

2/25/11

OVERVIEW:

CAPITAL MARKETS

AND PERMANENT

FUND

PERFORMANCE

REVIEW

<TARGET><BILL></BILL><SUBJECT>2-25-11 OVERVIEW CAPITAL
MARKETS AND PERMANENT FUND PERFORMANCE
REVIEW</SUBJECT><COMM>SFIN27</COMM></TARGET>

ALASKA STATE LEGISLATURE

SENATE FINANCE COMMITTEE

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AGENDA

Friday, February 25, 2011

8:00 AM

Capital Markets Outlook and Permanent Fund Performance Review

Auto corrects

Mike Burns, Executive Director, Alaska Permanent Fund
Corporation, Department of Revenue

MB

Michael O'Leary, Executive Vice President, Callan Associates

MDL

Bill Moran, Chair, Alaska Permanent Fund Corporation Board

BM



PRIVILEGED AND CONFIDENTIAL

2011 Economic Environment and Capital Markets Review

**Michael J. O'Leary CFA
Executive Vice President
Callan Associates Inc.
February 2011**



Callan's Capital Market Projection Process

Economic outlook drives our projections.

- **Evaluate the current environment and economic outlook for the U.S. and other major industrial countries:**
 - Business cycles, relative growth, inflation.
- **Examine the relationships between the economy and asset class performance patterns.**
- **Examine recent and long-run trends in asset class performance.**
- **Apply market insight:**
 - Consultant experience - Plan Sponsor, Manager Search, Specialty
 - Industry consensus
 - Client Policy Review Committee
- **Test the projections for reasonable results.**



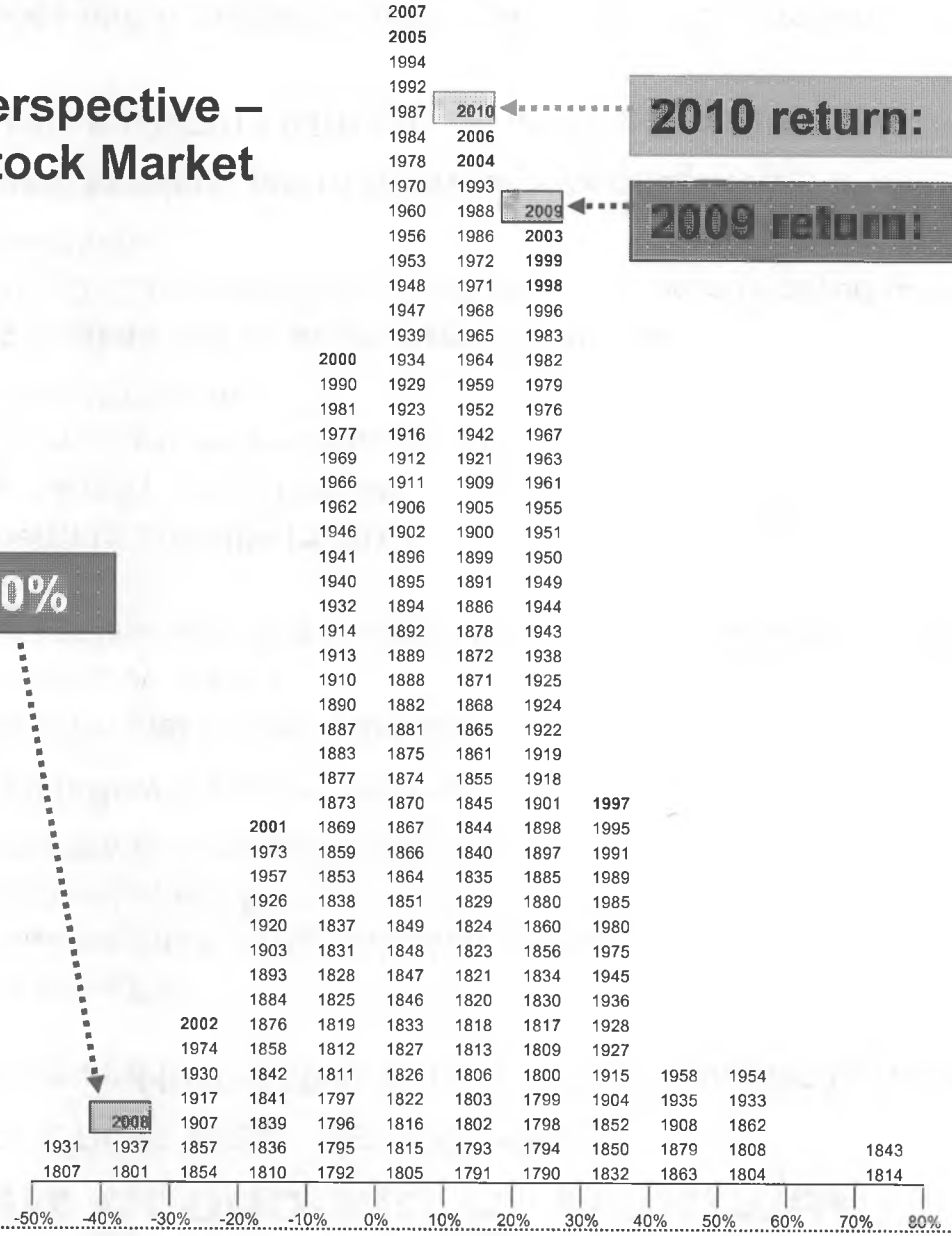
Stock Market Returns by Calendar Year

**2010 Performance Perspective –
History of the U.S. Stock Market**
223 Years of Returns

2008 return: -37.0%

2010 return: +15.1%

2009 return: +26.5%





The Current Economic Environment

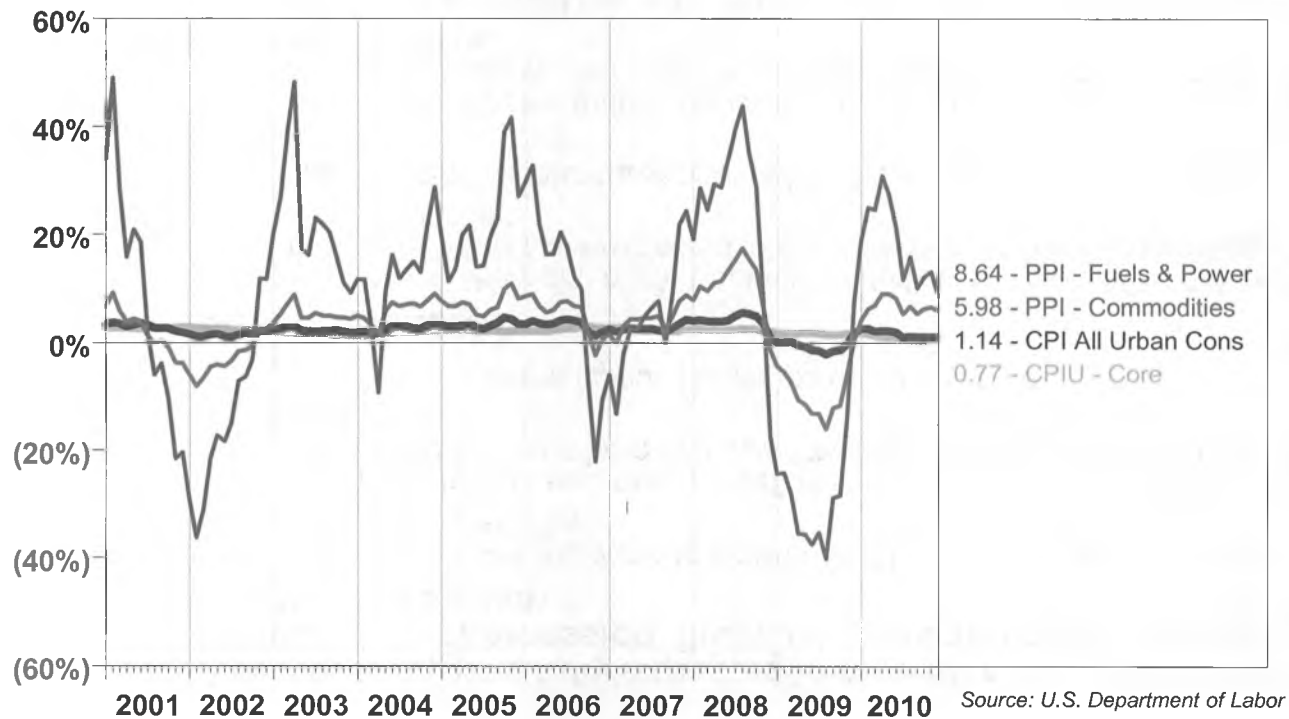
Modest Recovery Under Way, Markets Wary

- **Growth returned in the second half of 2009, but job market struggles to revive well into 2011.**
 - Unemployment remains above 9%.
 - Wealth has been hit, consumers de-levering, savings are rebuilding.
 - QE II the “last” round of monetary stimulus.
 - Tax compromise provides new fiscal stimulus in 2011-12.
- **Steep recoveries usually follow steep recessions.**
- **However, recoveries after financial crises are slow.**
 - Financial stress has been greatly reduced...
 - ...but private credit is still contracting – banks reluctant to lend, households and businesses reluctant to borrow
- **Everyone expected growth to subside in 2010...**
 - Stimulus fades and the inventory cycle is complete.
 - Europe struggles with slow growth and sovereign debt crisis.
 - Emerging markets wait on our recovery.
- **But the capital markets freaked out as projections come true.**
 - Equity hammered through Q3 2010, retail investors fled risk, bond inflows remained substantial.
 - Interest rates headed even lower.
- **Q4 saw signs of economic stability, return of investor confidence.**
- **Tax compromise will likely push 2011 GDP growth to 3%, a year ahead of expectations.**
- **Federal government faces harsh budget realities. Defense, social security, Medicare/Medicaid and Interest dominate spending.**



Is Rising Inflation an Emerging Threat?

Consumer Prices Year-Over-Year Change



- “Radical” short-term volatility in recent inflation expectations.
- Heads have been turned by producer prices, commodities and particularly energy, but overall CPI and core inflation much more benign.



The Economy and the Capital Markets

- **The economy was fully expected to meander through a weak recovery, as the combination of recession, financial crisis and deleveraging required time to work through the system.**
 - GDP growth was expected to slacken in 2011, but tax compromise may boost growth to the long-term trend (3%) .
 - Inflation is in the headlines, but deflation remains the real concern to the Fed. Inflationary pressures stemming from Fed and Treasury actions are less of a concern in the short to medium term.
 - Double-dip is possible, but not the expected outcome.
- **Callan's outlook:**
 - Inflation will likely drift higher, but not immediately. Painfully low interest rates may persist through 2011, but are expected to rise after that, as the Fed eventually removes accommodation.
 - Historic nominal return averages will be hard to achieve over the short, medium and even the longer run.
 - Stocks rallied in the fourth quarter of 2010 and turned in a good year. However, prospects for above-trend growth are weak; companies are strong enough to attain trend profit growth, but not a lot more.
 - The housing market has yet to truly hit bottom, despite mortgage rates at an all-time low. The "shadow inventory" of homes yet to foreclose hangs heavy over the market.
 - The chance that we could see another leg down on housing is the greatest risk to the economy, and to a deflationary spiral.
 - The dollar should face substantial downward pressure as a result of U.S. policy. The problem, of course, is what other currency can take the dollar's place?
 - The path to a rational set of long-term capital market outcomes is likely through an ugly shorter term period of rising interest rates, capital losses in fixed income, and volatile equity markets.



Starting asset valuations dominant return expectations

- **Equity valuations, both domestic & international, appear reasonable (not cheap but not expensive)**
 - Analyst expectations already envision decent 2011 eps growth
 - Corporate balance sheets provide good flexibility
 - Developing countries are expected to enjoy strong absolute growth which should offset soft demand in much of the developed world

- **Interest rates are a different story**
 - Even with low inflation real short-term interest rates remain negative
 - Inflationary pressures could build (e.g. commodity inflation, excess demand in emerging world)
 - Rates are so low across the curve that the “income cushion” to rising rates is minimal (see Q4 2010 bond returns for perspective)
 - Equity earnings yield versus Treasury or Corporate bond yields look attractive but spread could be narrowed quickly with a rise in rates.
 - Our conclusion is that rates will rise and limit P/E expansion opportunities

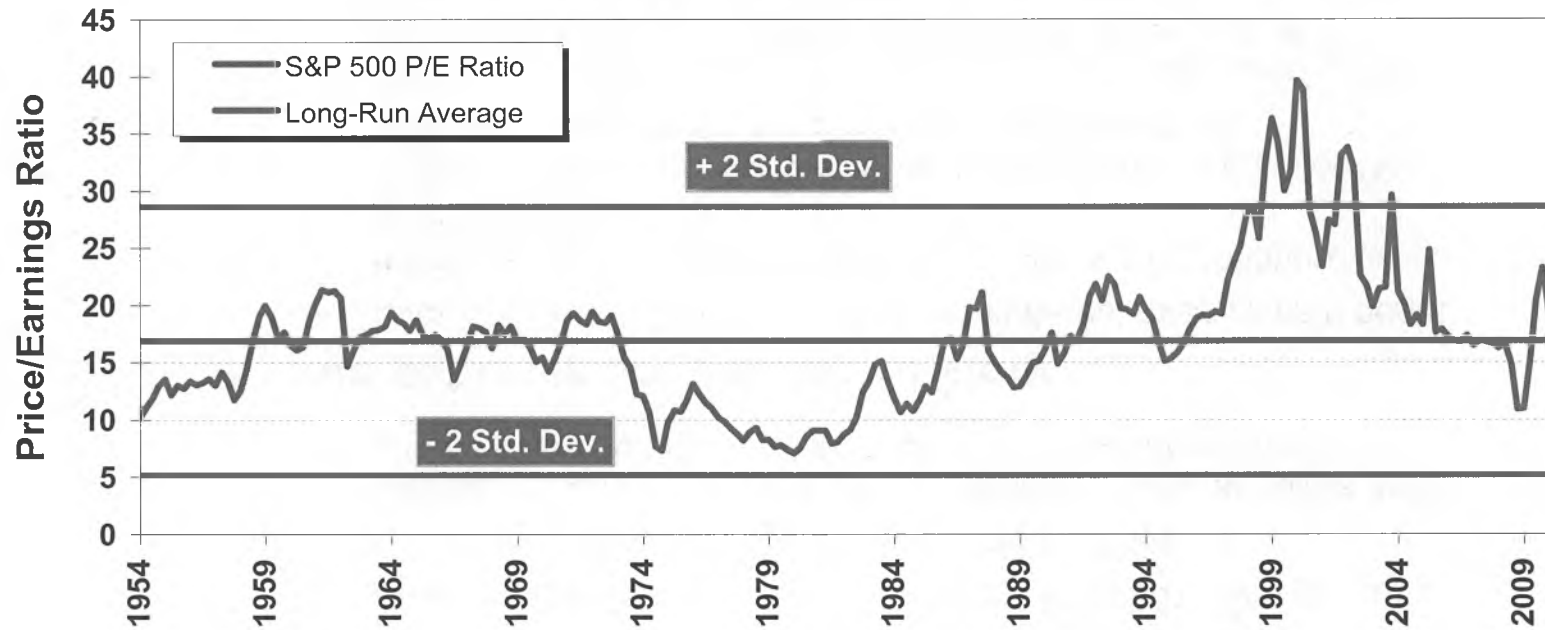
- **Major theme is nominal returns for both stocks and bonds will be positive but limited for the short-intermediate term.**



Equity Is More Reasonably Priced

Trailing P/E At Its Long Run Average

Price to Earnings Ratio for S&P 500 (1954 - 3Q 2010)



Trailing earnings as reported for the fiscal year; includes negative earnings from 1998 onward.
Source: Standard & Poor's and Callan Associates



Absolute valuation measures indicate that stocks are “reasonably” valued

Global Stock Fundamentals

Valuation	S&P 500	MSCI EAFE	MSCI Emerging Markets
P/E (last fiscal year reported earnings)	15.3	14.0	14.1
P/E (next fiscal year estimated earnings)	14.5	12.9	13.2
P/E (second fiscal year forward estimated earnings)	12.9	11.5	11.5
Price to Book Ratio	2.2	1.5	2.1
Price to Cash Flow Ratio	8.6	6.8	8.3
Price to Sales Ratio	1.3	0.9	1.5
Profitability			
Return on Equity (ROE)	10.0	14.2	17.0
Balance Sheet Strength			
Long Term Debt to Capital Ratio	34.0	33.8	24.8

Note: Valuation and Profitability figures are weighted harmonic averages, a statistical technique that reduces the effects of extreme outlying data on the average. Long Term Debt to Capital figures are weighted averages.

Source: FactSet

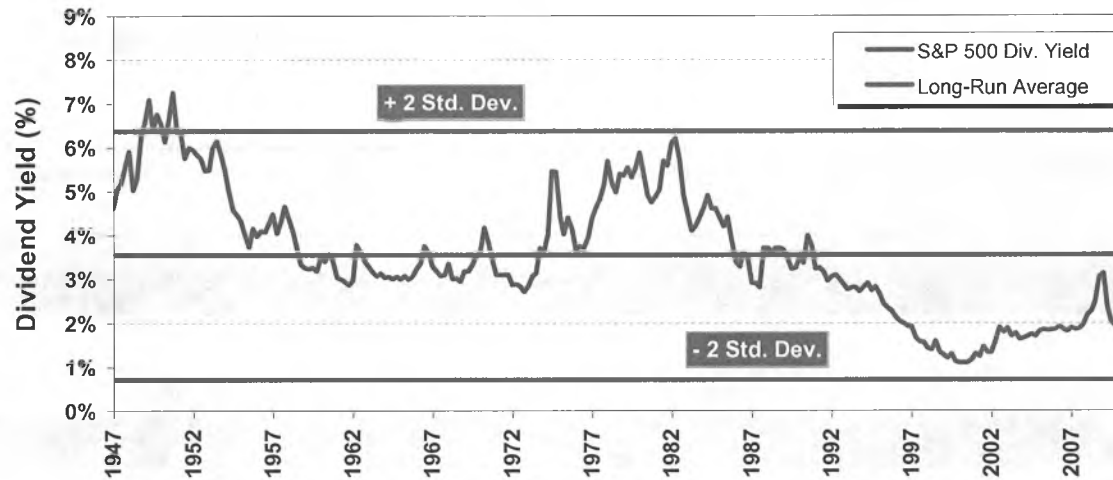
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▪ Reproduced from ING Global Perspectives Q42010



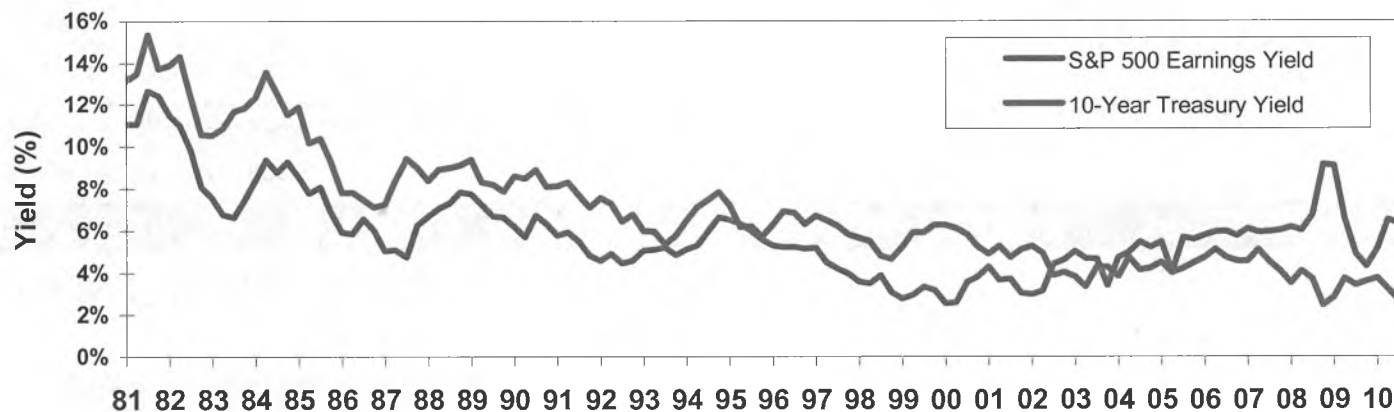
Dividend yields are in line with recent experience but not high.

Dividend Yield of S&P 500 (1947 - 2010)



- But earnings yield is attractive relative to bonds

S&P 500 Earnings Yield vs. 10-Year Treasury Yield





Building Fixed Income Expectations

- **2010 results a surprise – interest rates fell, broad market generated 6.5% return (BC Aggregate).**
- **The path to future return matters:**
 - Inflation
 - Composition of the market
 - Expected spreads and risk premiums
 - Current yields – level, slope of the yield curve.
- **Hard to be enthusiastic about fixed income returns given current environment and likely economic path to growth.**



Yield curve is extraordinarily steep

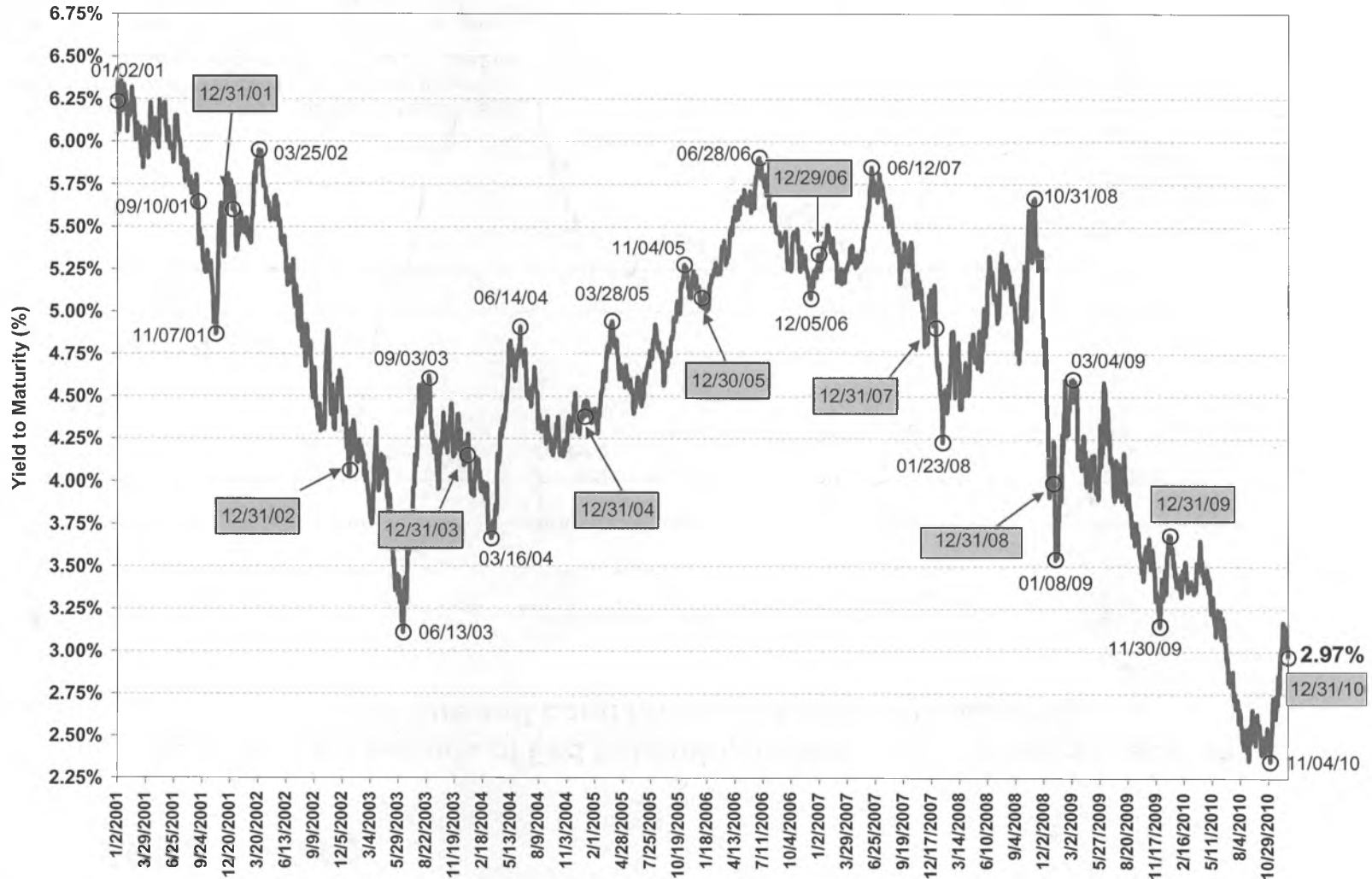
Short and Long Treasury Yields





Despite Q4 Increase Current Yield is Exceptionally Low

BC Aggregate Index - Daily Yield to Worst from 1/1/01 to 9/30/10

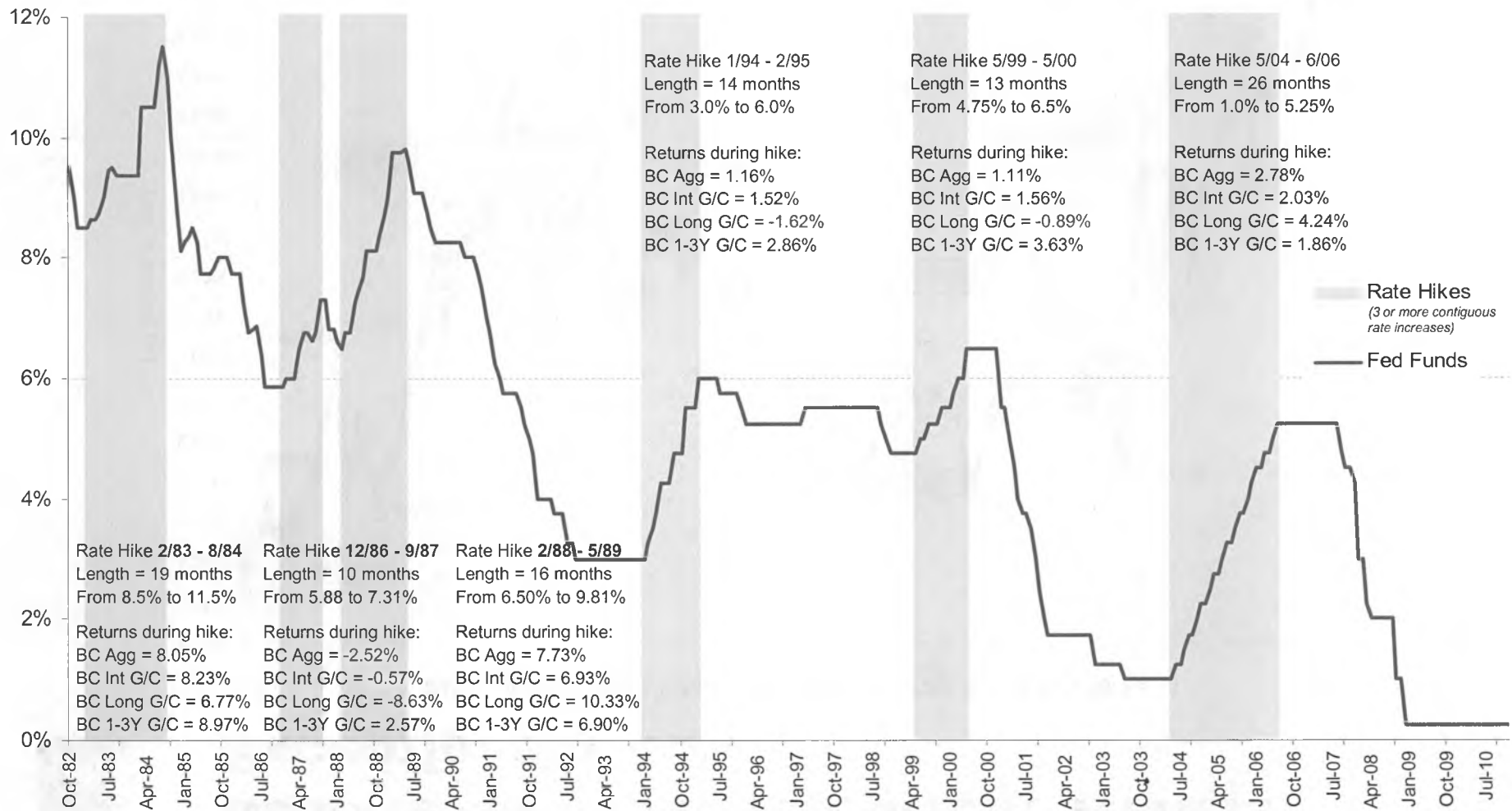


Source: Barclays Capital



History of Recent Interest Rate Hikes 1982 - 2010

There were six periods of Fed tightening over the past 28 years; each was unique and bond returns were positive in many





Rate Hike Summary

Returns, Yield Curve Shape, and Credit Spreads

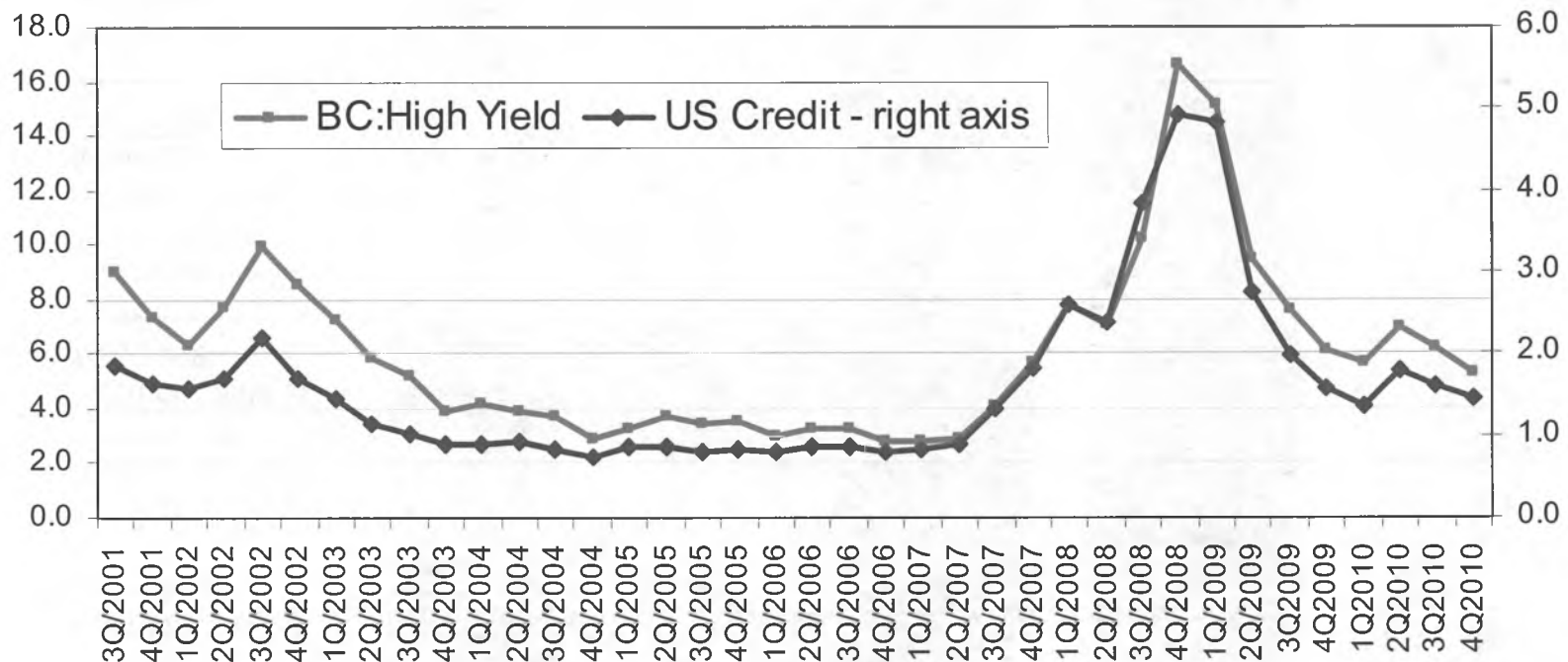
Rate Hike	BC 1-3 Year G/C Returns	BC Agg Returns	BC Long Agg Returns	Yield Curve	Credit Spreads
February 1983 to August 1984	↑↑	↑↑	↑↑	=	↓
December 1986 to September 1987	↑	↓	↓↓	/	↓
February 1988 to May 1989	↑↑	↑↑	↑↑	—	↓
January 1994 to February 1995	↑	↑	↓	=	Unchanged
May 1999 to May 2000	↑	↑	↓	—	↑
May 2004 to June 2006	↑	↑	↑	—	Unchanged

Bond Returns		Yield Curve	
↑	Returns between 0% and 5%	=	Parallel shift
↑↑	Returns above 5%	/	Curve steepening
↓	Returns between -5% and 0%	—	Curve flattening
↓↓	Returns below -5%		



Credit Spreads Widened From Record Lows to Record Highs in 2008 but have returned to more normal levels

Effective Yield Over Treasuries



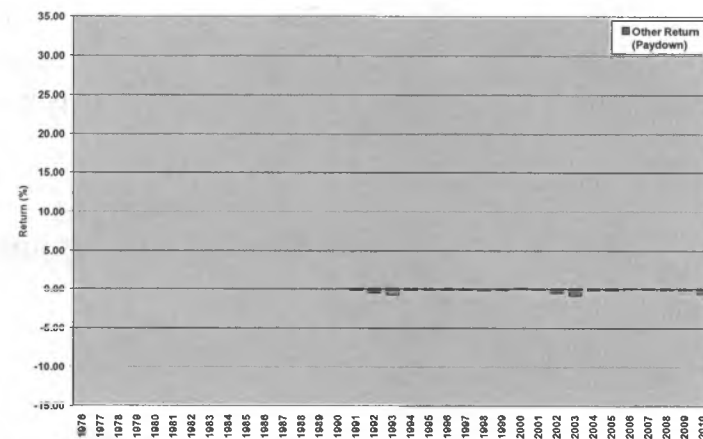
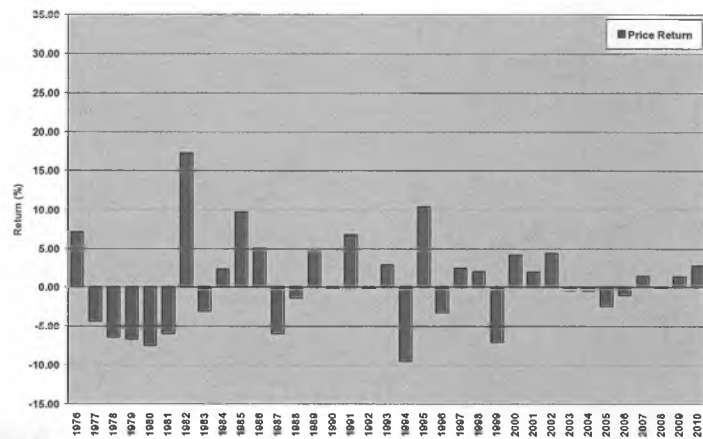
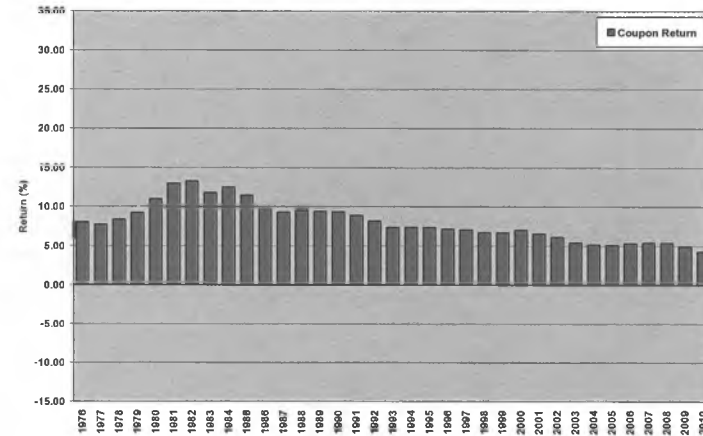
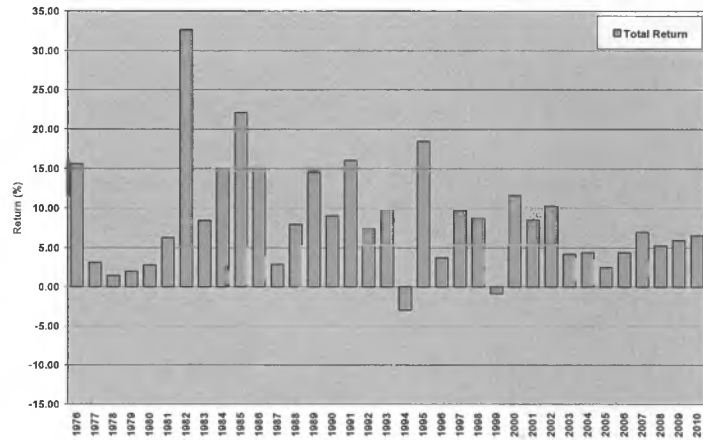
- Option adjusted spreads based on Barclays Capital Indexes
- U.S. Credit = Investment Grade
- High Yield Index on left axis



Decomposition of Aggregate Bond Returns

Note shrinking income component

BC Aggregate Index - Annual Return Breakdown



Source: Barclays Capital



2011 Capital Market Expectations – Traditional Asset Categories

Return and Risk

Risk and Return Assumptions Preliminary

Asset Class	Projected Arithmetic Return	Projected Standard Deviation	5 Yr. Geometric Mean Return	10 Yr. Geometric Mean Return
Broad Domestic Equity	9.35%	18.12%	8.32%	8.15%
Large Cap	9.05%	17.25%	8.13%	7.97%
Small/Mid Cap	10.55%	23.00%	8.76%	8.48%
ACWI exUS	10.06%	20.87%	8.63%	8.40%
EAFE	9.50%	19.75%	8.22%	8.02%
Emerging Markets Equity	11.75%	27.50%	9.09%	8.68%
Private Equity	13.10%	30.00%	9.93%	9.44%
Domestic Fixed	3.80%	4.50%	3.77%	3.76%
High Yield	6.15%	11.55%	5.75%	5.68%
TIPS	3.60%	5.90%	3.51%	3.49%
Non US Fixed	3.75%	9.70%	3.42%	3.38%
Absolute Return	6.25%	10.00%	5.99%	5.94%
Real Estate	7.85%	16.35%	6.98%	6.84%
CommoditiesGS	6.50%	24.00%	4.30%	4.00%
Cash Equivalents	3.00%	0.90%	3.03%	3.03%

Source: Callan Associates Inc.



Illustrative Efficient Mixes – Traditional Characterization

Asset Mix Alternatives

Portfolio Component	Max	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5	Mix 6
Broad Domestic Equity	100%	20%	22%	25%	27%	30%	32%
ACWI exUS	100%	15%	17%	19%	21%	23%	25%
Private Equity	100%	3%	4%	5%	6%	7%	8%
Domestic Fixed	100%	34%	29%	23%	18%	12%	7%
Non US Fixed	100%	4%	4%	4%	5%	5%	5%
High Yield	5%	5%	5%	5%	5%	5%	5%
Absolute Return	5%	5%	5%	5%	5%	5%	5%
TIPS	100%	8%	7%	6%	4%	3%	2%
Real Estate	100%	5%	6%	7%	8%	9%	10%
Cash Equivalents	100%	1%	1%	1%	1%	1%	1%
Totals		100%	100%	100%	100%	100%	100%
Projected Arithmetic Return		6.50%	6.90%	7.30%	7.70%	8.10%	8.50%
Projected Standard Deviation		8.83%	9.99%	11.17%	12.38%	13.61%	14.85%
5 Yr. Geometric Mean Return		6.34%	6.67%	6.99%	7.29%	7.59%	7.86%
10 Yr. Geometric Mean Return		6.30%	6.62%	6.93%	7.21%	7.49%	7.75%

Note that Commodities were excluded and HY & Absolute Return were constrained



APFC Policy Index Projections

Using our basic building blocks, we developed return/risk and correlation projections for the benchmarks used to track the APFC.

Risk and Return Assumptions

Asset Class	Projected Arithmetic Return	Projected Standard Deviation	5 Yr. Geometric Mean Return	10 Yr. Geometric Mean Return
Gbl Equity	9.71%	18.73%	8.61%	8.42%
Gbl Corp Hdg	4.15%	5.80%	4.08%	4.06%
TIPS	3.60%	5.90%	3.51%	3.49%
Gbl Gov Hdg	3.25%	4.30%	3.22%	3.21%
NCREIF	7.85%	16.35%	6.98%	6.84%
Cash Equivalents	3.00%	0.90%	3.03%	3.03%

Asset Mix Correlations

	Gbl Equity	Gbl Corp Hdg	TIPS	Gbl Gov Hdg	NCREIF	Cash Equivalents
Gbl Equity	1.00					
Gbl Corp Hdg	0.21	1.00				
TIPS	(0.11)	0.58	1.00			
Gbl Gov Hdg	(0.38)	0.50	0.38	1.00		
NCREIF	0.72	(0.05)	(0.02)	(0.10)	1.00	
Cash Equivalents	(0.04)	0.05	0.07	0.10	(0.06)	1.00

Global Equity = MSCI All Countries World Investable Market Equity Index

Gbl Corp Hdg = BC Global Corporate Bond Index (currency hedged)

TIPS = BC U.S. Treasury Inflation Protected Securities Index

Gbl Gov Hdg = BC Global Government Bond Index (currency hedged)

NCREIF = NCREIF (NPI) index is used as a proxy for "real assets" other than TIPS

Cash Equivalents = 3 month U.S. Treasury Bills



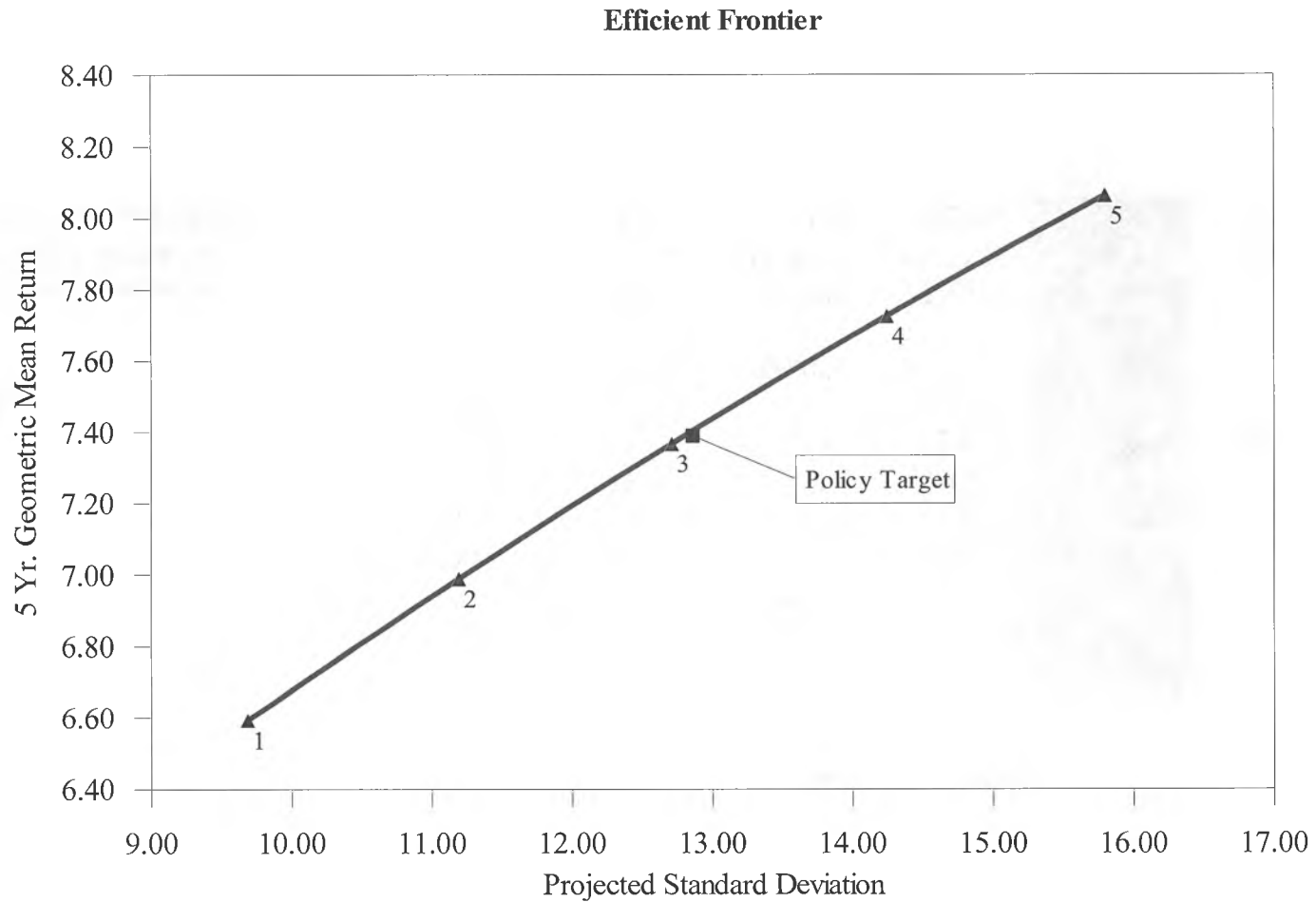
Current Policy versus Efficient Frontier

Asset Mix Alternatives

Portfolio Component	Min	Max	Mix 1	Mix 2	Mix 3	Policy Target	Mix 4	Mix 5
Gbl Equity	0.0%	100.0%	50.2%	55.3%	59.2%	59.2%	64.7%	73.7%
Gbl Corp Hdg	0.0%	100.0%	0.0%	4.9%	13.9%	14.8%	18.2%	11.3%
TIPS	0.0%	100.0%	12.5%	10.0%	6.0%	4.5%	1.8%	0.0%
Gbl Gov Hdg	0.0%	100.0%	31.5%	21.1%	8.3%	6.0%	0.0%	0.0%
NCREIF	0.0%	100.0%	5.8%	8.7%	12.6%	13.5%	15.3%	15.0%
Cash Equivalents	0.0%	100.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%
Totals			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Projected Arithmetic Return			6.80%	7.30%	7.80%	7.84%	8.30%	8.80%
Projected Standard Deviation			9.69%	11.19%	12.71%	12.86%	14.25%	15.80%
10 Yr. Geometric Mean Return			6.54%	6.92%	7.28%	7.30%	7.62%	7.93%



Efficient Frontier

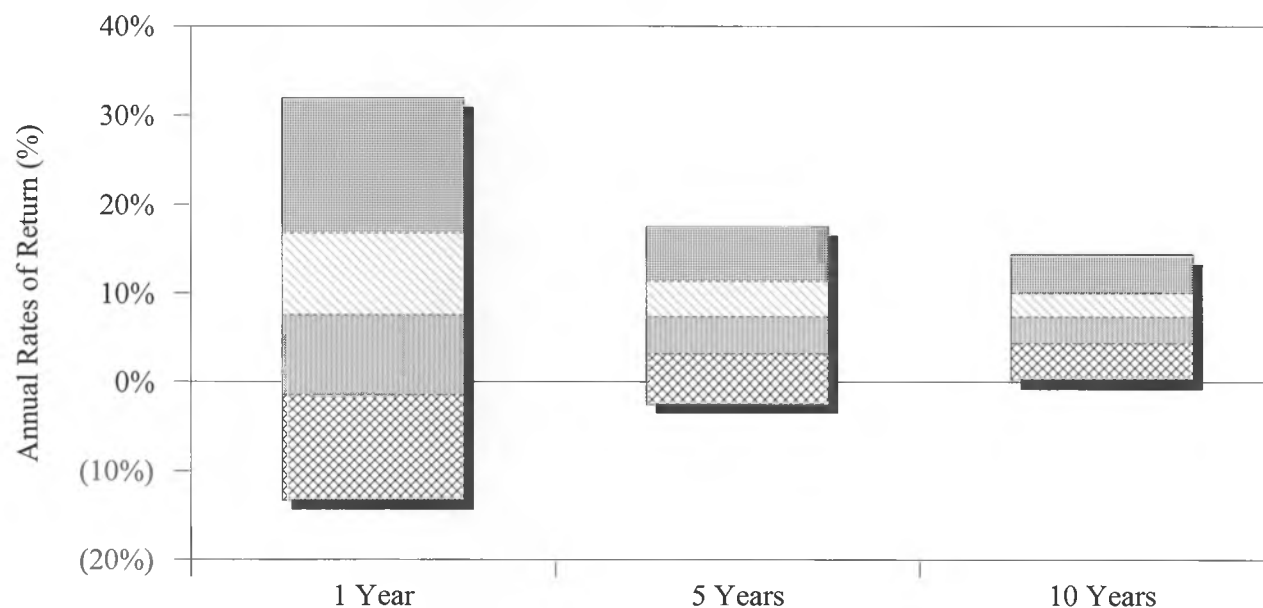




Expected Range of Returns 1, 5, & 10 years

Note – the 5th to 95th percentiles are shown. More extreme outcomes are always possible.

Range of Projected Rates of Return
Policy Target



	1 Year	5 Years	10 Years
5th Percentile	31.94%	17.54%	14.33%
25th Percentile	16.78%	11.36%	10.06%
Median	7.54%	7.33%	7.30%
75th Percentile	(1.39%)	3.24%	4.41%
95th Percentile	(13.29%)	(2.45%)	0.28%



Alaska Permanent Fund

Designed for Sustainability



Alaska Permanent Fund Corporation

FY2010 performance

Total return	11.7%
Benchmark return	10.2%
Ending balance	\$33.3 billion
Change from FY10	\$ 3.4 billion
Dividend	\$858 million



FY2011 performance as of Dec. 31

Total return	14.5%
Benchmark return	16.6%

Ending value	\$38.4 billion
Change from FY10	\$ 5.1 billion



Renewable resource

**\$14.7
billion**

**deposited
in Fund to
date**

**\$18.4
billion**

**dividends
paid to date**

**\$39
billion**

**current
value**



Fund deposits

Constitutional royalty deposits \$ 11.8

Legislative transfers from General
Fund (FY81 - 85) \$ 2.7

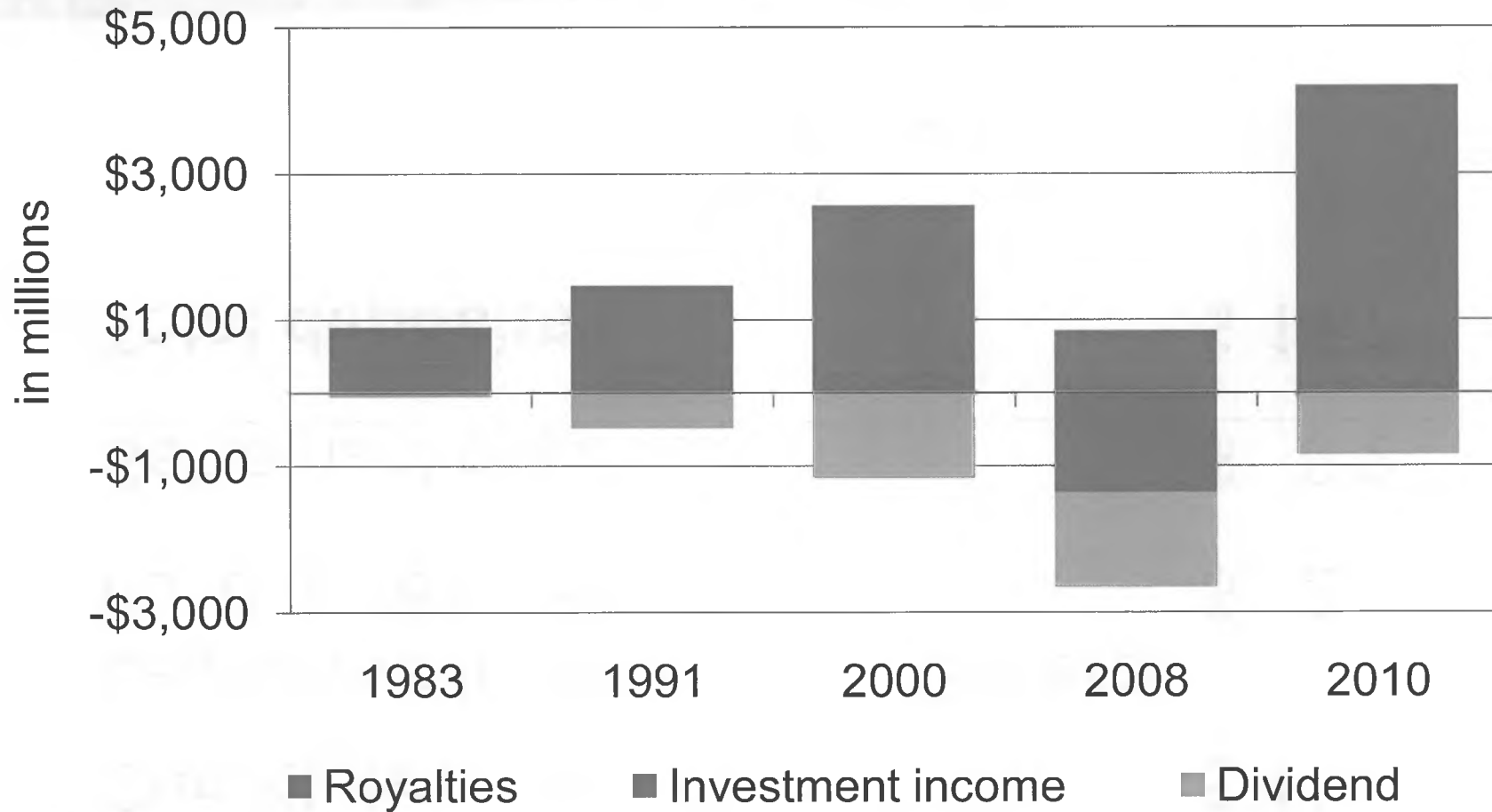
Settlement deposits \$ 0.2

Total deposits \$ 14.7

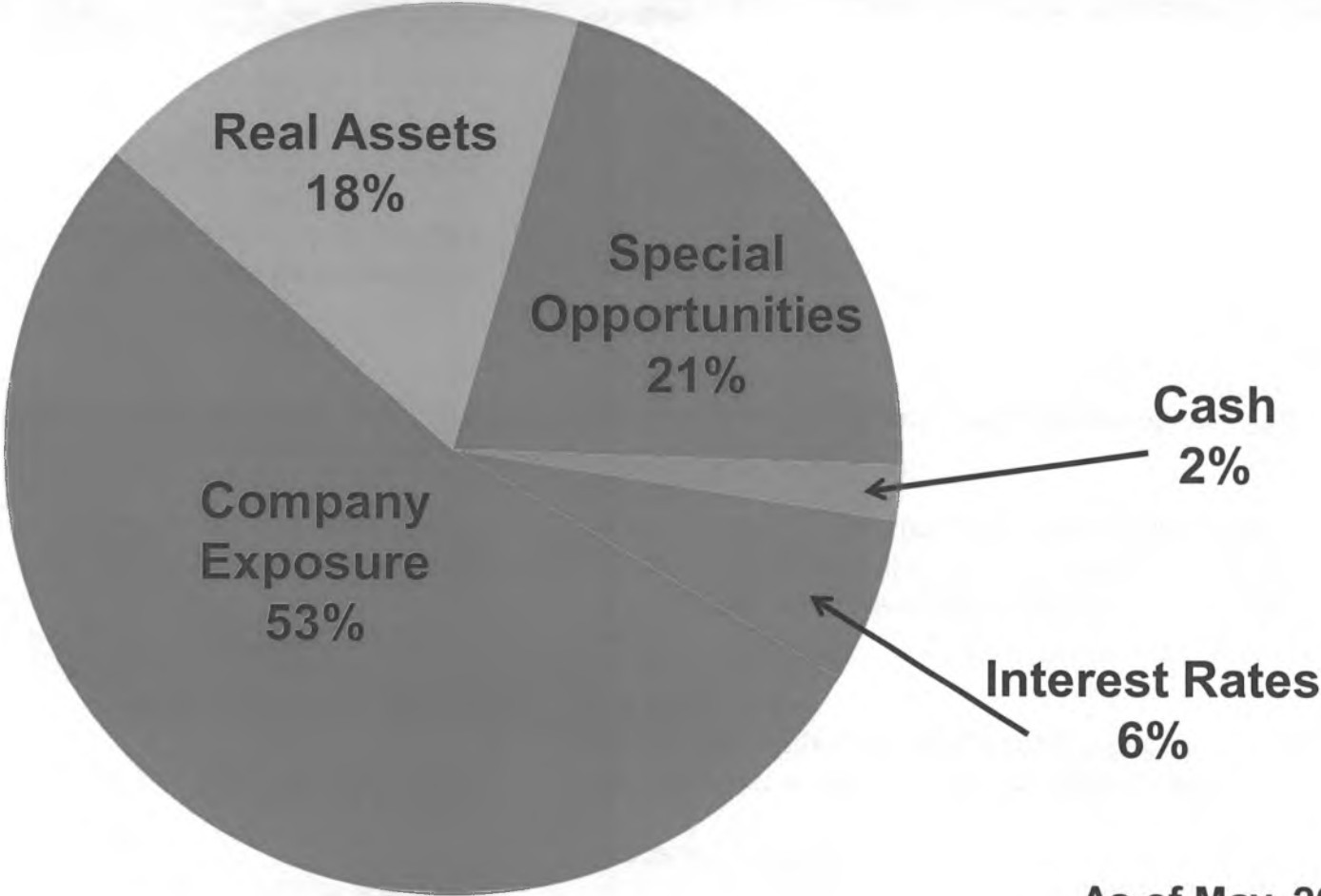
in billions
as of June 30, 2010



Inflow and outflow



Risk based asset allocation



As of May, 2009



Risk allocation groups

Interest rates

Purpose: Securities with low credit risk usually perform better than other investments in times of deflation or market crises.

Components: U.S. Treasury bonds and non-U.S. government bonds.

Company exposure

Purpose: When the economy is performing well, most public and private companies are performing well. Investing in these corporations allows the Permanent Fund to benefit in times of growth and prosperity.

Components: U.S. and non-U.S. stocks, Corporate investment grade and high yield bonds, bank loans and private equity

Real assets

Purpose: The value of real assets hedges inflation risk, helping protect the Fund's real value over time.

Components: Real estate, infrastructure and TIPS

Special opportunities

Purpose: This allocation allows the Permanent Fund to invest in special opportunities and to take advantage of dislocations in the markets.

Components: Absolute return, distressed debt, commercial mortgage backed bonds, other strategies as they arise.

Cash

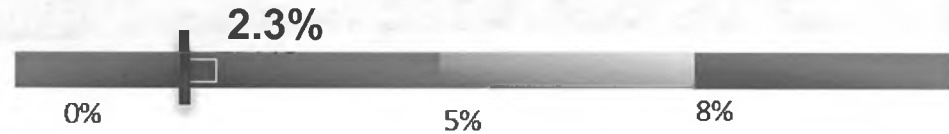
Purpose: The cash allocation is designed to let the Fund build up reserves over the course of the year to meet its expected liabilities, primarily the annual dividend payment each July.

Components: liquid investments with durations of less than 12 months.



Dollar Allocation Limits by Risk Class (1/31/2011)

Cash (2%)



Interest Rates (6%)



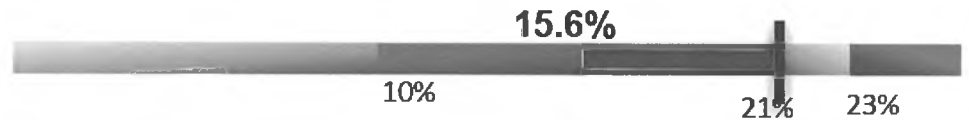
Company Exposure (53%)



Real Assets (18%)



Special Opportunities (21%)

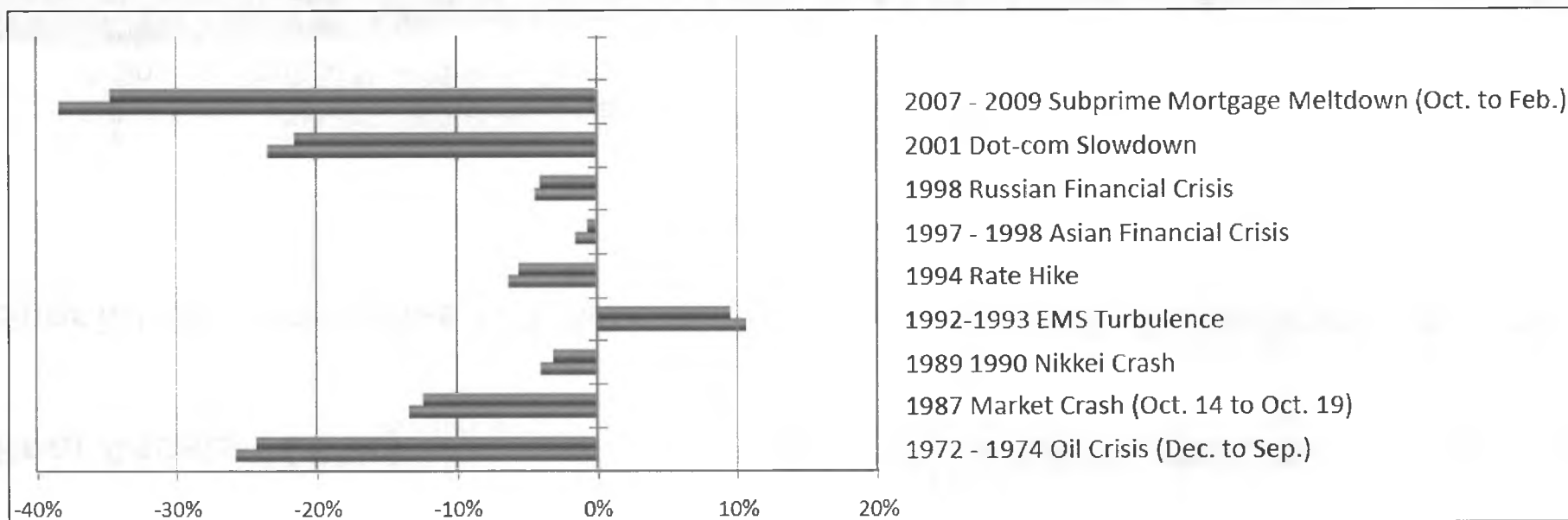


1- | = Policy allocation benchmark per Investment Policy 10-05

2- Source: Bank of New York Mellon



Tail Risk: Scenarios (1/31/2011)

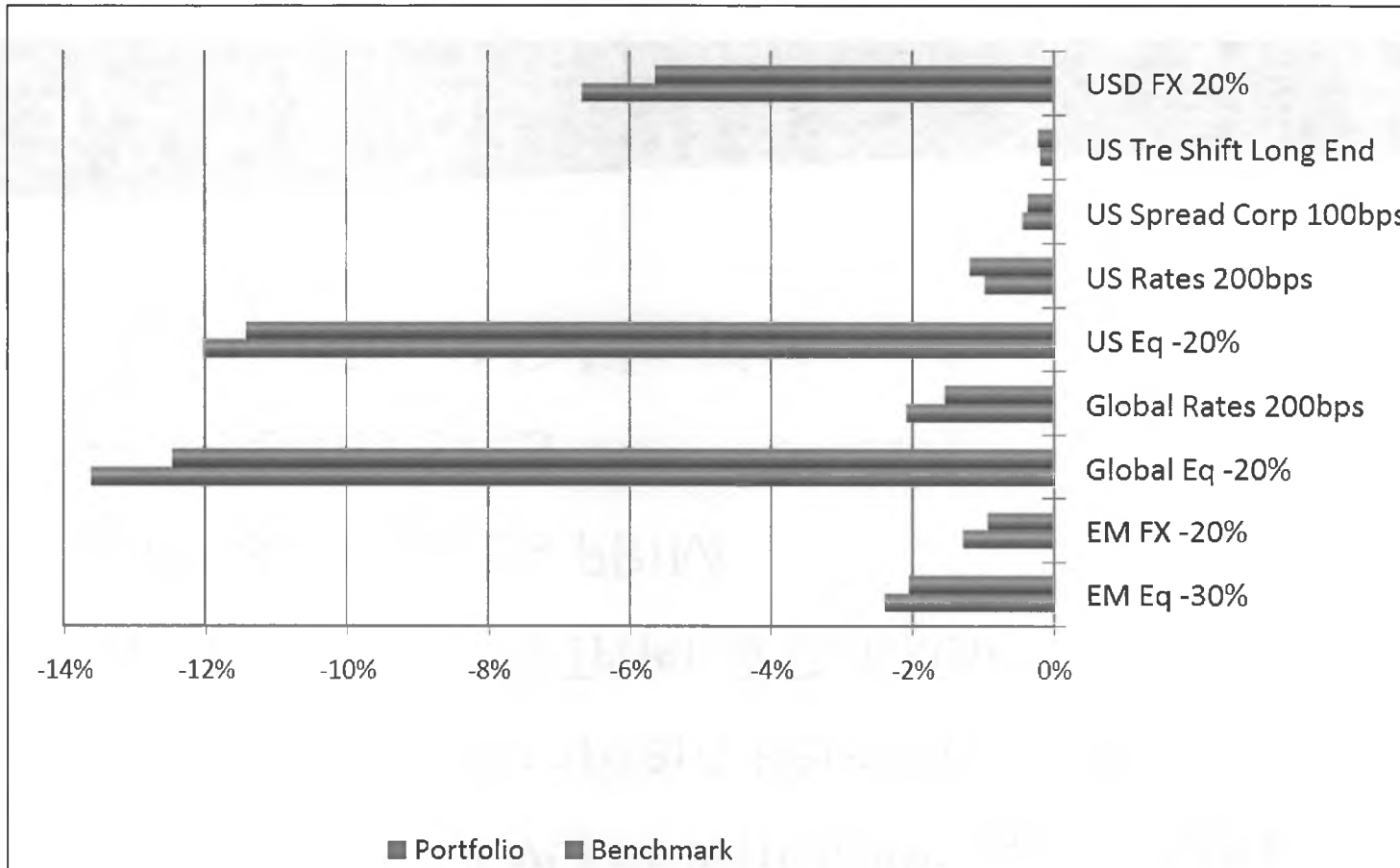


■ Portfolio ■ Risk Benchmark

- 1-Risk Benchmark: 2% T-Bills, 6% Barclays Global Treasury Hedged, 14.8% Barclays Global Corporate Hedged, 59.2% MSCI ACWI, 13.5% NCREIF, 4.5% Barclays US TIPS
- 2-Real estate and infrastructure are modeled as real estate investment trusts
- 3-Source: Bank of New York Mellon



Tail Risk: Stress Tests (1/31/2011)



- 1-Risk Benchmark: 2% T-Bills, 6% Barclays Global Treasury Hedged, 14.8% Barclays Global Corporate Hedged, 59.2% MSCI ACWI, 13.5% NCREIF, 4.5% Barclays US TIPS
- 2-Real estate and infrastructure are modeled as real estate investment trusts
- 3-Source: Bank of New York Mellon, MSCI Barra



Peer recognition

- aiCIO Industry Innovation Award
- Public and private fund managers
 - Singapore Government Investment Corp
 - Norway Government Pension Fund
 - Mitsubishi UFJ Trust & Banking
 - Massachusetts PRIM
 - California STRS
 - University of California



State of Alaska
Department of Revenue

Commissioner Bryan Butcher



SEAN PARNELL, GOVERNOR

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The Honorable Bert Stedman
The Honorable Lyman Hoffman
Co-Chairs, Senate Finance Committee
Alaska State Senate
Juneau, AK 99801

March 1, 2012

Dear Senators Stedman and Hoffman:

During the Senate Finance Committee hearing on February 22, I was asked what the value of the PERS and TERS funds would have grown to had they achieved the annual estimated return rate adopted by the Alaska Retirement Management Board (ARMB) and its predecessor board, the Alaska State Pension Investment Board. The calculation is more complex than would initially be expected because of the hundreds of cash flows into and out of the funds due to multiple employer receipts as well as pension and health care payments.

We have attempted to provide a fair estimate of the calculation you requested by using fund balances at the beginning of the fiscal year and adjusting for net cash flows throughout the fiscal year. The attached table is the result of our computations.

Please advise me if I can be of further assistance.

Sincerely,

Angela Rodell
Deputy Commissioner

Enclosure

cc: Darwin Peterson, Senate Finance Committee Aide

PERS			TRRS				
	Starting 6/30/01 Balance (\$MM):	\$	8,081.5		Starting 6/30/01 Balance (\$MM):	\$	4,076.1
	Target Return		Actual Return		Target Return		Actual Return
FY02	\$ 8,493.70	\$	7,411.60	FY02	\$ 4,225.42	\$	3,686.71
FY03	\$ 8,883.59	\$	7,399.29	FY03	\$ 4,345.38	\$	3,609.95
FY04	\$ 9,248.80	\$	8,172.60	FY04	\$ 4,450.83	\$	3,908.93
FY05	\$ 9,650.67	\$	8,577.49	FY05	\$ 4,563.31	\$	4,022.10
FY06	\$ 10,180.03	\$	9,350.00	FY06	\$ 4,710.57	\$	4,278.15
FY07	\$ 10,767.32	\$	10,858.88	FY07	\$ 4,871.49	\$	4,847.34
FY08	\$ 11,833.17	\$	10,698.34	FY08	\$ 5,234.54	\$	4,670.34
FY09	\$ 12,692.03	\$	8,428.65	FY09	\$ 5,639.46	\$	3,691.39
FY10	\$ 13,627.93	\$	9,172.66	FY10	\$ 6,006.02	\$	3,972.28
FY11	\$ 14,932.45	\$	11,348.76	FY11	\$ 6,386.91	\$	4,705.75

Note: the balances above begin with the 6/30/2001 balance of PERS and TRS, then separately roll forward the target return and the actual return. Non-investment-related cash flows are assumed to occur at the start of the year in question.



Alaska Department of Revenue
Treasury Division

