

# MSCI Emerging Markets Option Overlay Matrix



## Definitions

**Floor:** Long Put Position

**Re-Entry:** Short Put Position

**Cap:** Short Call Position

**Option Premium:** Expressed as a percentage of portfolio value

**Option Strike:** Expressed as a percentage of current index level

**Published:** 7/23/2010

**iShares EEM:** 41.15

Option Term	Strike	Put Option Premium							Call Option Premium						
		-35%	-30%	-25%	-20%	-15%	-10%	-5%	0%	0%	+5%	+10%	+15%	+20%	+25%
3-Month		0.36%	0.56%	0.87%	1.32%	1.98%	2.96%	4.34%	6.23%	6.27%	3.85%	2.08%	0.99%	0.40%	0.13%
6-Month		1.47%	1.96%	2.58%	3.36%	4.36%	5.65%	7.25%	9.29%	8.53%	5.94%	3.88%	2.36%	1.35%	0.72%
1-Year		2.66%	3.49%	4.50%	5.73%	7.17%	8.89%	10.87%	13.17%	12.72%	10.34%	8.24%	6.45%	4.93%	3.72%
2-Year		6.60%	7.77%	9.16%	10.77%	12.43%	14.42%	16.46%	18.80%	17.14%	14.82%	12.61%	10.60%	8.77%	7.24%

### Example Hedge Structure: 1 year MSCI EEM Put Spread Collar: -10% Floor / -30% Re-entry / +10% Cap

Investor purchases a -10% Floor and sells a -30% Re-Entry and +10% Cap on the iShares EEM (ETF)

Cost of a one-year -10% Floor:	8.89%
Value of a one-year -30% Reentry:	-3.49%
Value of a one-year +10% Cap:	-8.24%
<b>Net cost to investor as a % of portfolio value:</b>	<b>-2.84%</b>

**NOTE:** Please see pages 2-3 for sample hedge profile.

For informational purposes only. Costs and protection levels are based on current market characteristics and assumptions which change over time. The protection levels and costs described are estimates which may not be achieved or achievable and The Clifton Group makes no guarantee in this regard. Option premiums are calculated using implied market volatility on index traded options. Option strike levels based on index price, not index total return. Source: Bloomberg

Historical Data available upon request: [Info@TheCliftonGroup.com](mailto:Info@TheCliftonGroup.com)

## MSCI Emerging Markets Put-Spread Collar

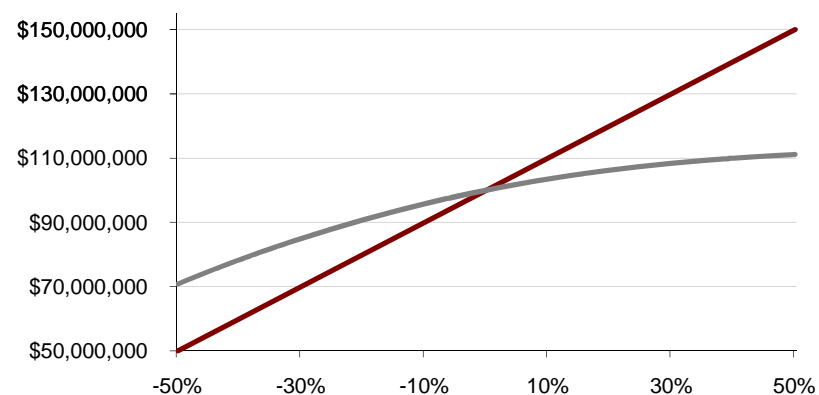
1-Year Term

Hedge Profile - 07/23/2010

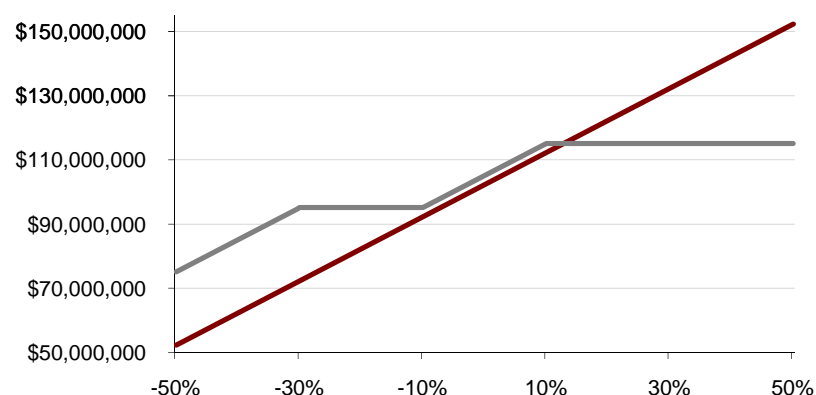
iShares EEM: 41.15  
Notional: \$100,000,000  
Hedge Term: 7/23/2011

<u>Hedge Structure</u>	<u>Position</u>	<u>Contracts</u>	<u>Option Type</u>	<u>Index</u>	<u>Strike</u>	<u>Term</u>	<u>Premium</u>	
<b>Floor:</b> -10.00%	Long	24,301	Put	iShares EEM	37.04	7/23/11	\$	8,893,130 8.89%
<b>Reentry:</b> -30.00%	Short	(24,301)	Put	iShares EEM	28.81	7/23/11	\$	(3,488,206) -3.49%
<b>Cap:</b> +10.00%	Short	(24,301)	Call	iShares EEM	45.27	7/23/11	\$	(8,241,837) -8.24%
<b>Initial Premium:</b>							\$	(2,836,913) -2.84%

Portfolio Value - Instantaneous  
7/23/2010



Portfolio Value - at Maturity  
7/23/2011



— Unhedged Portfolio  
— Hedged Portfolio

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Return Estimate Period: 7/23/10 - 7/23/11

Protection Strategy  
Expected Return Profile

Equity Cash Index Return (excludes Dividends)		Total Return Index <sup>1</sup>		Hedge Value at Expiration	Protection Gain/Loss <sup>2</sup>		Protected Equity Total Return <sup>3</sup>	
%	\$	%	\$	\$	%	\$	%	\$
50%	50,000,000	52.27%	52,267,685	(40,000,000)	-37.16%	(37,163,087)	15.10%	15,104,598
45%	45,000,000	47.27%	47,267,685	(35,000,000)	-32.16%	(32,163,087)	15.10%	15,104,598
40%	40,000,000	42.27%	42,267,685	(30,000,000)	-27.16%	(27,163,087)	15.10%	15,104,598
35%	35,000,000	37.27%	37,267,685	(25,000,000)	-22.16%	(22,163,087)	15.10%	15,104,598
30%	30,000,000	32.27%	32,267,685	(20,000,000)	-17.16%	(17,163,087)	15.10%	15,104,598
25%	25,000,000	27.27%	27,267,685	(15,000,000)	-12.16%	(12,163,087)	15.10%	15,104,598
20%	20,000,000	22.27%	22,267,685	(10,000,000)	-7.16%	(7,163,087)	15.10%	15,104,598
15%	15,000,000	17.27%	17,267,685	(5,000,000)	-2.16%	(2,163,087)	15.10%	15,104,598
10%	10,000,000	12.27%	12,267,685	0	2.84%	2,836,913	15.10%	15,104,598
5%	5,000,000	7.27%	7,267,685	0	2.84%	2,836,913	10.10%	10,104,598
0%	0	2.27%	2,267,685	0	2.84%	2,836,913	5.10%	5,104,598
-5%	(5,000,000)	-2.73%	(2,732,315)	0	2.84%	2,836,913	0.10%	104,598
-10%	(10,000,000)	-7.73%	(7,732,315)	0	2.84%	2,836,913	-4.90%	(4,895,402)
-15%	(15,000,000)	-12.73%	(12,732,315)	5,000,000	7.84%	7,836,913	-4.90%	(4,895,402)
-20%	(20,000,000)	-17.73%	(17,732,315)	10,000,000	12.84%	12,836,913	-4.90%	(4,895,402)
-25%	(25,000,000)	-22.73%	(22,732,315)	15,000,000	17.84%	17,836,913	-4.90%	(4,895,402)
-30%	(30,000,000)	-27.73%	(27,732,315)	20,000,000	22.84%	22,836,913	-4.90%	(4,895,402)
-35%	(35,000,000)	-32.73%	(32,732,315)	20,000,000	22.84%	22,836,913	-9.90%	(9,895,402)
-40%	(40,000,000)	-37.73%	(37,732,315)	20,000,000	22.84%	22,836,913	-14.90%	(14,895,402)
-45%	(45,000,000)	-42.73%	(42,732,315)	20,000,000	22.84%	22,836,913	-19.90%	(19,895,402)
-50%	(50,000,000)	-47.73%	(47,732,315)	20,000,000	22.84%	22,836,913	-24.90%	(24,895,402)

1 Total Return Index assumes a constant dividend yield of 2.27% that is independent of the return on the Cash Index

2 Protection Gain/Loss is equal to Hedge Value at Expiration less the premium paid at initiation of hedge.

3 Protection Equity Total Return is equal to the sum of the Total Return Index and the Protection Gain/Loss.

**Comment:** The Protected Equity and Equity Total Return calculations above assume iShares MSCI EEM performance results. Actual performance will be higher or lower depending on actual manager results versus the iShares MSCI EEM over the protection term.