Absolute Return Strategies Program Review

December 10, 2012

CalPERS Investment Office
Absolute Return Strategies

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A QUICK REFRESHER ON ABSOLUTE RETURN STRATEGIES

(HEDGE FUNDS)

What Are Hedge Funds?

A specialized area of active investment management, NOT an asset class

- The primary risk should be manager-specific "alpha" risk, not market-wide "beta" risk

Hedge fund managers typically have more flexibility than "traditional" asset managers to:

- Invest across asset classes (equities, fixed income, commodities, currencies)
- Short sell securities believed to be overvalued (or to hedge undesired risks)
- Apply or reduce leverage to amplify or mitigate risks
- Change overall portfolio risk significantly, even to take no risk at all and move entirely to cash

Hedge Funds CAN'T:

Make money in EVERY market environment

- Some markets are more conducive to return generation than others (e.g., 2008)
- If it's too good to be true, it probably is

Make money without taking risk

- Like all other disciplines of investing, *some* risk must be taken to generate returns
- Hedge funds attempt to "hedge out" unwanted risks
- Even the most intelligently taken risks sometimes fail to generate profits

Hedge Funds CAN:

Provide more avenues for “alpha” creation

- Security selection (long and short)
- Asset class rotation (equities versus bonds)
- Total risk (more/less conviction in markets/trades)

Diversify other portfolio risks

- Extract non-traditional “risk premia” (volatility, currency carry, trend-following)
- Produce returns when traditional asset classes underperform
- Reduce volatility (focus on capital preservation)

Provide opportunities for “Absolute Return”

- Performance is measured in an “Absolute” sense (e.g., did you make money?) rather than “Relative” to a benchmark (e.g, did you beat the S&P 500?)

Hedge Fund Strategy Classifications

The ARS Program invests across these strategies seeking the appropriate risk adjusted return

Hedge Funds

Equity Hedged

- Long/Short Equity
- Fundamental Growth/Value
- Short Bias

Relative Value

- Convertible Arbitrage
- Equity Market Neutral
- Fixed Income Arbitrage
- Statistical Arbitrage

Event Driven

- Merger Arbitrage
- Distressed Securities
- Credit Arbitrage
- Specials Situation

Macro /Tactical Trading

- Managed Futures
- Commodity
- Systematic Trading
- Discretionary Macro

INVESTMENT REVIEW

ARS Investment Philosophy

1. Hedge funds are not an asset class. They are active investment strategies.
2. Implementing an absolute return investment program requires a solution-based approach targeted to an investor’s objective.
3. A liquidity premium exists within the absolute return universe.
4. Absolute return portfolios must be actively managed in order to achieve performance objectives.
5. Manager selection is more important than strategy allocation when managing an absolute return portfolio.
6. Significant non-market risks are present in absolute return investing. Manager due diligence and risk management are critical.

ARS – Three Pillars

Alignment of Interests

- Lower management fees - Emphasize performance instead of asset-raising
- Performance fees paid over a longer timeframe - Emphasize long-term value creation

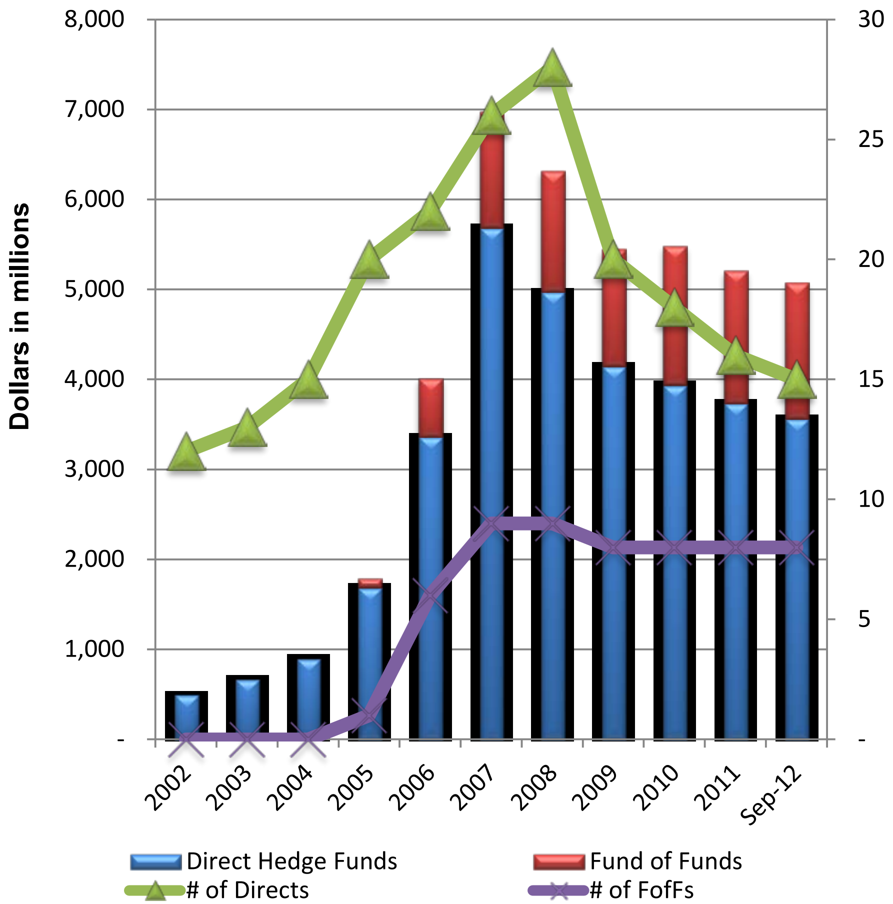
Control of Assets

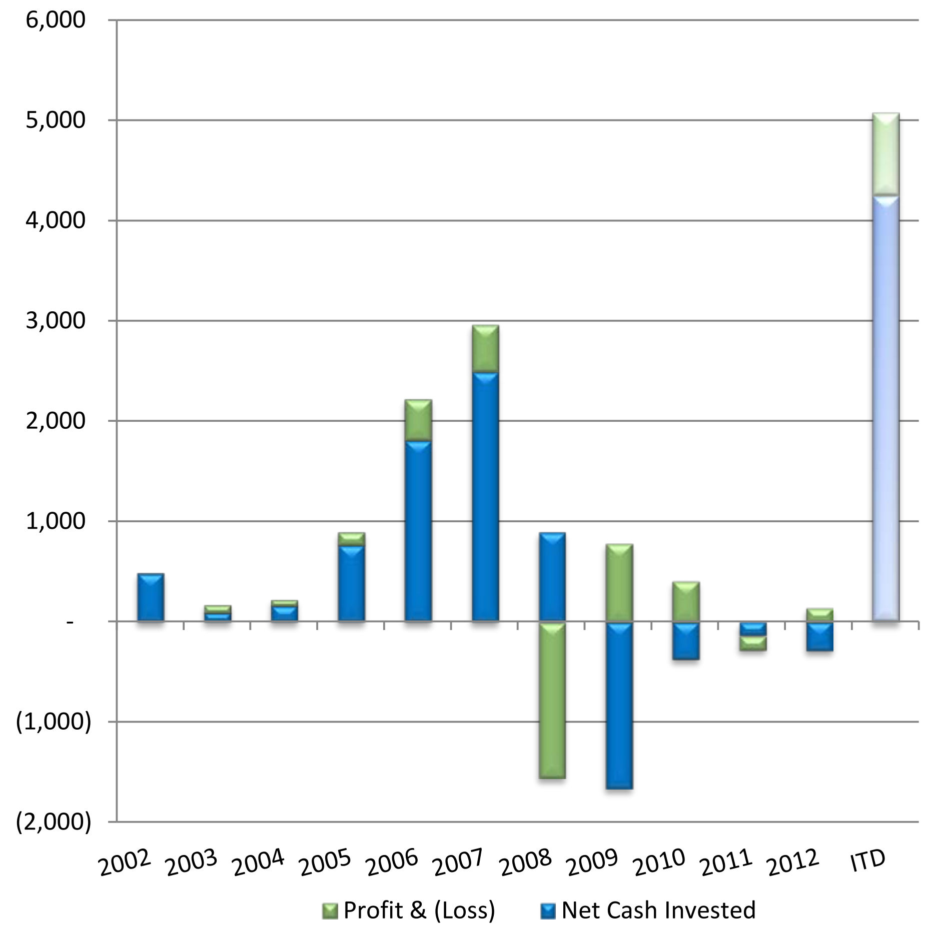
- Separate accounts instead of commingled funds
  - Allows for customized mandates more suitable to CalPERS needs
  - Avoids impact of other fund investors' behavior

Transparency of Risks and Exposures

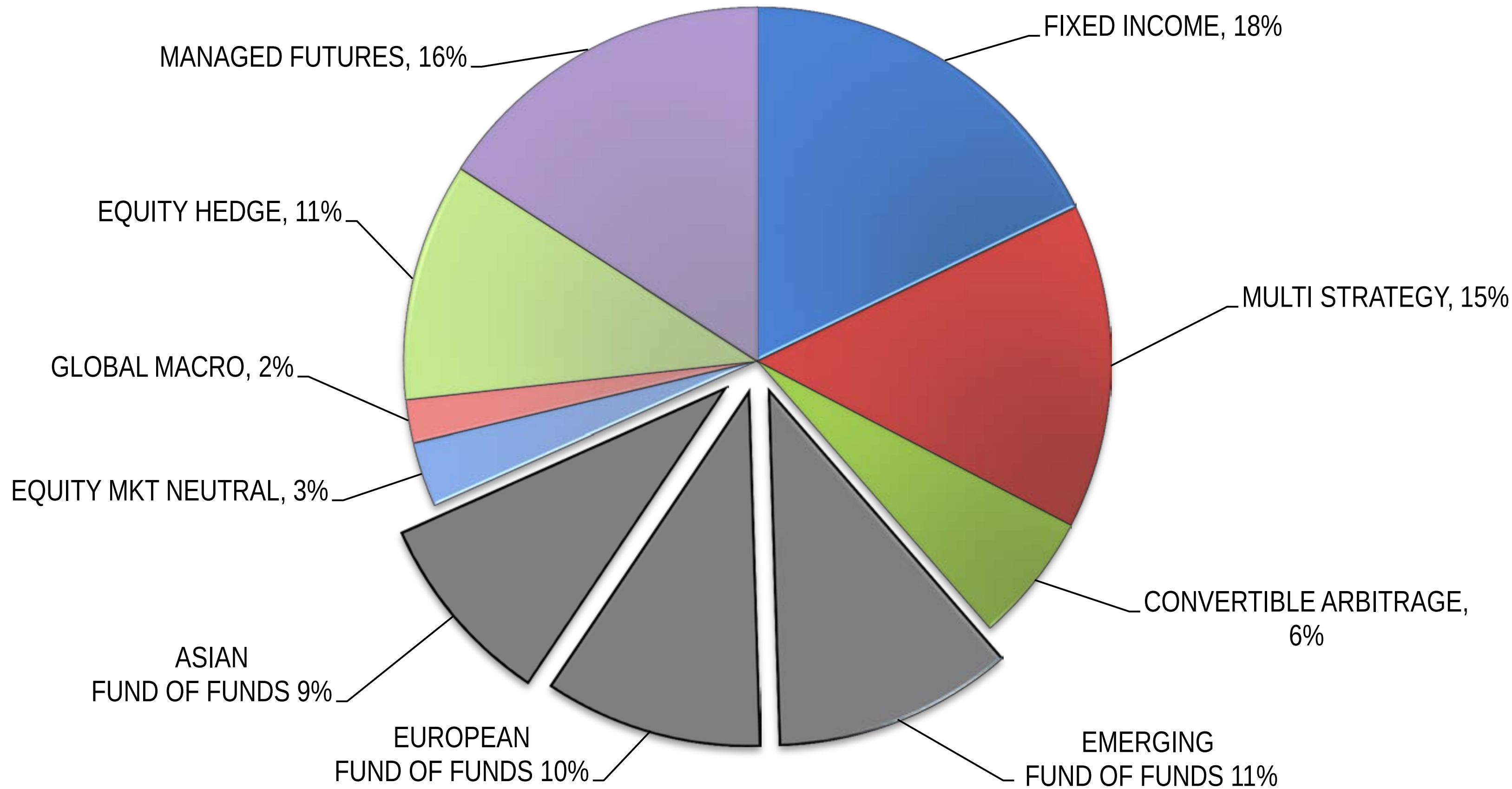
- Full security level transparency allows for better risk management
- Trust but verify

ARS Program: Assets Under Management History



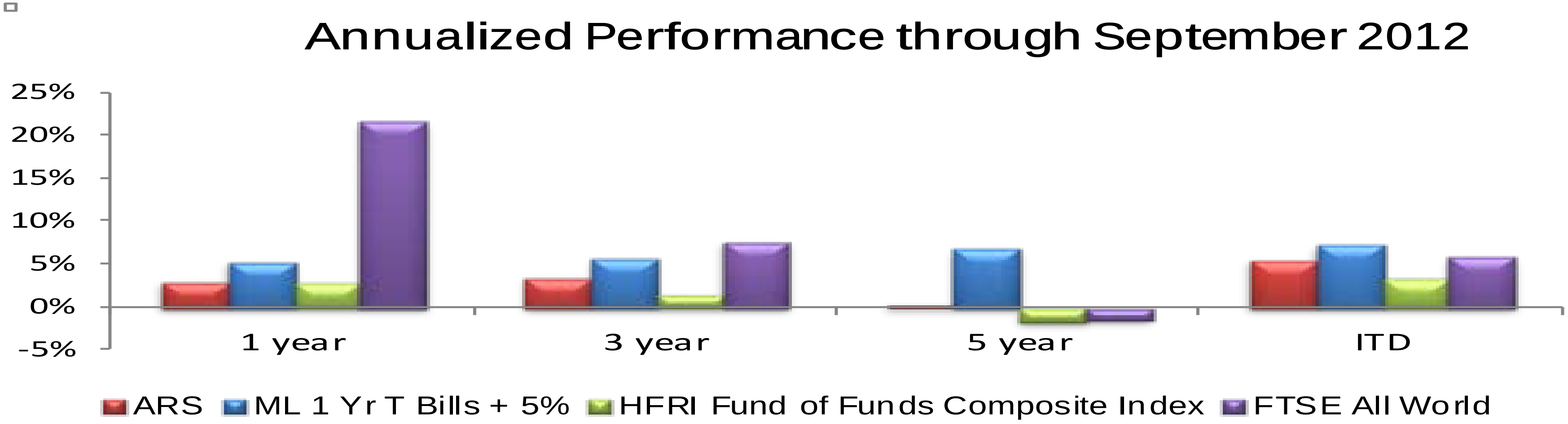


Portfolio Characteristics: ARS Strategy Allocation (as of 09/30/2012)



ARS Performance through September 30, 2012

Annualized Returns through September 30, 2012				
	ARS	**ARS Benchmark***	**HFRI Fund of Funds Composite Index**	**FTSE All-World Index**
1 year	2.99%	5.28%	2.84%	21.60%
3 year	3.41%	5.60%	1.47%	7.63%
5 year	0.37%	6.80%	-1.64%	-1.40%
Inception to Date (4/2002 – 9/2012)	5.46%	7.26%	3.32%	5.92%



*ML 1 Year T Bills + 5% ARS benchmark 2005-present; Equity / T Bills + 7% hybrid benchmark 2002-2004

ARS Annual Performance History

	ARS	ARS Benchmark*	HFRI FoHF Composite Index	FTSE All-World Index
2002 (Inception April 1)	-4.71%	-7.47%	0.04%	-19.37%
2003	14.13%	19.34%	11.61%	41.57%
2004	8.93%	6.94%	6.86%	12.35%
2005	10.14%	7.41%	7.49%	12.66%
2006	14.10%	9.51%	10.39%	13.92%
2007	9.70%	11.23%	10.25%	10.01%
2008	-19.93%	9.96%	-21.37%	-35.87%
2009	15.00%	5.82%	11.47%	52.10%
2010	8.20%	5.88%	5.70%	9.64%
2011	-2.58%	5.60%	-5.72%	-11.23%
2012 (through 9/30/12)	2.95%	3.91%	3.33%	13.52%

*ML 1 Year T Bills + 5% ARS benchmark 2005-present; 50% Equity /50% T Bills + 7% hybrid benchmark 2002-2004

Policy Compliance

	POLICY	ACTUAL
Risk Target	- Program risk: No greater than one-half the volatility of the Global Equity program benchmark over a 5 year period - Maximum annualized volatility: 8-9%	- Historical Volatility since inception: 5.6% - Three-year Trailing Volatility: 3.3%
Drawdown Control	- Losses in any one month shall not exceed: 10%	- September 2008: -6.5% vs. -9.1% (S&P 500) - October 2008: -6.4% vs. -16.9% (S&P 500)
Targeted Liquidity	- Direct ARS Investments: 90 days - FoHF's: No Policy Target	- Over 70% of ARS assets are in separate accounts ("Funds of One") allowing for liquidity in less than 90 days - Actual liquidity for FoHF portfolios is similar to the liquidity for direct ARS investments

THE ROLE OF ABSOLUTE RETURN STRATEGIES IN THE CALPERS TOTAL PORTFOLIO

CalPERS Benefits from Absolute Return Strategy

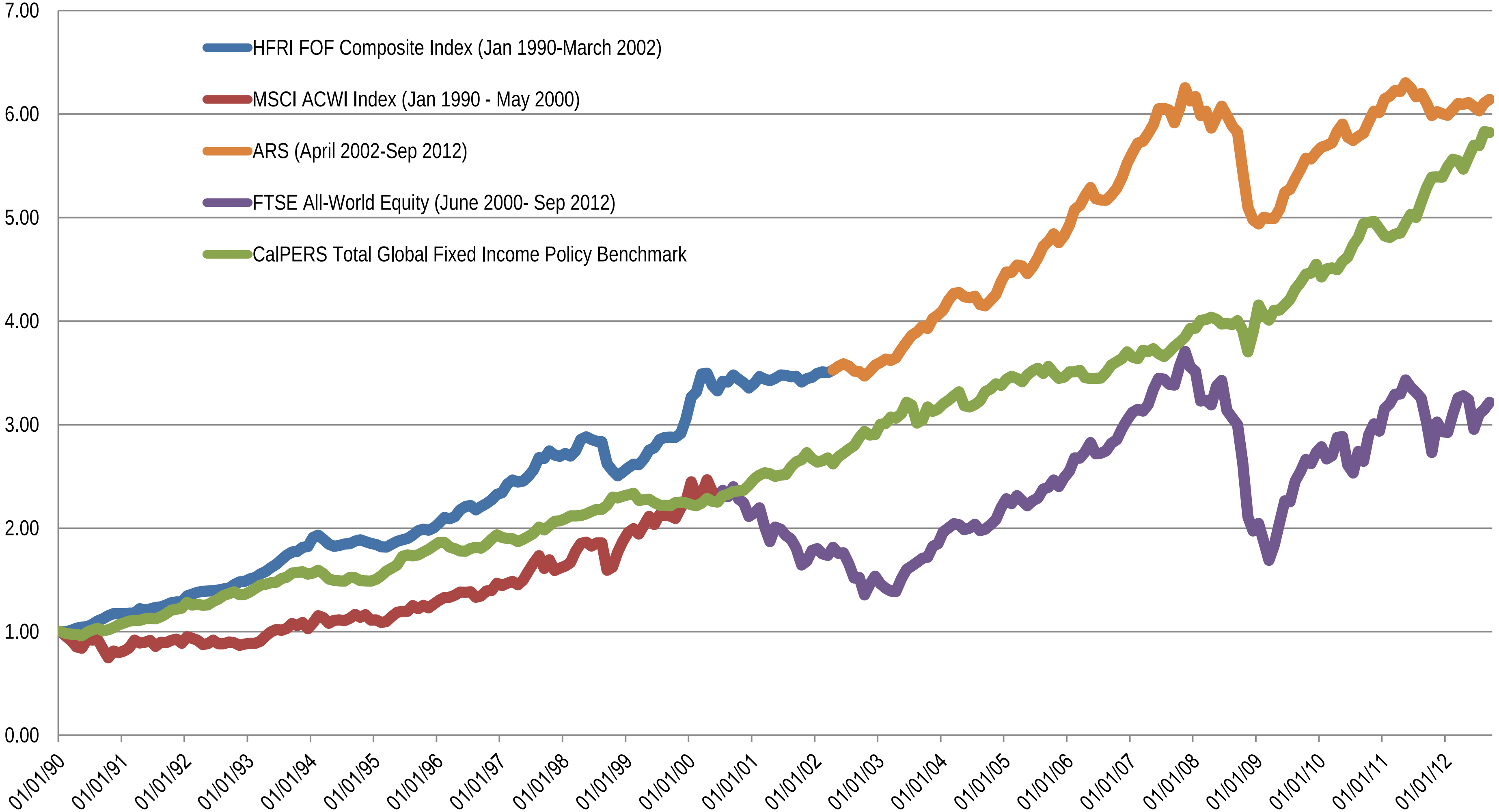
Diversification Benefits and Return Opportunities

- Diversify away from growth equity risk
- Produce returns in stress scenarios
- More avenues for alpha generation

Informational Benefits

- Real-time insights into markets, risk appetites, and opportunities
- Bearishness not an obstacle to performance
- Efficient extension of staff

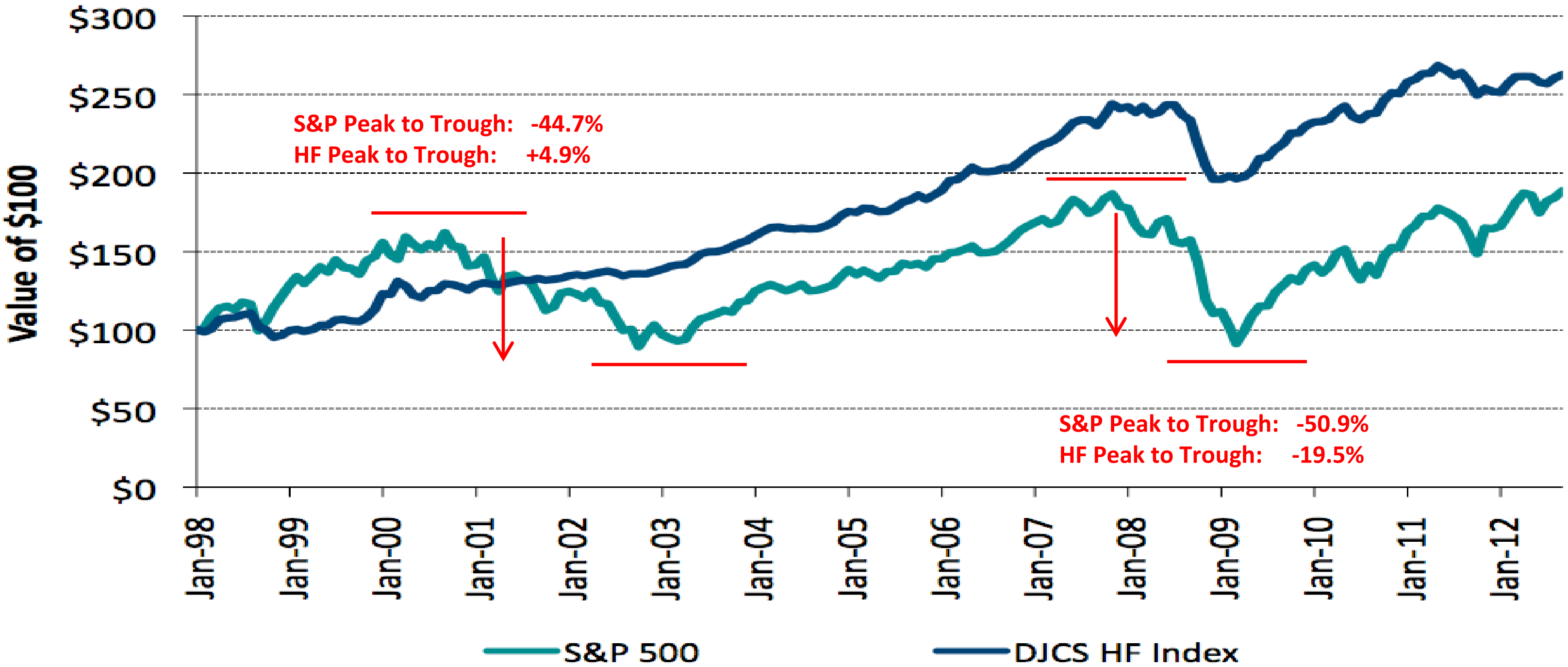
ARS Performance – Equity Diversification



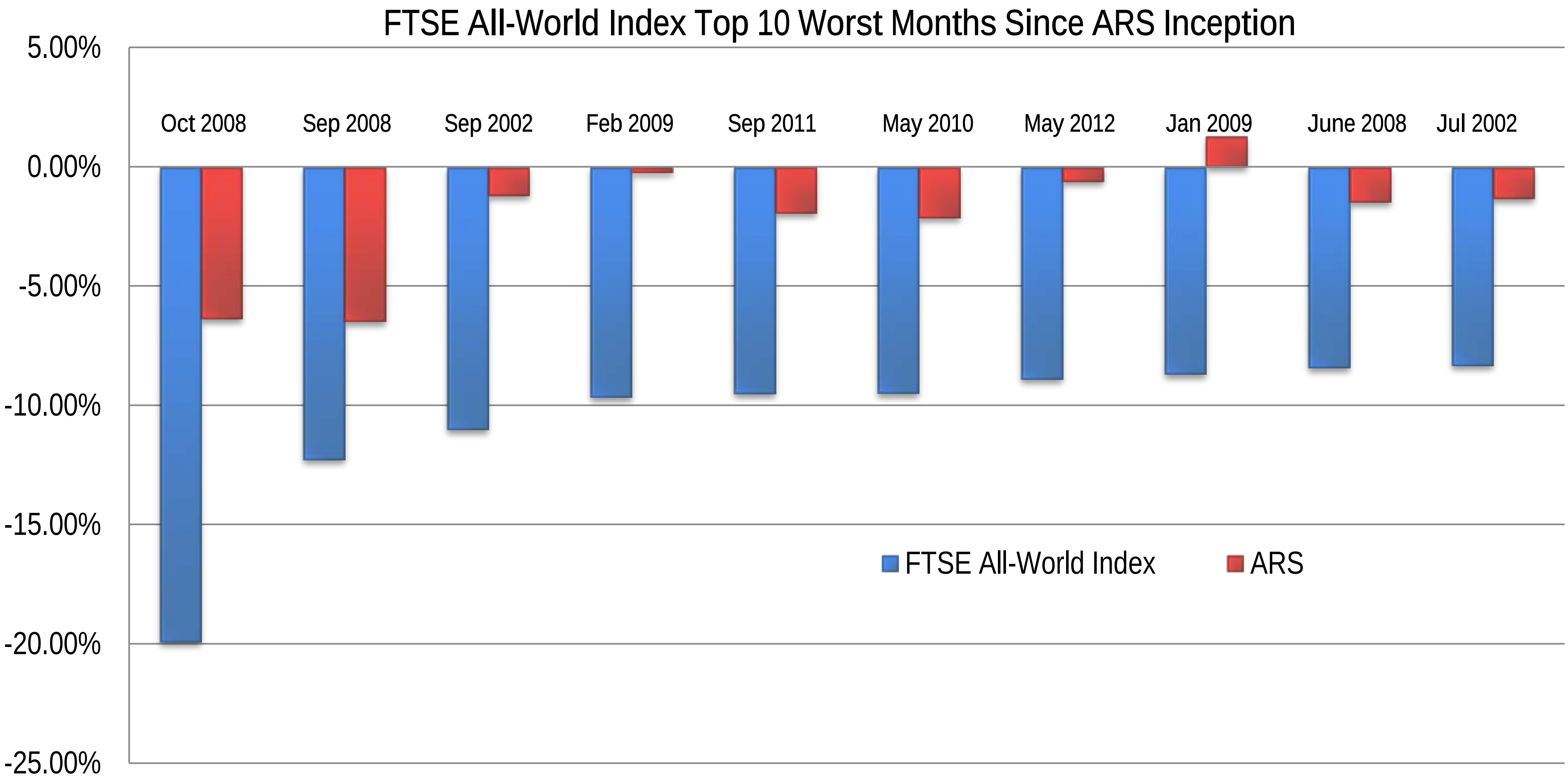
ARS: An Equity Diversifier

Cumulative Performance of Indices: *Better downside protection allows hedge funds to recover faster than equities providing for attractive longer term compounding benefits*

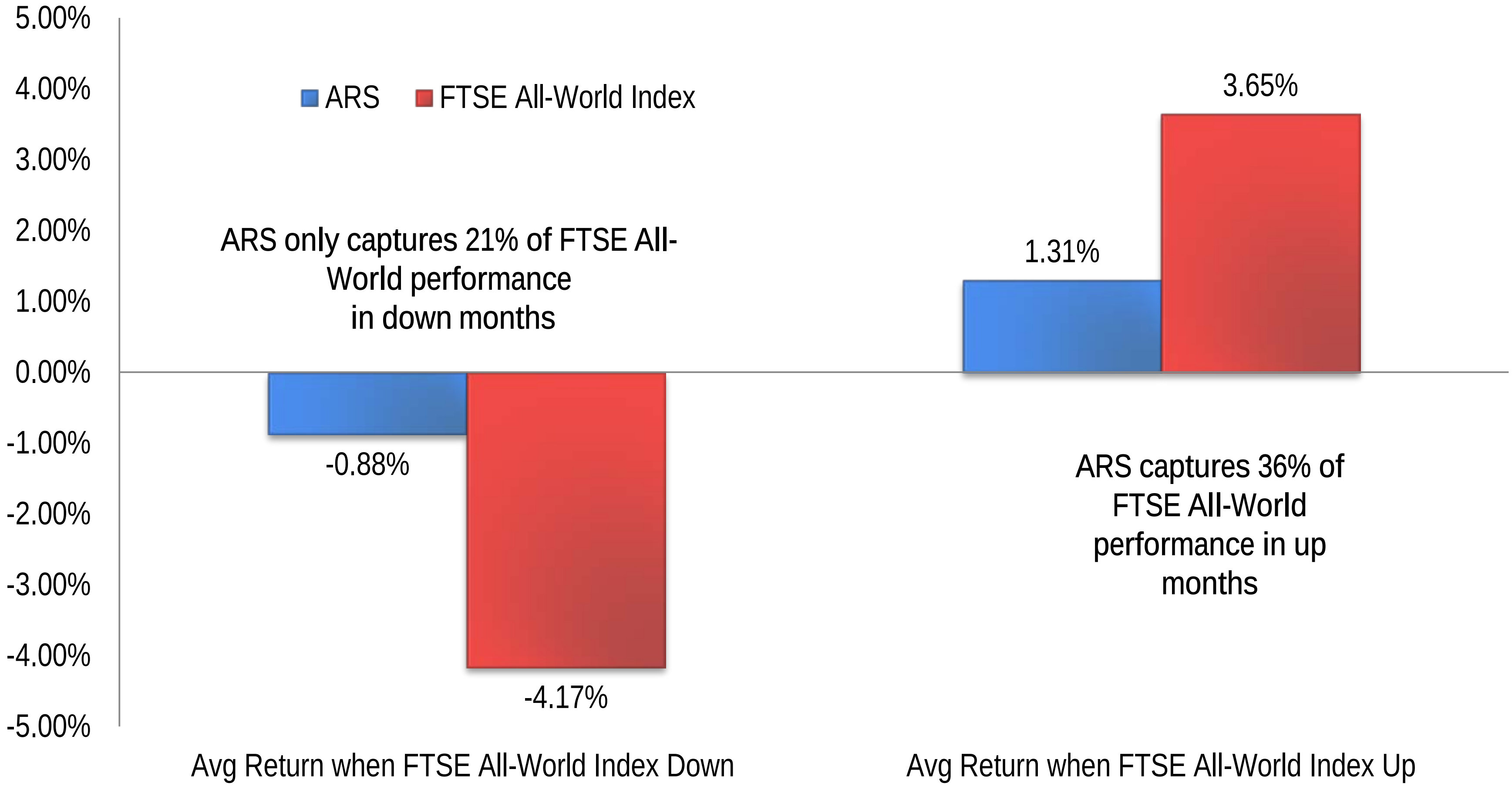
Remember – after a down 50% move, you have to be up 100% to get back to flat



ARS Performance vs. Equities' Worst Months



CalPERS ARS: Capturing More Equity Market Gains than Market Losses



Diversification Without Diminished Returns

- CalPERS exposure to market risk, notably equity risk, is high
- Absolute Return Strategies Portfolio reduces equity risk (e.g., FTSE All World Beta) without diminishing return expectations for CalPERS Total Fund
- Assuming capabilities exist to construct an appropriate ARS portfolio including authority & resources

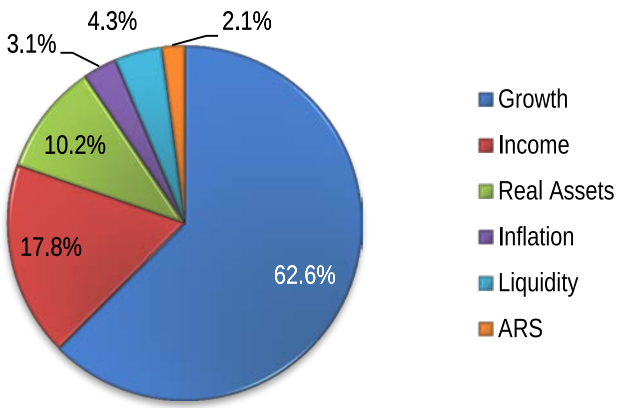
Characteristics	Current Portfolio (includes 2.1% Allocation to Absolute Return Strategies)	Current Portfolio with 10% Allocation to Absolute Return Strategies Sourced from Global Equity	Current Absolute Return Strategies Portfolio
Expected Volatility	13.3%	12.2%	3.7%
Beta to FTSE All World*	0.73	0.66	0.15
Expected Return	**7.4%	7.4%	1 Year T-bills + 5%

*FTSE All World Beta: Sensitivity to 1% decline in FTSE All World Index

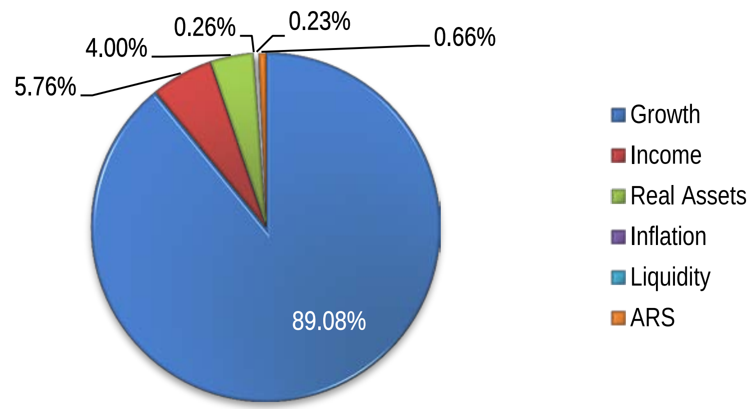
**Return expectations from 2010 Asset Allocation Workshop as follows: Fixed Income 4.5%, Public Equities 7.75%, Private Equity 9%, Real Estate 7%, ILAC 6% & Cash 3.25% for an expected geometric real return of 4.4%; plus inflation expectations of 3%

Role of ARS in CalPERS Total Portfolio - Diversify Growth Factor Risk

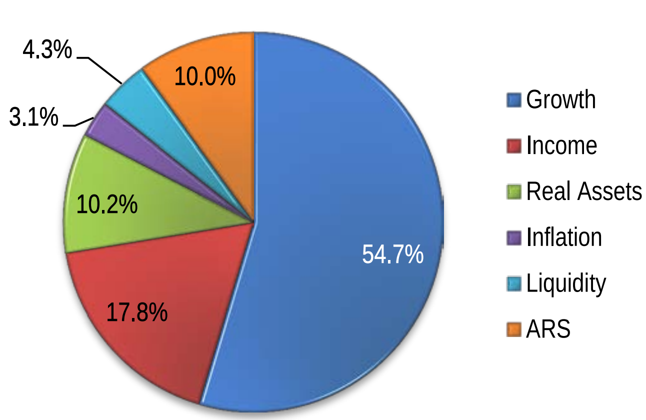
Actual Asset Allocation*



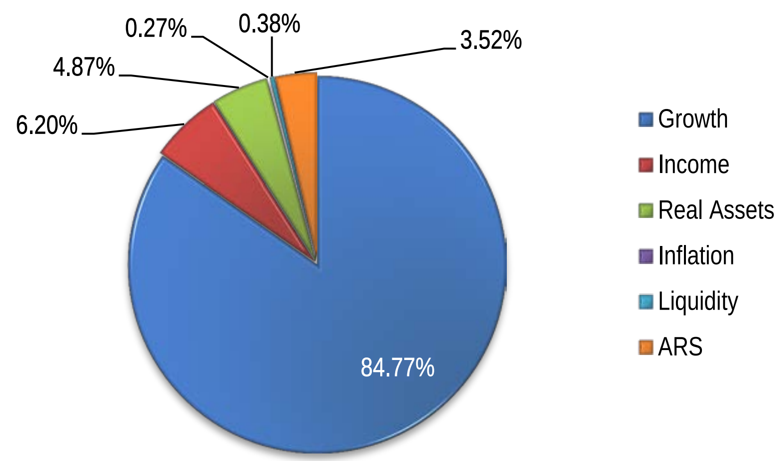
Contribution to Total Risk – Actual Allocation*



Asset Allocation with 10% from GE to ARS



Contribution to Total Risk with 10% from GE to ARS



*Source: Wilshire Associates (IC presentation on 11/13/2012). Portfolio data as of 9/30/2012

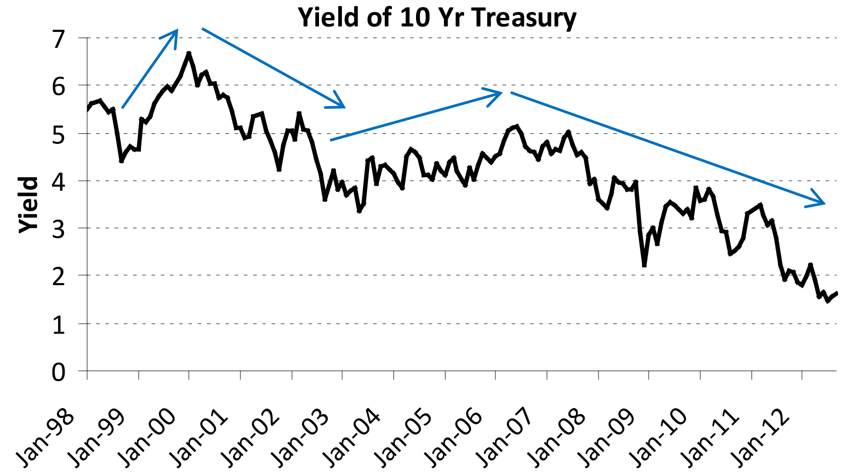
If Interest Rates Rise, ARS May Act as a Better Diversifier Than Fixed Income

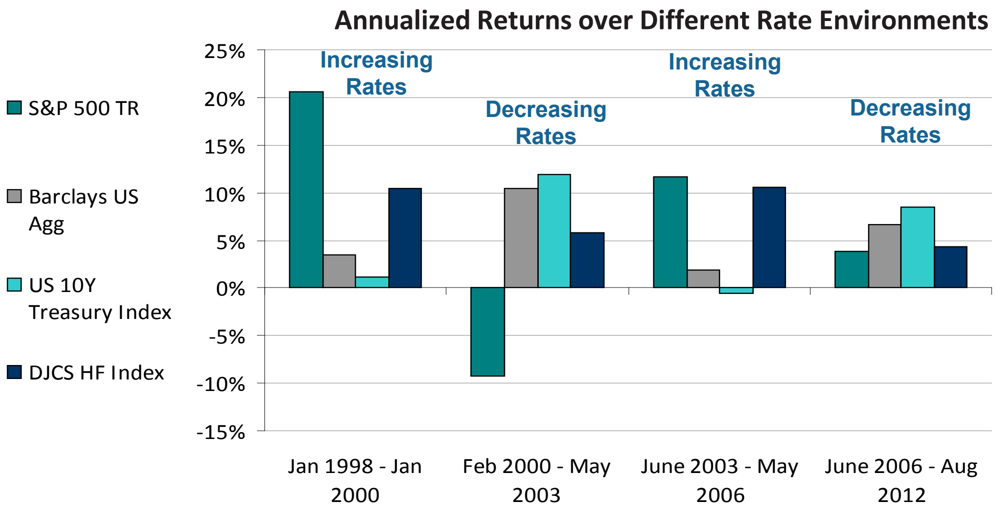
- Hedge Funds and Fixed Income both diversify equity risk,
- Yet perform very differently in *rising interest rate* environments

In analyzing performance data from Dow Jones Credit Suisse Hedge Fund Index (DJCS) going back to 1998, we separated history into two broad periods of rising rates and falling rates

For the two periods of *rising rates*, the average performance for hedge funds was significantly better than for fixed income assets:

	Avg. Return When Rates Rise
Hedge Funds	+10.5%
Barclays Agg	+2.7%
US 10yr Tsy	+0.3%

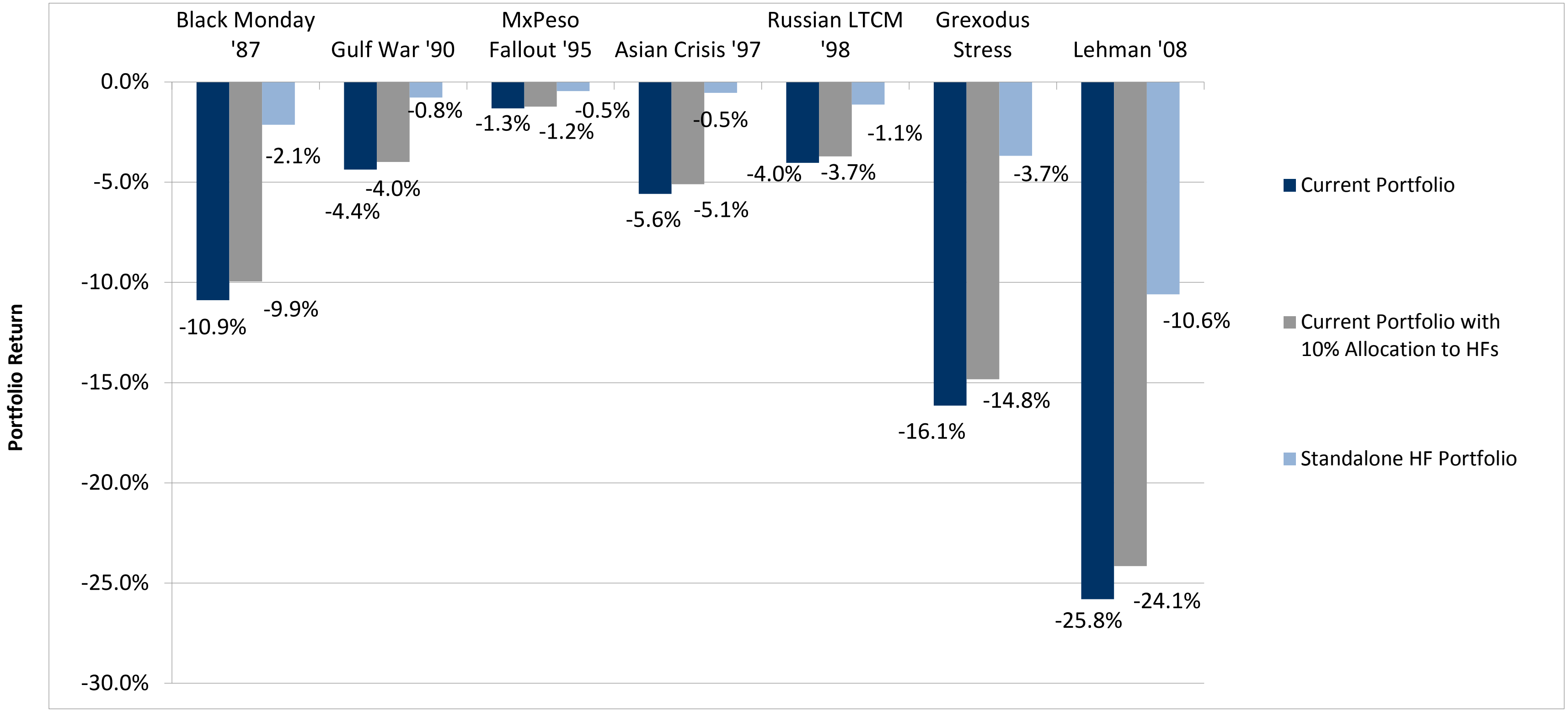




SCENARIO ANALYSIS USING PREDICTIVE STRESS TESTS

Scenario Analysis: Predictive Stress Tests

- The results below model how the current CalPERS portfolio is expected to behave if certain market stresses were to occur
- In each case, an allocation to ARS is expected to buffer overall portfolio returns during these identified market stresses
- It is interesting to note that ARS is not expected to produce positive returns in these scenarios



ARS Compared With Other CalPERS Asset Classes – Since Inception-9/30/12

	ARS β to:	Annualized Return	Annualized Standard Deviation	Sharpe Ratio (Risk Free Rate=2.00%)	Maximum Drawdown From Peak Value
TOTAL GLOBAL EQUITY	0.25	5.09%	16.96%	0.18	-53.53%
ILAC COMMODITIES *	0.11	4.23%	24.75%	0.09	-67.91%
PRIVATE EQUITY	0.05	9.23%	9.61%	0.75	-31.93%
TOTAL FIXED INCOME	0.20	8.49%	6.07%	1.07	-12.12%
REAL ESTATE	0.06	5.03%	15.31%	0.20	-60.23%
CalPERS ARS Program	**NA**	**5.46%**	**5.60%**	**0.62**	**-21.00%**
FoFs Composite Index (HFRI FOF Composite)	0.98	3.32%	5.43%	0.24	-22.20%
ARS Benchmark (ML 1 Year T Bills + 5% ARS benchmark 2005-present; Equity / T Bills + 7% hybrid benchmark 2002-2004)	0.25	7.26%	3.73%	1.41	-12.11%

Program inception date: 4/1/2002

*ILAC Commodities SX1CA1 inception is 10/01/07; S&P GSCI Returns used prior to that date

SUMMARY:

Role of ARS is to act as a Diversifier to equity growth risk in the Total CalPERS Portfolio

- Provide a return stream that demonstrates low beta to Global Equity
- Produce returns in stressed scenarios
- Maintain Total Portfolio long term returns
- Requires a meaningful allocation to achieve Total Portfolio diversification benefits
- Through partnership with ARS managers, provide insights into markets, risk appetites, and opportunities

Next Steps:

- Present ARS strategic plan at the February 2013 Investment Committee meeting

- Address 4 Remaining Strategic Questions:
  - a) Program Benchmark & Parameters
  - b) Capital Source
  - c) Program Size
  - d) Resources & Organization