50%	7.50%	6.50%	5.00%	6.00%	11.00%	6.00%	7.50%	5.00%	6.00%	6.00%	4.50%	12.50%
Standard Deviation	20.00%	18.00%	18.00%	5.50%	5.00%	25.00%	13.00%	25.00%	5.00%	5.00%	6.50%	6.50%	30.00%
<b>CORRELATIONS</b>													
Canadian Equity	1												
U.S. Equity	0.75	1											
EAFE Equity	0.7	0.75	1										
Canadian Fixed Income	0.05	0.05	0.05	1									
Absolute Return	0.55	0.6	0.55	0.3	1								
Private Equity	0.65	0.65	0.65	0.2	0.25	1							
Real Estate	0.2	0.25	0.2	0.05	0.15	0.1	1						
Commodities	0.3	0	0	0	0.1	0	0	1					
Canadian RRB's	0.1	0.05	0	0.4	0.1	0.05	0	0.15	1				
Global RRB's	-0.1	-0.2	-0.3	0.6	0	0.1	0	0.1	0.6	1			
Global Bonds	-0.25	-0.2	-0.2	0.7	-0.1	-0.1	0.05	0	0.1	0.6	1		
U.S. Bonds	-0.1	0.05	-0.2	0.7	-0.1	-0.1	0.05	0	0.1	0.6	0.6	1	
Emerging Markets Equity	0.8	0.7	0.6	0	0.5	0.55	0.1	0.2	0	0	0.05	-0.2	1

<sup>1</sup> Nominal Returns. Assumed inflation at 3.5%. Assumed all returns are fully hedged into CAD.

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## Guiding Principles For Fiduciaries

- Keep the true capability of modelling in perspective
  - Models cannot foretell the future, they only project the assumptions
  - Outcomes are very sensitive to the assumptions
  - Mathematical modelling solutions must be complemented by investment logic and well-founded beliefs
  
- Despite its limitations, asset-liability modelling is a valuable process
  - To improve understanding of fund dynamics
  - To reassess existing policies
  - Consider new policies
  - Evaluate new asset classes with reliable data history

Source: Russell Investments

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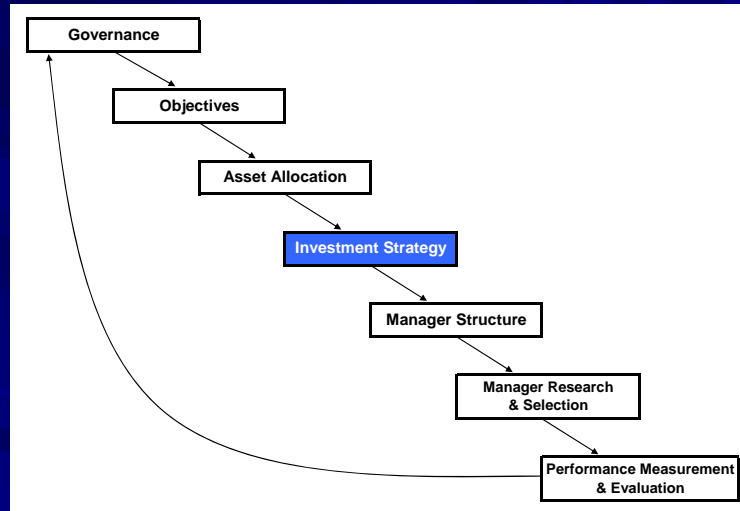
## UTAM Asset Mix Pension

(as at June 30, 2008)

	Policy Mix	Near Term Target	Tactical Target
<b>Public Equity</b>			
Canadian	10%	14.2%	12.2%
U.S.	15%	21.4%	19.4%
International	15%	21.4%	19.4%
Private Equity	15%	8.7%	8.7%
<b>Total Equity</b>	<b>55%</b>	<b>65.7%</b>	<b>59.7%</b>
<b>Canadian Fixed Income</b>	15%	21.4%	21.4%
<b>Absolute Return</b>	15%	8.5%	8.5%
<b>Real Assets</b>	15%	4.5%	4.5%
<b>Cash</b>	0%	0.0%	6.0%
	<b>100%</b>	<b>100%</b>	<b>100%</b>

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# Asset Management Decision Flow



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## Overview

- Strategy decisions require development and understanding of investment beliefs in several areas
- Investment strategy, like long-term policy decisions, should be consistent with previously established objectives
  - Active and passive
  - Balanced and specialty
  - Regional and global
  - Currency hedging
- Manager Structure issues lead from strategy decisions
  - Multi-manager or single manager
  - Style diversification
  - Cost

Source: Russell Investments

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## Passive (Index) Management

- Two Meanings
  - Match performance of an asset class index, or market benchmark, such as the S&P/TSX Composite
  - Match performance of a policy mix (such as 70% stocks / 30% bonds)
- Rationale
  - Markets are efficient
    - Therefore active strategies cannot consistently beat the market
  - May be superior managers, but difficult to find and continued superiority not guaranteed
  - Indexation eliminates underperformance risk

Source: Russell Investments

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## Active Management - Rationale

- Two Distinct Forms of Active Management
  - Security Selection: Strategies within asset classes designed to earn a return that exceeds the returns available from investing in an index (such as the TSX Comp, SC Universe, S&P 500)
  - Market Timing: Shifting money between asset classes to earn a return that exceeds that of the target asset mix (50% stocks/50% bonds)
- Implications re Risk of Underperformance
  - All active strategies that provide potential for value added also create a risk of underperformance
  - Security selection strategies normally consist of numerous small decisions that can be put together in risk controlled fashion
  - Market timing strategies tend to be single, directional bets that will either be wrong or right, therefore imposing higher performance risk on a fund

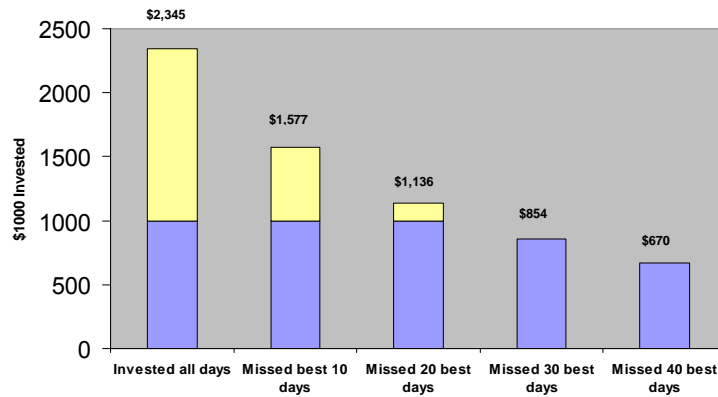
Source: Russell Investments

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## Market Timing is Difficult!

S&P/TSX Composite Total Return 10 Year Period Ending December 2004



- Must be right 70% of the time
- Risk is not being in the market when the market takes off!

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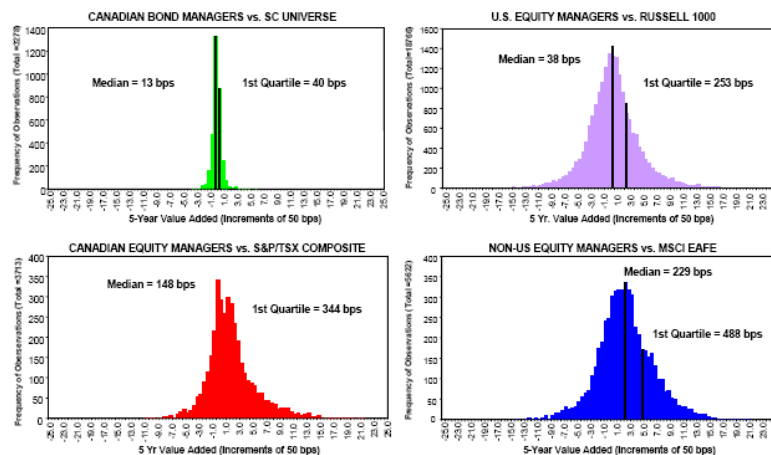
## Security Selection Approaches

- Value added through security selection can be achieved with a number of different strategies and approaches:
  - Bottom-up/Top-down
  - Value/Growth/Market-oriented styles
  - Large/Medium/Small capitalization
  - Quantitative
  - Fundamental
- Value added from bonds can be achieved by:
  - Sector Rotation
  - Duration/yield curve
  - Non-benchmark securities
  - Global, emerging market bonds
- Strategies are generally clearly defined and rigorously followed by managers
- Investors can deliberately combine managers with complementary approaches
  - Objective to maintain value added, reduce risk

Source: Russell Investments

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## Five-Year Value-Added Return Distributions 2Q89 – 4Q06\*



\* All data is before investment management fees

Source: Russell Investments

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## Security Selection Observations

- Value added varies by asset class
  - Bond market offers less potential than equities
  - U.S. equity market appears most efficient
  - Canadian equity market appears beatable
  - EAFE market appears to have best “value add” potential
- Value-added profiles may not be representative going forward

Source: Russell Investments

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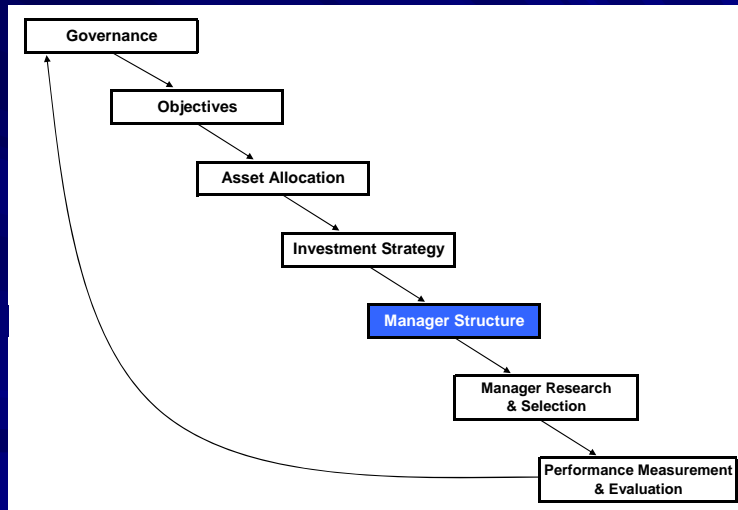
## Criteria for Active Versus Passive Management



Source: Russell Investments

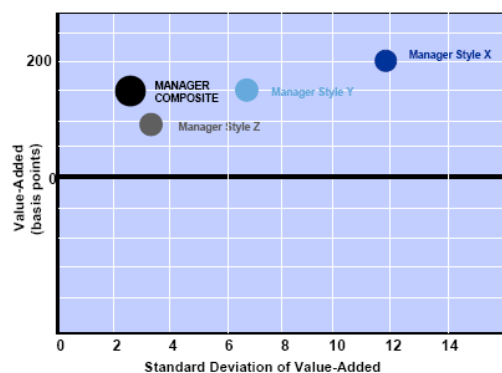
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## Asset Management Decision Flow



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## Manager Structure Objectives



The goal is higher return with reduced risk:

- Value added comes from *picking* managers
- Risk reduction comes from *combining* managers

Source: Russell Investments

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## Active Manager Structure Considerations

- Selection of index that represents relevant market
- Determine key portfolio characteristics that drive returns
  - Country, sector, style, cap, currency, stock for equity
  - Duration, yield, sector, credit, issue for bonds
- Determine manager-specific risk tolerance
  - Concentration, tracking error, specialization
- Target number of managers
  - Complexity and diversification
- Cost

Source: Russell Investments

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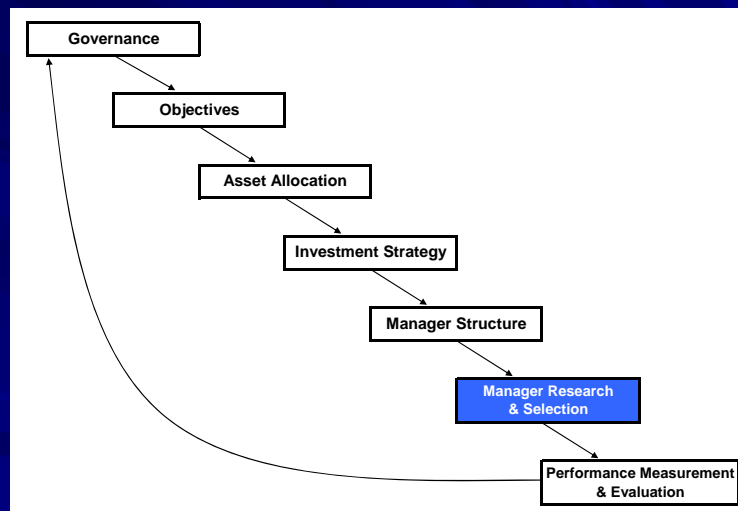
## Common Equity Styles and Approaches

Value	Market Oriented	Growth
<ul style="list-style-type: none"> <li>❑ Concerned with current price</li> <li>❑ Below market price and valuation ratios (i.e.: price/book, p/e)</li> <li>❑ Above market dividend yield</li> <li>❑ Stock selection and bottom up process typical</li> </ul>	<p>May include:</p> <ul style="list-style-type: none"> <li>❑ Industry/sector rotation</li> <li>❑ Theme managers</li> <li>❑ No persistent "style tilt"</li> <li>❑ Index tilt</li> </ul>	<ul style="list-style-type: none"> <li>❑ Concerned with estimating future price</li> <li>❑ Above market historical earnings growth, price/earnings, return in equity</li> <li>❑ Below market dividend yield</li> <li>❑ Often includes top-down analysis of market and sectors</li> </ul>
<b>Small Capitalization</b>		
<ul style="list-style-type: none"> <li>❑ Focus on companies at smaller end of cap spectrum, often measured against a small cap index</li> <li>❑ May also be categorized by their style emphasis</li> </ul>		
<b>Types of Management Approach</b>		
<b>Fundamental</b> <ul style="list-style-type: none"> <li>❑ Judgemental decision process</li> <li>❑ Individual company analysis conducted to determine future best performers</li> <li>❑ Includes analysis on earnings, valuation, economic, quality, industry, etc.</li> <li>❑ Often results in concentrated bets</li> </ul>	<b>Quantitative</b> <ul style="list-style-type: none"> <li>❑ Sophisticated computer models determine stock positions</li> <li>❑ Reliance on vast amounts of technical data</li> <li>❑ No judgement involved in most cases</li> <li>❑ Very benchmark oriented with multiple small bets</li> </ul>	<b>Bottom Up/Top Down</b> <ul style="list-style-type: none"> <li>❑ BU focuses on selection of securities with little or no regard for sector or country weight</li> <li>❑ Top-down emphasizes economic factors and makes deliberate sector or country bets</li> <li>❑ Many managers blend the two approaches</li> </ul>

Source: Russell Investments

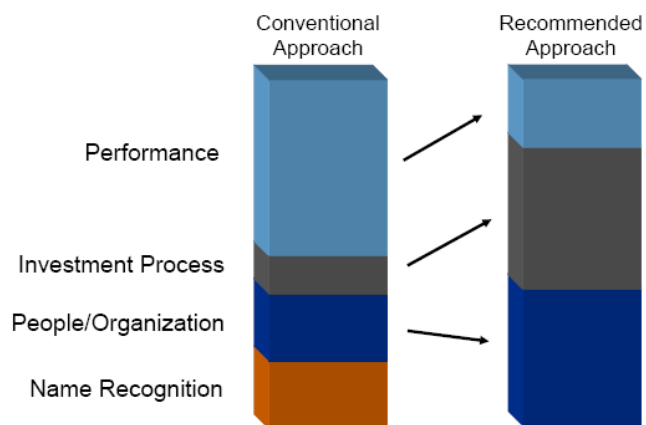
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## Asset Management Decision Flow



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## Manager Selection Criteria

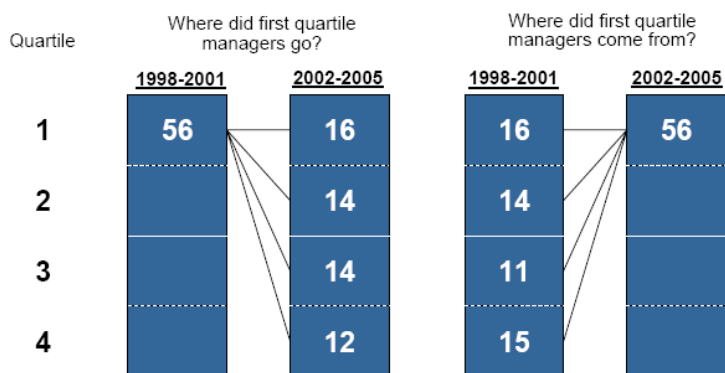


- Strong past performance is invariably a necessary but *least informative* criterion for short-listed managers!

Source: Russell Investments

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## Reliance on Past Performance is Misleading

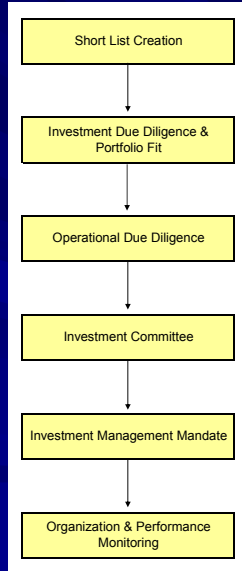


Based on 223 institutional managers in Russell's U.S. Manager universes with 8 years of history ending 2005.

Source: Russell Investments

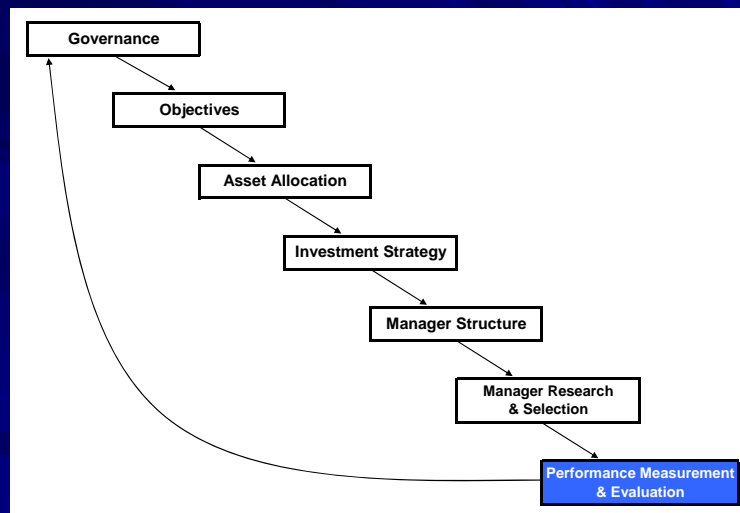
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# Manager Selection Process



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# Asset Management Decision Flow



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# Investment Performance Key Reference Points

- UTAM regularly evaluates investment performance against 3 key reference points (Endowment and Pension):
  - University Target Return at total portfolio level
    - 4% net real return
    - Absolute value orientation (i.e. always positive)
    - Best suited to longer term, multi-year periods for assessment
  - Market Benchmark Return at asset class and total portfolio level
    - Unique to each asset class; weighted roll-up to total portfolio
    - Relative value orientation (i.e. benchmark moves with the market)
    - Suitable for short-term and longer term assessment periods

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# Investment Performance Key Reference Points

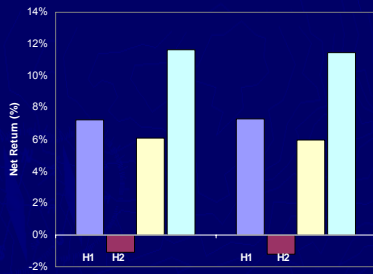
- Peer Universe Rank at asset class and total portfolio level
  - Composition problems are common (e.g. implicitly assumes all participants have same risk tolerance)
  - Measurement problems are common (e.g. not all participants provide returns on same basis or end-date)
  - Suitable for short-term and longer term assessment periods, but with a 'grain of salt' perspective, given shortcomings

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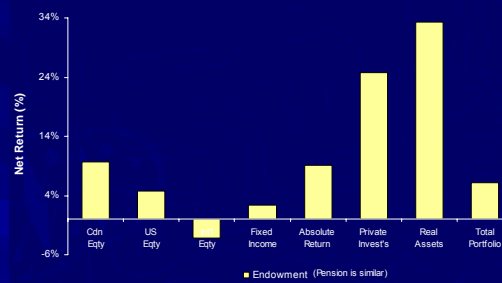
# Investment Performance – 2007 Results

Net annualized return for years ended  
December 31, 2007



	Endowment	Pension
1-Year	6.1	6.0
5-Year	11.7	11.5

Asset Class Performance\* (2007)



\* Net returns, US Equity, Absolute Return, Private Investments and Real Assets are in USD; all others are in CAD.

# Investment Performance - 2007 Results

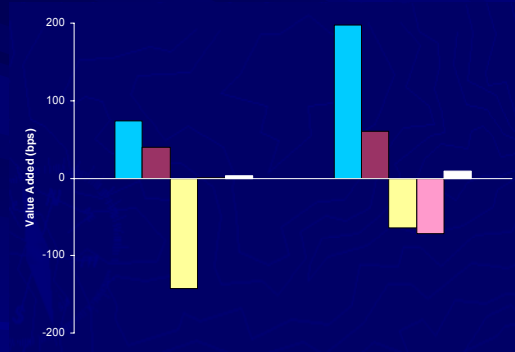
Net Return Versus University Target Return



- University Target Return always a positive value (4% + CPI; 2007 = 6.4%)
- Underperformed the Target in 2007 (-27 bps for Endowment; -40 bps for Pension) after 4 consecutive years of outperformance
- Strongly exceeded Target over 5-year period → \$950 million 'surplus' built up over 2003 – 2006 provides cushion to absorb impact of difficult market conditions

# Investment Performance - 2007 Results

## Net Return Versus Market Benchmark Return



	Endowment	Pension
2003	74	197
2004	40	61
2005	-142	-64
2006	1	-72
2007	3	9
2007 Benchmark Return	6.1%	5.9%

- Outperformed market benchmarks in 4 of past 5 years for Endowment and in 3 of past 5 years for Pension (2006 underperformance for Pension due to one-time transition costs to new target asset mix)
- Hedge funds were key contributor in 2007 (Private Equity/Debt and Private Real Assets currently assumed to generate no value added even though strong absolute returns)

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# Investment Performance - 2007 Results

## Performance Versus Peer Universe (percentile rank \*)

	1-year	2-year	3-year	4-year	5-year
Endowment	1	2	7	6	8
Pension	1	4	8	6	9

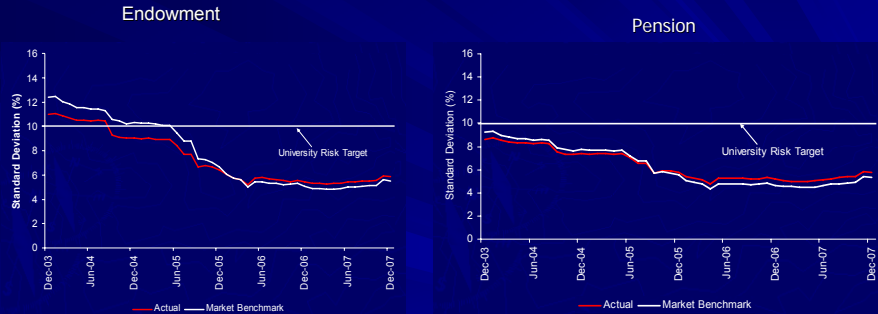
- Top decile ranking over all 1-year through 5-year periods in Canadian peer universe
- 3<sup>rd</sup>/12<sup>th</sup> percentile for 5-year/1-year periods in NACUBO survey (+700 Endowments)

\* RBC Dexia Balanced Fund Universe for periods ending December 31, 2007.

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# Risk Management & Portfolio Risk Levels

Portfolio Risk Levels Over Time\*



- Net effect of risk management activities → portfolios running well below University risk tolerance for Endowment and Pension
- Cushion available to absorb movement in securities markets back to more typical risk levels, and potential effect of higher allocations to certain Alternative Assets over time

\* Rolling 36-month standard deviation of returns. Excludes private investments due to lack of data and minor asset levels historically.

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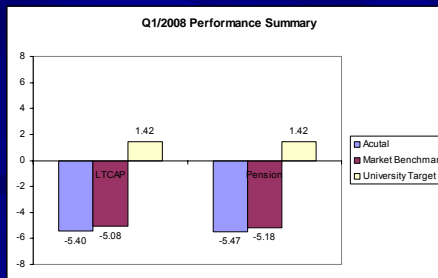
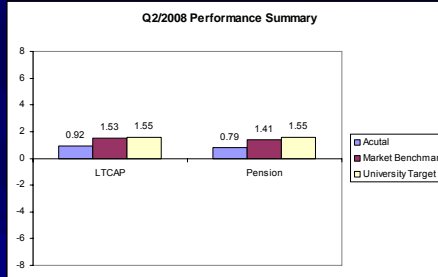
# Recent Market Trends

	2007	Q1/08	Q2/08	Q3 QTD
<b>CDN EQUITIES</b> (TSX Composite)	9.83	-2.84	9.09	-15.05
<b>US EQUITIES</b> (R3000 US)	5.14	-9.52	-1.69	-4.79
<b>INT'L EQUITIES<sup>1</sup></b> (MSCI EAFE Net C\$ Hedged)	3.75	-15.57	-1.54	-1.19
<b>EM EQUITIES</b> (MSCI EM US)	36.48	-11.32	-1.58	-27.83
<b>COMMODITIES</b> (GSCI US)	32.67	9.92	28.67	-32.24
<b>HEDGE FUNDS<sup>1</sup></b> (HFRI Conservative US)	7.55	-2.76	1.59	-2.04
<b>DEX UNIVERSE</b> (Dex Universe)	3.68	2.96	-0.72	1.82
<b>TBILLS</b> (Dex 91-day Tbills)	4.43	1.23	0.55	0.66
<b>CURRENCIES</b>				
US DOLLAR	-15.19	3.96	-1.12	5.72
EURO	-6.17	12.59	-1.25	-5.31
YEN	-9.66	16.35	-6.77	6.54
POUND	-14.13	4.12	-0.64	-5.76

<sup>1</sup> Returns under Q3 QTD are as of August 31, 2008; others are as of September 16, 2008.

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# Quarterly Performance Summary



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# Summary of Performance and Comparison to Benchmarks

(as at June 30, 2008)

	Q2/08	Q1/08	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs
<b>LTCAP</b>								
Actual <sup>(5)</sup>	0.92%	-5.40%	-4.53%	-5.55%	6.47%	7.01%	7.64%	9.78%
University Target Return	1.55%	1.42%	2.99%	6.17%	5.97%	6.13%	6.12%	6.04%
Market Benchmark Return	1.53%	-5.08%	-3.63%	-3.37%	6.79%	7.62%	8.18%	10.08%
<b>Value Added Vs University Target</b>	<b>-0.64%</b>	<b>-6.81%</b>	<b>-7.52%</b>	<b>-11.72%</b>	<b>0.50%</b>	<b>0.88%</b>	<b>1.52%</b>	<b>3.74%</b>
<b>Value Added Vs Market Benchmark</b>	<b>-0.61%</b>	<b>-0.32%</b>	<b>-0.90%</b>	<b>-2.19%</b>	<b>-0.32%</b>	<b>-0.62%</b>	<b>-0.54%</b>	<b>-0.31%</b>
<b>Pension</b>								
Actual <sup>(5)</sup>	0.79%	-5.47%	-4.73%	-5.91%	6.37%	6.64%	7.68%	9.35%
University Target Return	1.55%	1.42%	2.99%	6.17%	5.97%	6.13%	6.12%	6.04%
Market Benchmark Return	1.41%	-5.18%	-3.85%	-3.69%	6.57%	7.19%	8.17%	9.49%
<b>Value Added Vs University Target</b>	<b>-0.76%</b>	<b>-6.89%</b>	<b>-7.72%</b>	<b>-12.08%</b>	<b>0.40%</b>	<b>0.51%</b>	<b>1.56%</b>	<b>3.31%</b>
<b>Value Added Vs Market Benchmark</b>	<b>-0.62%</b>	<b>-0.29%</b>	<b>-0.88%</b>	<b>-2.22%</b>	<b>-0.20%</b>	<b>-0.55%</b>	<b>-0.49%</b>	<b>-0.14%</b>
<b>EFIP</b>								
Actual	0.68%	1.12%	1.81%	3.90%	4.81%	3.93%	4.24%	4.07%
University Target/Market Benchmark Return	0.31%	2.10%	2.42%	5.69%	5.14%	4.36%	4.15%	4.04%
<b>Value Added</b>	<b>0.37%</b>	<b>-0.98%</b>	<b>-0.61%</b>	<b>-1.78%</b>	<b>-0.33%</b>	<b>-0.42%</b>	<b>0.10%</b>	<b>0.03%</b>

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## Current Investment Environment

- Third longest bull market in history has clearly ended
- The economic slowdown is global; decoupling was a myth
- Inflationary expectations are abating for the time being
- The U.S. deleveraging cycle is well advanced but not over
- The credit cycle is completing the first of three phases

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## Current Investment Environment

- A major reassessment of risk premiums is underway
- Liquidity is at a premium
- Equity market valuations have improved considerably but general conditions not yet attractive enough to cause an end to the bear market
- Increased volatility and indiscriminate selling are creating opportunities
- Patience is required

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“The Chinese use two brushstrokes to write the word crisis. One brushstroke stands for danger; the other for opportunity. In a crisis, be aware of the danger ---but recognize the opportunity.”

John F. Kennedy  
April 12, 1959

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**QUESTIONS?**

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