Absolute Return Strategies Equity Beta Overlay

Asset Allocation

June 11, 2012

Executive Summary

- Staff recommends maintaining the Absolute Return Strategies (ARS) beta overlay for the interim until further decision is made on the strategic role and allocation of the ARS

Background

- In September 2011, the Investment Committee (IC) approved keeping ARS policy allocation at zero and equitizing the strategy with equity futures overlay for a year and asked staff to come back for reconsideration at the end of that period
- The beta overlay was designed to reduce the Total Fund tracking error (TE)
- Implementation began in November 2011 with notional value based on the portion of ARS market value that is not exposed to global equity market and the ARS Program was fully equitized in February 2012
- The ARS target beta was estimated to be 0.2 and will remain constant

Background - continued

- During the March 2012 ARS Workshop, the panel laid out the foundation to address four key questions:
  - The Role of ARS in the Total Fund
  - The Source of Capital
  - The Size of Allocation
  - The Appropriate Benchmark
- These fundamental questions will be addressed by the incoming ARS Senior Portfolio Manager and brought back to the IC for discussion
- Today's agenda focuses on the recommendation for the beta overlay decision

The Beta Overlay Performance

- Analysis is based on six months of data through April 2012
- The effectiveness of the beta overlay is measured by its impact on the Total Fund tracking error
- As intended, the beta overlay reduced Total Fund tracking error by 15 bps annualized *(Appendix 1)*

Two Options for the Beta Overlay

- Option 1: Maintain the beta overlay

Benefits	Risks
• Consistent with current Total Fund strategic asset allocation weights, thus minimizing Total Fund tracking error versus its Benchmark	• ARS Program realized beta deviates from 0.2 target beta *(Appendix 2)* • Additional monitoring and reporting complexity • Opportunity cost of maintaining the cash margin for futures

- Option 2: Remove the beta overlay

Benefits	Risks
• Eliminate additional monthly rebalancing and reporting complexity • Save the cost of maintaining the cash margin for futures	• Increase tracking error due to approximately 2% public equity under-weight, which can be fixed by an explicit allocation to the ARS Program in the Total Fund policy • Lower expected arithmetic returns *(Appendix 3-4)*

Rationale for the Recommendation

- Maintaining the beta overlay will continue to reduce Total Fund tracking error
- The potential ARS beta deviation can be mitigated by the ARS Program running a dynamic forecast on periodic ex-ante beta
- The opportunity cost of maintaining the cash margin for futures is within our tolerance
- If the alternative of removing the beta overlay is adopted, staff recommends an explicit allocation to the ARS Program, which would depend on resolution of the four fundamental questions laid out at the March 2012 ARS Workshop
- Therefore, for the interim, staff recommends maintaining the beta overlay with the ARS team managing the beta overlay exposure using a more dynamic beta forecast

APPENDIX

Appendix 1:
Total Fund Tracking Error

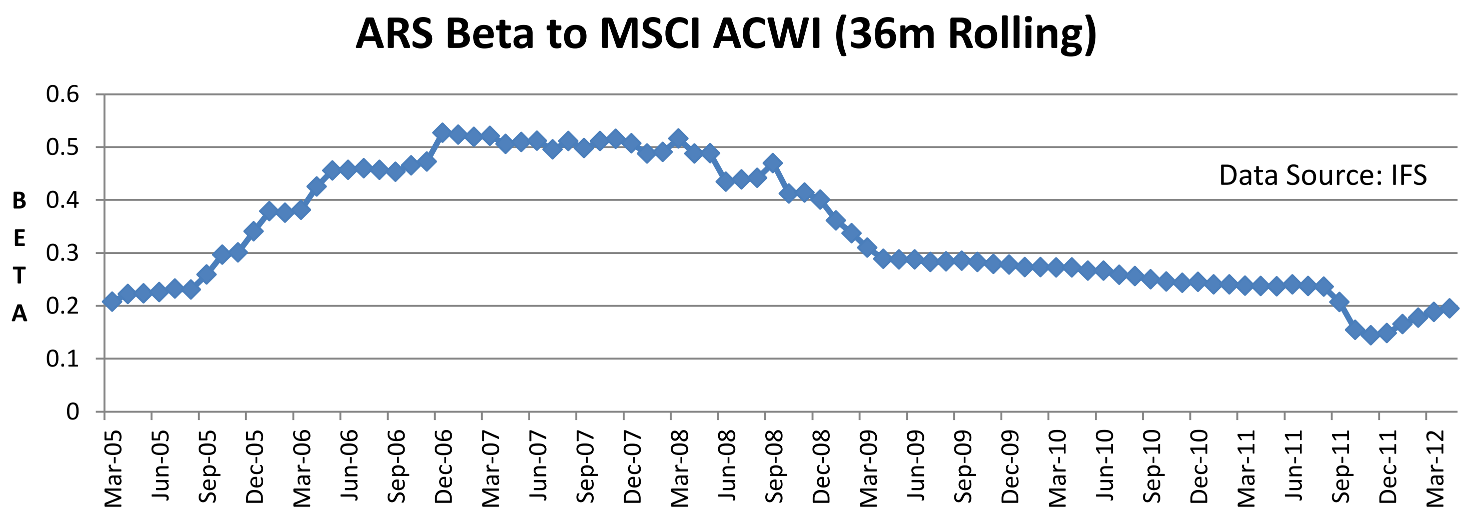
Public Equity Exposure from ARS									
		Portfolio		Active Weights				Excess Return (bps)	
Months	ARS Capital Weight	ARS Inherent Beta	ARS Beta Overlay	Without Beta Overlay	With Beta Overlay	From ARS Beta Deviation	From Notional Amount Deviation	Without Beta Overlay	With Beta Overlay
Nov-11	2.28%	0.35%	0.46%	-1.93%	-1.47%	-0.10%	-1.36%	0.05	0.04
Dec-11	2.35%	0.34%	0.93%	-2.01%	-1.08%	-0.13%	-0.95%	0.00	0.00
Jan-12	2.33%	0.35%	1.40%	-1.98%	-0.58%	-0.12%	-0.46%	-0.11	-0.03
Feb-12	2.22%	0.37%	1.78%	-1.86%	-0.08%	-0.08%	0.00%	-0.09	0.00
Mar-12	2.16%	0.38%	1.73%	-1.78%	-0.05%	-0.05%	0.00%	-0.02	0.00
Apr-12	2.18%	0.41%	1.74%	-1.77%	-0.03%	-0.03%	0.00%	0.02	0.00
Annualized TE (bps):					(1)	(2)	(3)	0.23	0.08

(1) = (2) + (3)

15 bps reduction
In tracking error annualized

Appendix 2:
ARS Historical Beta

- Realized beta reached a high of 0.53 in December 2006
- Staff restructured the ARS Program for an ex-ante target beta of 0.2 after the December 2006 high point
- Realized beta has been steadily decreasing and converging to the 0.2 target
- Realized beta has been in the 0.14 to 0.19 range since November 2011



Appendix 3:
Assumptions for ARS

- Annual Compound Return: 7% *
- Volatility: 8% **
- Correlation with Public Equity: 0.20
- Correlation with Private Equity: 0.20 ***
- Correlation with all other asset classes: 0

** 2% 1-year T-Bill assumption + 5% risk premium*

*** Consistent with ARS policy to keep volatility within half the five-year volatility of equities*

**** Assumed same correlation as public equity*

Appendix 4: Policy Portfolios: 0% Allocation versus 2.5% Allocation to ARS, Subtracted from Global Equity

	Compound Returns	Volatility	Arithmetic Returns	Policy Weight: Current 0% ARS Allocation	Policy Weight: 2.5% Allocation to ARS from GE
Fixed Income	3.75%	6.50%	3.95%	15.90%	15.90%
Public Equity	7.75%	16.00%	8.93%	49.10%	46.60%
Private Equity	9.00%	26.00%	12.06%	14.00%	14.00%
Real Estate	7.00%	14.00%	7.91%	10.00%	10.00%
Infras. & Forestland	7.00%	10.00%	7.47%	3.00%	3.00%
Inflation Linked Bonds	3.50%	6.00%	3.67%	3.00%	3.00%
Commodities	5.00%	21.00%	7.08%	1.00%	1.00%
Liquidity	3.25%	6.20%	3.44%	4.00%	4.00%
ARS	7.00%	8.00%	7.30%	0.00%	2.50%
Total Fund Arithmetic Return				8.04%	7.99%
Total Fund Volatiltiy				11.97%	11.63%
Total Fund Compound Return				7.37%	7.37%