

# GCC Asset Allocation & Volatility

See-Saw Pattern to Returns Observed

May 2008

Research Highlights:  
Suggesting asset allocation among GCC stock markets based on quantitative proprietary models developed by Markaz

## Asset Allocation Review – April 2008

Strategies	Monthly Return (%)	MTD Out performance/ Under performance Vs SAA (%)	YTD 08 Out performance/ Underperformance Vs SAA (%)
Strategic Asset Allocation (SAA)	9.47	-	-

1. Momentum Model	6.87	-2.60	-6.58
2. Mean Reversion Model	12.07	2.60	6.92
3. Risk Model	7.30	-2.17	4.98

Source: Markaz Research, The strategies are quantitative models proprietary to Markaz Research

Markaz Research is available on:

**Bloomberg**  
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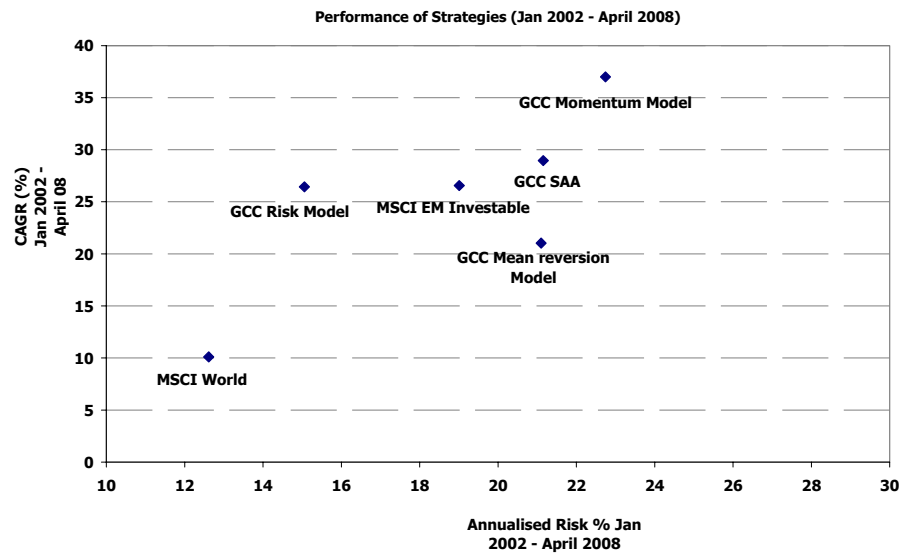
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Asset Allocators should be going nuts. GCC markets have started strangely exhibiting a see-saw pattern to returns. One month positive followed by another month negative. Look at the pattern of returns for the Strategic Asset Allocation model: Jan (-7%), Feb (+5.5%), March (-7%), April (+9.5%)...While this is a classic situation for someone that bets on mean reversion, it may be a nightmare for others who bet on the momentum characteristics of GCC markets. Traditionally, GCC markets exhibited momentum characteristics as can be seen by the huge out performance of our momentum model (Figure 1 & 2). However, year 2008 so far is not the case definitely. Our mean reversion model has outperformed other strategies significantly (Table 1). Our asset allocation for Momentum model is leveraged to the full with bullish allocation to Saudi and Kuwait. The mean reversion model's asset allocation however is 20% cash with lower allocation across the markets.

Strategies	Saudi Arabia	UAE	Kuwait	Bahrain	Qatar	Oman	Cash/ (Loan)	Portfolio Total
SAA	57%	13%	21%	1%	6%	2%	0%	100%
<b>TAA Strategies</b>								
1. Momentum Model	69%	16%	26%	0%	8%	2%	-20%	100%
2. Mean Reversion Model	45%	11%	17%	1%	5%	1%	20%	100%
3. Risk Model	30%	12%	26%	1%	10%	2%	20%	100%

Source: Markaz Research. The strategies are quantitative models proprietary to Markaz Research

**Figure 1: Long-term Trends of Asset Allocation Strategies**

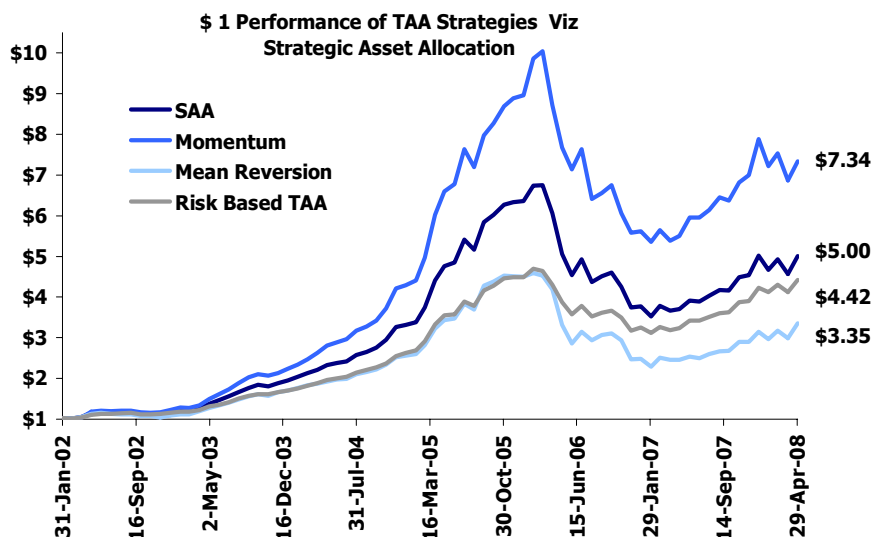


Momentum model's exposure to Saudi has increased to 69% for May 08

Source: Markaz Research

It is interesting to note the long-term performance of these models. Momentum clearly leads the pack in terms of overall outperformance. For a marginal increase in risk, it offered tremendous upside with annual CAGR of 37% compared to 29% for SAA. Mean reversion has been the worst performing model in the long-term confirming the fact that GCC stock markets are more momentum driven. It underperformed the SAA by nearly 8% annually. However, for the year 2008 the flavor seems to be that of mean reversion. The risk based model, though has performed poorly when compared to Momentum and SAA, it has scored very high in terms of enjoying the lowest risk among all strategies. The annual standard deviation for this model at 15% is certainly a lot lower than all other models.

**Figure 2: \$1 Performance of TAA Strategies**



Momentum model posted return of 37% on CAGR basis since 2002 – till April 08

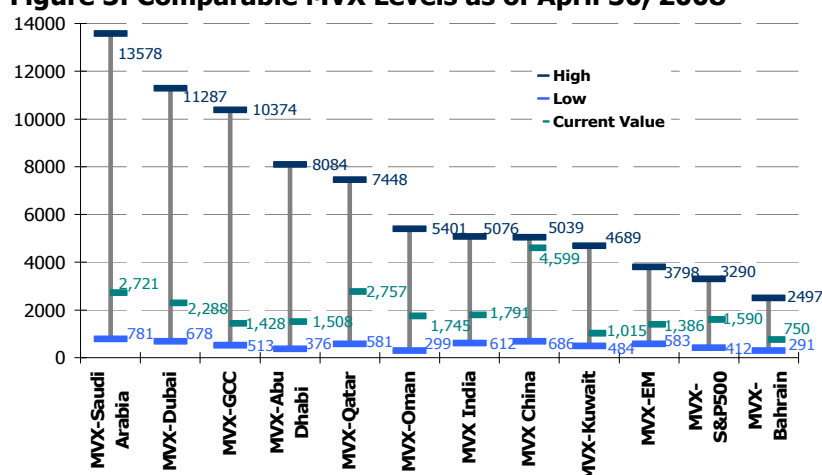
Source: Markaz Research

In the GCC region, Qatar recorded the highest increase of 9% in volatility

### Volatility (As measured by Markaz Volatility Index)

The GCC markets (except Qatar) exhibited a decline in volatility levels in April 2008. Qatar registered a 9% increase in volatility compared to March 2008, when it had recorded a 10% decline. Among the GCC countries, UAE recorded the sharpest fall in volatility, with Abu Dhabi and Dubai registering 40% and 38% decline in volatility, respectively. S&P 500 and Emerging Markets (EM) showed a significant decline in volatility compared to March 2008 (Figure 3). Among all the tracked markets, China was the most volatile with a 23% MoM increase in volatility. Furthermore, it was the only market to trade higher than its 120-Day Moving Average and its current MVX is close to its all-time historic high.

Figure 3: Comparable MVX Levels as of April 30, 2008



China's MVX near its all-time high

Source: Markaz Research

Key Trends & Inference			
Index/Country	MVX Spot as on 30 Apr 2008	% Chg (MoM)	Inference
Bahrain	750	-23	MXV Bahrain decreased 23% in April and was up 33% on a trailing twelve-month basis.
Kuwait	1,015	-5	Though MXV Kuwait registered a decrease of 5% in April, it was up 7% on a trailing twelve-month basis.
Emerging Markets	1,386	-46	MXV EM was trading 42% below its 120-Day MVA due to the 46% decline in April 2008.
GCC	1,428	-8	MXV GCC decreased 8% in April compared to its 26% decline in March 2008.
Abu Dhabi	1,508	-40	MXV Abu Dhabi was up 5% in March but was down 40% in April. It was up 18% on a trailing twelve-month basis.
S&P500	1,590	-40	Volatility in S&P decreased 40% in April compared to an increase of 29% in March 2008.
Oman	1,745	-9	MXV Oman declined 9% in April and was trading 26% below its 120-Day MVA <sup>2</sup> .
India	1,791	-44	India was the most volatile market in March; however, the MXV India declined 44% in April and was up 24% on a trailing twelve-month basis.
Dubai	2,288	-38	MXV Dubai posted a decrease of 38% in April as against an increase of 4% in March.
Saudi Arabia	2,721	-11	MXV Saudi Arabia recorded a MoM decrease of 11% and was trading 32% below its 120-Day MVA.
Qatar	2,757	9	Though MXV Qatar was up 9% in April, it was 12% below its 120-Day MVA.
China	4,599	23	MXV China was the most volatile market and was trading 52% higher than its 120-Day MVA.

Source: Markaz Research

Note: <sup>1</sup> - Variation calculated on a MoM basis <sup>2</sup> - 120-Day Moving Average

## Correlation

### Short-Term

Short-term correlation of Kuwait with Saudi Arabia increased 370 bps, while correlation of Kuwait with Qatar rose 280 bps

In the short-term, Abu Dhabi and Qatar enjoyed a near 0 correlation to S&P 500. The short-term correlation of Saudi Arabia with other GCC nations (except Bahrain) increased in April as compared to March 2008. Among all the GCC markets, the correlation of the Kuwaiti market with Saudi Arabia and Qatar increased the maximum. While the correlation of Kuwait with Saudi Arabia rose 370 bps, the correlation of Kuwait with Qatar increased 280 bps (Table 3). The correlation of GCC markets with the S&P 500 market continued to be low in April. However, barring Saudi Arabia, the correlation of the S&P 500 market with the other GCC markets increased in the range of 100–200 bps.

**Table 3: Short-Term Correlation**

	1Y Correlation (May 2007–April 2008)								
	Saudi Arabia	Kuwait	Dubai	Abu Dhabi	Qatar	Oman	Bahrain	S&P 500	GEM*
Saudi Arabia	100								
Kuwait	11	100							
Dubai	29	22	100						
Abu Dhabi	28	28	69	100					
Qatar	20	19	36	47	100				
Oman	25	14	32	40	33	100			
Bahrain	5	24	10	13	19	10	100		
S&P 500	4	4	2	1	1	8	3	100	
GEM*	16	10	19	20	21	15	4	30	100

Source: Markaz Research; \*: Global Emerging Markets

### Long-Term

GCC Stock Markets continue to enjoy negative correlation with S&P500

GCC stock markets continue to enjoy negative correlation with S&P 500 and single digit correlation with global emerging markets. Qatar and S&P 500 offers the best bet with a negative correlation of -3%. Mirroring the trend observed in short-term correlation, the long-term correlation between the Kuwaiti and Qatari markets increased 260 bps in April (Table 4).

**Table 4: Long-Term Correlation**

	3Y Correlation (May 2005 – April 2008)								
	Saudi Arabia	Kuwait	Dubai	Abu Dhabi	Qatar	Oman	Bahrain	S&P 500	GEM*
Saudi Arabia	100								
Kuwait	17	100							
Dubai	19	16	100						
Abu Dhabi	20	17	56	100					
Qatar	4	12	13	20	100				
Oman	8	9	14	13	21	100			
Bahrain	6	20	6	10	11	15	100		
S&P 500	(1)	2	(1)	(1)	(3)	8	3	100	
GEM*	6	4	7	6	7	11	3	32	100

Source: Markaz Research; \*: Global Emerging Markets

Qatar was the top performer while all the GCC markets performed well

### Market Review

The GCC markets exhibited strong performance in April 2008, with all markets posting positive returns. Qatar's Doha Stock Market (DSM) was the best performing market with MoM returns of 18.2% (Table 5). This was a strong comeback by the Qatari market, considering that it had recorded a loss of 8.8% in March. After posting two double-digit losses of 13.4% and 11.4% in January and March respectively, the Saudi market bounced back and registered double-digit gains of 11.9% in April. Kuwait, continuing with its growth momentum in April, recorded the fifth consecutive gain with a MoM return of 2.8%. The UAE posted a MoM gain of 7.6% in April that was supported by Abu Dhabi Stock Market Index (ADSMI)'s and Dubai Financial Market (DFM)'s gains of 9.5% and 7.2%, respectively. While UAE made the highest contribution to the total volume traded and surpassed last month's topper Kuwait, Saudi Arabia maintained its position and recorded the highest total value traded amongst the GCC markets in April (Table 6).

**Table 5: Market Indicators**

Indicators	M. Cap (USD Bn)	Last Close	April 08 %	YTD %	07 %	P/E 07	P/E 08
Saudi (TASI)	490	10,066	11.94	-8.81	41	20	19
Kuwait (KSE)	214	14,755	2.82	16.98	34	13	11
Abu Dhabi (ADI)	124	4,988	9.49	9.60	52	17	13
Dubai (DFMGI)	110	5,737	7.21	-3.27	51	22	-
Qatar (Doha SM)	127	11,289	18.15	-0.27	34	17	12
Bahrain (BAX)	29	2,841	1.85	3.13	24	8	7
Oman (Muscat SM)	28	11,210	10.96	24.08	62	13	12
MSCI GCC	752	768	9.23	-4.36	47	19	14

Source: Excerpt from Markaz "Daily Morning Brief" May 1, 2008  
CY08 Estimates are Markaz Earnings Estimates

**Table 6: Volume and Value Traded**

Indicators	Volume Traded (Mn)	% Of Volume Traded	Volume LTM Avg. (Mn)	Value Traded (USD Mn)	% Of Value Traded	Value LTM Avg (\$ Mn)
Saudi Arabia	5,393	21%	4,640	53,801	61%	51,882
Kuwait	8,593	34%	7,232	13,269	15%	13,131
UAE	10,378	41%	11,829	14,200	16%	12,993
Qatar	409	2%	318	5,162	6%	3,268
Bahrain	94	0%	113	101	0%	142
Oman	558	2%	359	1,082	1%	620
<b>Total</b>	<b>25,424</b>			<b>87,615</b>		

Source: Respective Stock Exchanges, Markaz Research; LTM refers to Last Twelve Months

UAE leads the volume traded while Saudi Arabia leads the value traded

## Saudi Arabia

**Table 7: Saudi Arabia Key Market Statistics**

Key Statistics (April 2008)			
Volume Traded (Mn)	5,393	LTM Average Volume Traded (Mn)	4,640
Value Traded (USD Mn)	53,801	LTM Average Value Traded (USD Mn)	51,882
Top 5 Concentration Market Cap(%)	48	Top 5 Concentration Market Volume (%)	50

**Source:** Respective Stock Exchange, Markaz Research

Saudi Arabia recorded its strongest gains in 2008, with MoM returns of 11.9% in April

Saudi Arabia's Tadawul All Share Index (TASI) recorded its strongest gains in 2008, with returns of 11.9% in April. However, due to poor performance in the January and March, the TASI posted a YTD loss of 8.8% in April. Though volumes traded for the month of April increased to 5,393 Mn as compared to 4,242 Mn in March, LTM average volume traded decreased slightly to 4,640 Mn from 4,693 Mn in March (Table 7).

Among heavyweights, the Saudi Basic Industries Corp. (SABIC) stock was up 7.0% for the month of April, as the company posted a net profit of SAR6.92 Bn, a 10% y-o-y rise in Q1 2008. Saudi Telecom Co. (STC)'s first quarter 2008 profit rose 11% from SAR2.72 Bn in Q1 2007 to SAR3.03 Bn as it added new subscribers. STC's subscriber base increased 23% during the same period. The stock rose 10.5% during the month. Al Rajhi Bank's first quarter profit rose 2.1% y-o-y to SAR1.6Bn led by growth in its lending business and the stock rose 15.3% during the month. Samba Financial Group recorded a 5.4% y-o-y decrease in its first quarter profit to SAR1.2 Bn due to lower bourse-related revenues. However, the stock recorded gains of 31.8% in April.

## Kuwait

**Table 8: Kuwait Key Market Statistics**

Key Statistics (April 2008)			
Volume Traded (Mn)	8,593	LTM Average Volume Traded (Mn)	7,232
Value Traded (USD Mn)	13,269	LTM Average Value Traded (USD Mn)	13,131
Top 5 Concentration Market Cap(%)	36	Top 5 Concentration Market Volume (%)	30

**Source:** Respective Stock Exchange, Markaz Research

Kuwait posted its fifth consecutive positive return with a MoM gain of 2.8%

The Kuwait Stock Exchange (KSE) gained momentum this month following strong first quarter results. KSE remained upbeat and posted a gain of 2.8% in April as compared to a gain of 2.0% in March 2008. While the volume traded for April increased to 8,593 compared to 8,245 in March, the value traded for the month decreased to USD13,629 Mn from USD14,907 Mn in March (Table 8).

Mobile Tele-communications Company (ZAIN)'s net profit grew at a slower pace of 2.7% to KD73.3 Mn. The company attributed the slow growth to its rapid expansion in Africa and the Middle East and expects these investments to pay off from 2009. ZAIN expects its net profit to rise by a little more than 5% in 2008 compared to 2007. On this news, the stock lost 5.6% during the month. Kuwait Finance House (KFH)'s stock price rose

4.9% in April due to strong results. KFH posted strong profits in the first quarter due to the continued growth in demand for Shariah-compliant services in Arab and Asian countries. KFH's net income in Q1 2008 surged almost 43% y-o-y to KD73.4 Mn. Public Warehousing Co. (AGLTY) aims to sell shares worth about KD120 Mn this year to finance its expansion and reduce dependence on US Army contracts. National Bank of Kuwait (NBK) recorded a 28% y-o-y jump in profit from KD64 Mn to KD82 Mn in Q1 2008 after adding income from overseas operations, including those in Egypt, Qatar and Turkey. However, the stock ended flat for the month as it closed at Fils1,980.

## UAE

**Table 9: UAE Key Market Statistics**

Key Statistics (April 2008)			
Volume Traded (Mn)	10,378	LTM Average Volume Traded (Mn)	11,829
Value Traded (USD Mn)	14,200	LTM Average Value Traded (USD Mn)	12,993
Top 5 Concentration Market Cap(%)	49	Top 5 Concentration Market Volume (%)	62

**Source:** Respective Stock Exchange, Markaz Research

ADSM posted a MoM gain of 9.5% and DFM registered a return of 7.2%

The UAE stock market registered a strong return of 8.1% in April. The ADSMI and DFM contributed to the overall UAE index by posting gains of 9.5% and 7.2%, respectively, in the month. While the volume and value traded for April increased 48% and 42%, respectively, concentration of Top five companies (in terms of Market Cap) increased by 1 percentage point (Table 9).

Among blue-chip companies, Emirates Telecommunications Corporation (Etisalat) posted record profit in Q1 2008 after adding more mobile phone users in the UAE. Net income in Q1 2008 rose 15.5% y-o-y to Dh2.1 Bn. The Company is looking to foray into the high growth Indian telecom market, and has held talks with several companies. The stock recorded MoM gain of 9.7% and YTD gain of 13.0% in April. Heavyweight banks exhibited good performance in April driven by strong quarterly results. The banking indices of ADSMI and DFM were up 8.0% and 5.3%, respectively. National Bank of Abu Dhabi (NBAD) was up 8.0% for the month as it reported 45% y-o-y increase in its net profit to Dh875 Mn in Q1 2008. Dubai Islamic Bank (DIB)'s stock was up 0.4% in April after it recorded a 31% increase in its first-quarter profit to Dh556 Mn. The bank increased its lending, especially to the UAE's booming realty sector. Emirates NBD (ENBD)'s net profit grew to Dh1.2 Bn during the first quarter of 2008 from Dh874 Mn in the same period last year. The ENBD stock posted a monthly gain of 4.3%.

## Qatar

**Table 10: Qatar Key Market Statistics**

Key Statistics (April 2008)			
Volume Traded (Mn)	409	LTM Average Volume Traded (Mn)	318
Value Traded (USD Mn)	5,162	LTM Average Value Traded (USD Mn)	3,268
Top 5 Concentration Market Cap(%)	54	Top 5 Concentration Market Volume (%)	62

**Source:** Respective Stock Exchange, Markaz Research

Qatar posted a MoM return of 18.2% and YTD return of 17.8%

Qatar's DSM was the best performing market in the GCC region with MoM returns of 18.2% in April. The DSM registered a YTD return of 17.8% even though it lost 8.8% in March 2008. Volume and value traded during April increased to 409 Mn and USD 5,162 Mn respectively. The top five stocks contribution to market volumes too increased from 59% in March to 62% in April (Table 10).

Among heavyweights, Industries Qatar (IQCD) and Qatar Islamic Bank (QIBK) performed well with MoM gains of 36.3% and 28.5%, respectively primarily attributable to strong earnings growth. In Q1 2008, Industries Qatar's net profit rose 111% y-o-y to QAR1.9 Bn, while Qatar Islamic Bank's profit surged 69% in Q1 2008 to QAR455.5 Mn from QAR270.2 Mn a year earlier. Telecom giant Qatar Telecom also posted double-digit growth of 10.6% during the month. Qatar National Bank (QNBK)'s profit rose 40.5% to QAR917.3 Mn in Q1 2008. The market gave a thumbs-up to the results—the stock price surged 14.3% during the month. Commercial Bank of Qatar posted its second record profit in three quarters after generating higher income from fees, commissions and investments. Net income surged 64% to QAR436.4 Mn in Q1 2008 from QAR266.4 Mn in Q1 2007. This positive development pushed up the stock by 10.8% in April.

## Oman

**Table 11: Oman Key Market Statistics**

Key Statistics (April 2008)			
Volume Traded (Mn)	558	LTM Average Volume Traded (Mn)	359
Value Traded (USD Mn)	1,082	LTM Average Value Traded (USD Mn)	620
Top 5 Concentration Market Cap(%)	52	Top 5 Concentration Market Volume (%)	36

**Source:** Respective Stock Exchange, Markaz Research

On YTD basis, Oman was the best performing market with return of 24.1%

The Omani market (MSM30) bounced back with robust gains of 11.0% in April after it registered a loss of 2.5% in March. On a YTD basis, the Omani market was the strongest with returns of 24.1%. Liquidity increased sharply as volume traded increased from 397 Mn in March to 558 Mn in April (Table 11).

Oman Telecommunications Co. (OTEL)'s Q1 2008 profit surged 60% to a record level after costs fell and revenues rose. Net income in the first quarter 2008 increased to RO38.4 Mn from RO24 Mn in Q1 2007. The OTEL stock registered a healthy monthly gain of 13.1% in April. OTEL also plans to spend RO10 Mn on expanding its broadband network to meet the rising

demand. Bank Dhofar (BKDB) posted a MoM gain of 15.9% in April on account of robust profits in Q1 2008. The bank's net income rose 54% to RO6.2 Mn as it generated more income from lending and non-lending activities.

## Bahrain

**Table 12: Bahrain Key Market Statistics**

Key Statistics (April 2008)			
Volume Traded (Mn)	94	LTM Average Volume Traded (Mn)	113
Value Traded (USD Mn)	101	LTM Average Value Traded (USD Mn)	142
Top 5 Concentration Market Cap(%)	59	Top 5 Concentration Market Volume (%)	77

**Source:** Respective Stock Exchange, Markaz Research

The Bahraini market posted a monthly gain of 1.9% in April as against a loss of 3.2% in March

The Bahraini market recorded a gain of 1.9% in April as against a loss of 3.2% in March. Liquidity, in terms of volume and value traded, declined, on a MoM basis (Table 11). The concentration of top five companies (in terms of volume) decreased from 87% in March to 77% in April.

The strong performance of Gulf Finance House (GFH)'s Tunisia project helped the Bahrain-based investment bank to record a net profit of USD116 Mn in Q1 2008, up 61% y-o-y. GFH posted a MoM return of 12.0% and an YTD return of 34.7% in April. Heavyweight Arab Banking Corp (ABC)'s stock was the second-biggest gainer in Bahrain as it surged 14.8% during the month. The company recorded a 98.5% growth in net profit to USD6.8 Mn in Q1 2008. ABC's total income increased to USD8.34 Mn from USD4.62 Mn in the corresponding period last year. Bahrain Telecommunication Co. (BATELCO)'s stock ended flat for the month as its Q1 2008 net profit grew 10.8% to BD27.4 Mn.

## Appendix 1: Model Performance – Historical

Monthly performance (%)													
SAA													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2002	2.03	(0.43)	3.03	10.65	2.09	(1.43)	(0.30)	(0.07)	(3.35)	(0.22)	(1.05)	3.73	14.93
2003	4.16	(0.79)	6.46	8.80	6.65	6.10	6.98	6.51	3.86	(2.27)	4.62	3.53	69.69
2004	4.36	4.46	4.19	4.93	2.63	1.60	6.46	2.97	3.81	6.87	10.57	1.76	70.09
2005	2.10	10.68	17.61	8.07	1.93	11.47	(4.72)	13.32	3.06	4.18	0.99	0.27	91.57
2006	6.09	0.23	(10.30)	(16.44)	(10.44)	8.60	(11.39)	3.31	2.20	(7.84)	(11.91)	0.65	(40.74)
2007	(6.39)	7.51	(3.30)	1.14	5.78	(0.91)	3.67	3.74	(0.38)	7.75	1.30	10.50	33.31
2008	(6.92)	5.55	(7.32)	9.47									(0.32)
TAA- Momentum													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year End
2002	2.03	(0.61)	2.87	13.39	2.48	(1.01)	0.44	0.46	(3.87)	(0.68)	1.65	3.44	21.56
2003	5.44	(1.05)	5.91	10.96	7.90	7.43	8.85	7.87	4.10	(2.21)	3.54	4.39	83.61
2004	5.11	5.36	6.40	6.65	2.97	2.45	7.08	3.50	4.37	8.68	13.17	2.05	92.43
2005	2.77	12.63	21.05	9.61	2.72	12.72	(5.76)	10.89	3.66	5.08	2.26	0.78	108.59
2006	10.10	1.82	(13.16)	(11.97)	(6.97)	6.96	(16.12)	2.33	2.90	(10.12)	(7.91)	0.61	(37.28)
2007	(4.73)	5.45	(4.68)	2.16	8.36	0.04	3.06	5.11	(1.30)	7.05	2.60	12.65	40.29
2008	(8.39)	4.33	(8.86)	6.87									(6.90)
TAA - Mean reversion													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year End
2002	2.03	(0.25)	3.18	7.91	1.70	(1.85)	(1.05)	(0.60)	(2.83)	0.25	(3.76)	4.01	8.50
2003	3.46	(0.52)	7.02	6.64	5.41	4.77	5.12	5.16	3.62	(2.33)	5.71	2.66	57.47
2004	3.62	3.56	1.99	3.22	2.30	0.75	5.85	2.44	3.26	5.07	7.98	1.47	50.06
2005	1.43	8.72	14.17	6.54	1.13	10.22	(3.69)	15.74	2.47	3.28	(0.27)	(0.24)	75.51
2006	2.08	(1.35)	(7.44)	(20.92)	(13.92)	10.23	(6.67)	4.29	1.49	(5.56)	(15.90)	0.70	(44.74)
2007	(8.06)	9.58	(1.92)	0.12	3.19	(1.86)	4.28	2.37	0.54	8.46	0.00	8.36	26.36
2008	(5.45)	6.76	(5.77)	12.07									6.60
TAA - Risk													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year End
2002	2.12	(0.42)	2.22	6.32	2.39	(0.19)	0.87	1.05	(3.31)	0.49	0.60	2.55	15.39
2003	3.00	(0.52)	3.82	6.42	3.75	4.67	5.89	4.42	3.11	(0.66)	3.50	2.32	47.46
2004	3.28	3.92	3.45	3.91	2.21	2.04	4.97	2.73	3.06	3.87	7.85	2.97	54.25
2005	2.49	8.11	14.40	6.68	0.74	8.71	(2.74)	10.02	2.90	4.20	0.64	(0.04)	70.92
2006	4.62	(0.92)	(7.44)	(9.82)	(7.81)	5.77	(6.85)	2.73	1.41	(4.65)	(9.35)	2.60	(27.39)
2007	(4.29)	4.91	(2.66)	1.69	5.84	(0.03)	2.69	2.37	0.60	7.10	0.52	8.27	29.64
2008	(2.43)	4.62	(4.43)	7.30									4.66

Source: Markaz Research

## Appendix 2: Markaz Volatility Index Performance – Historical

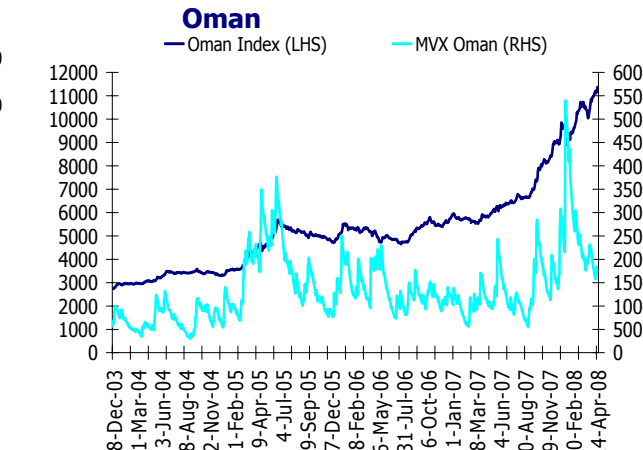
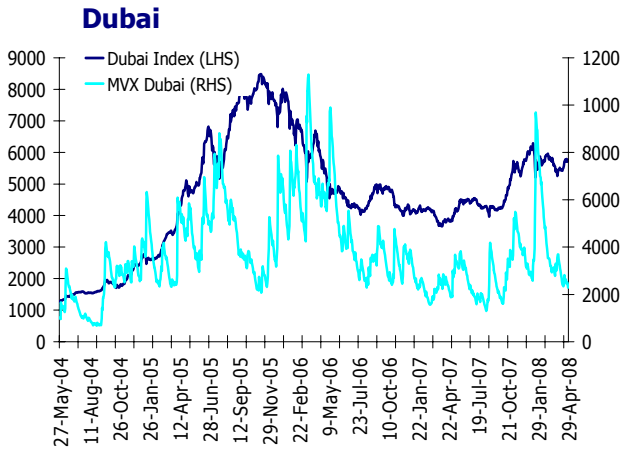
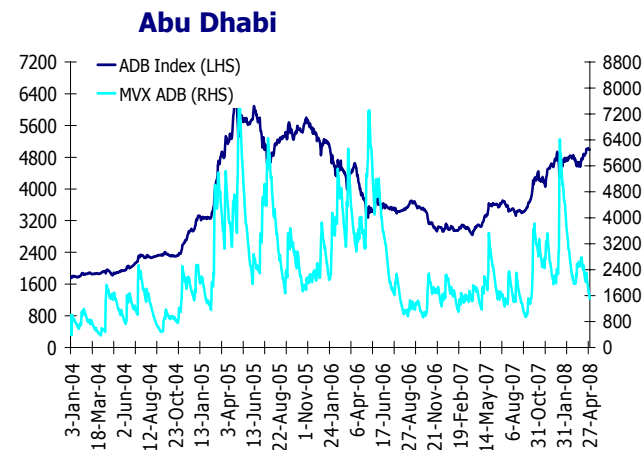
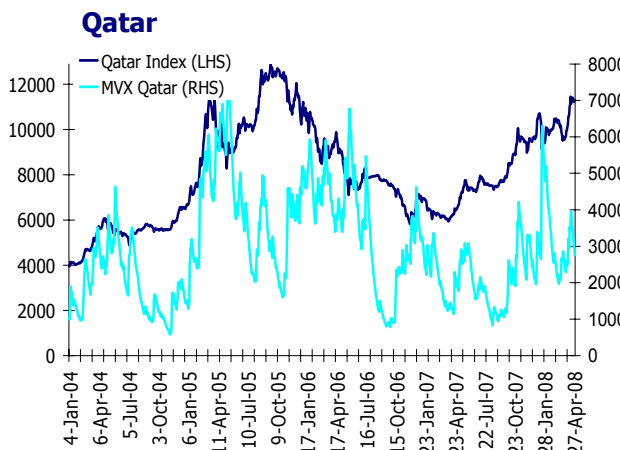
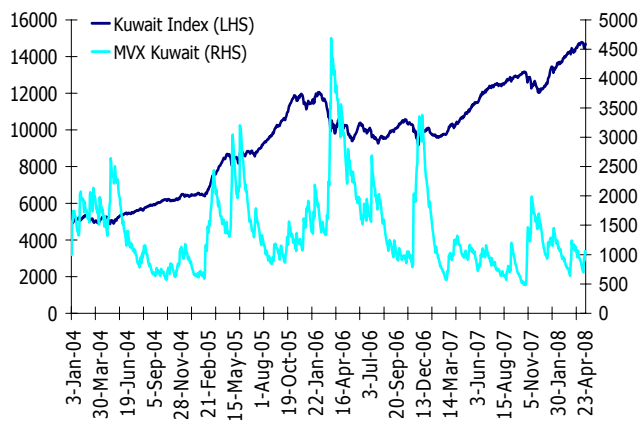
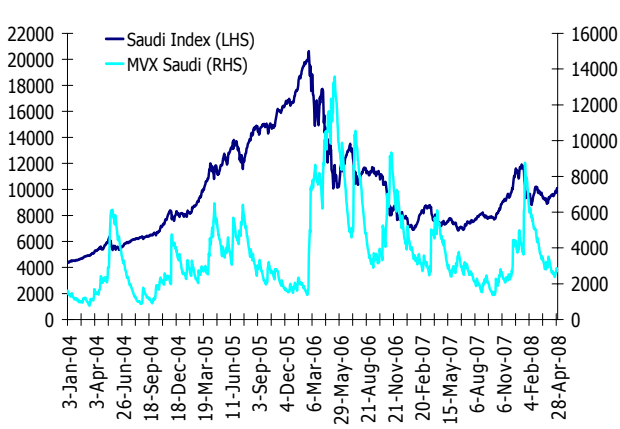
Table 1: Markaz Volatility Index (MVX)<sup>1</sup>

	Current Value 30-Apr-08	Historic High	Historic High Date	Historic Low	Historic Low Date	120-D Moving Average
MVX-Saudi Arabia	2721	13,578	16-May-06	781	17-Mar-04	3,975
MVX-Kuwait	1015	4,689	18-Mar-06	484	24-Oct-07	1164
MVX-Qatar	2757	7,448	12-May-05	581	8-Nov-04	3,120
MVX-Dubai	2288	11,287	19-Mar-06	678	30-Aug-04	4,115
MVX-Abu Dhabi	1508	8,084	9-May-05	376	29-Mar-04	2,863
MVX-Oman	1745	5,401	23-Jan-08	299	7-Sep-04	2,347
MVX-Bahrain	750	2,497	20-Nov-05	291	29-Dec-04	1,028
MVX-GCC	1428	10,374	16-May-06	513	28-Sep-07	2,177
MVX-EM	1386	3,798	20-Aug-07	583	8-Jul-05	2,396
MVX-S&P500	1590	3,290	20-Mar-08	412	19-Jan-07	2145
MVX India	1791	5,076	18-May-04	612	7-Dec-06	2268
MVX China	4599	5,039	24-Apr-08	686	28-Dec-05	3023

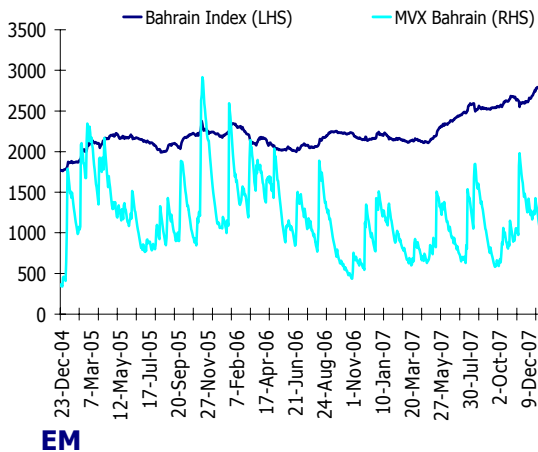
Source: Markaz Research

<sup>1</sup> Base Date Index 1000 as of 1st Jan 2004

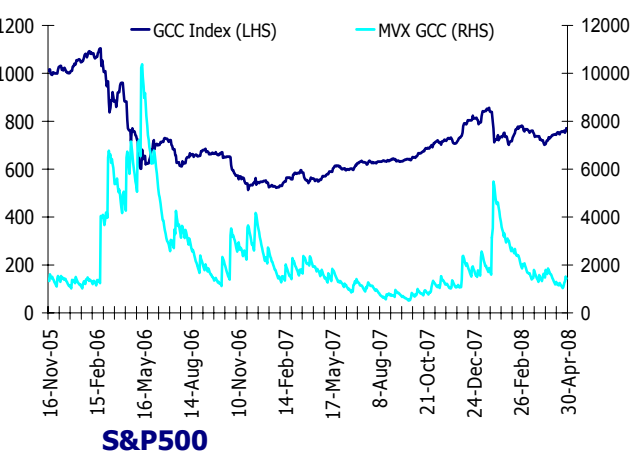
**Markaz Volatility Index (MVX)-Country Charts (Until April 2008)**  
**Saudi Arabia** **Kuwait**



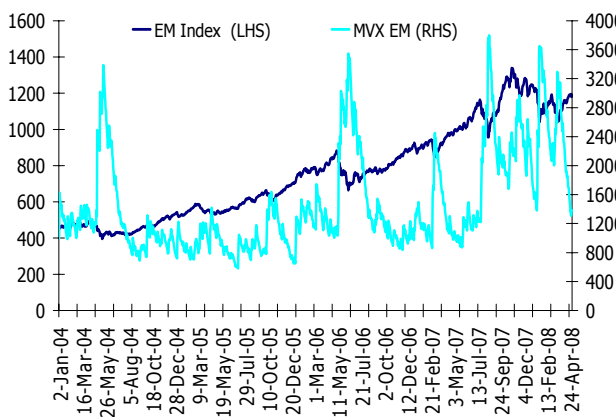
**Bahrain**



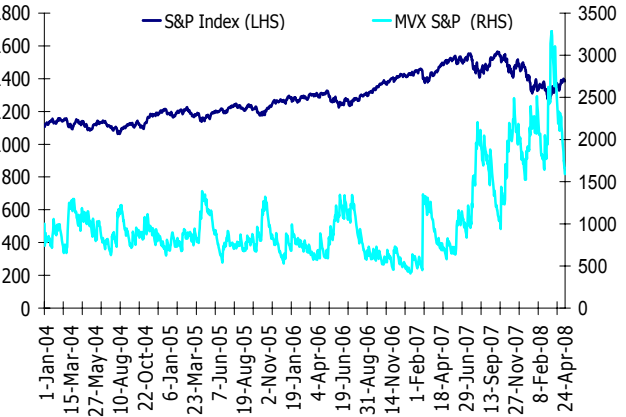
**GCC**



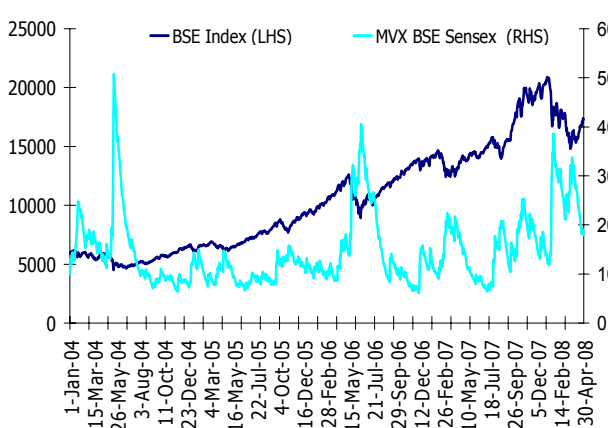
**EM**



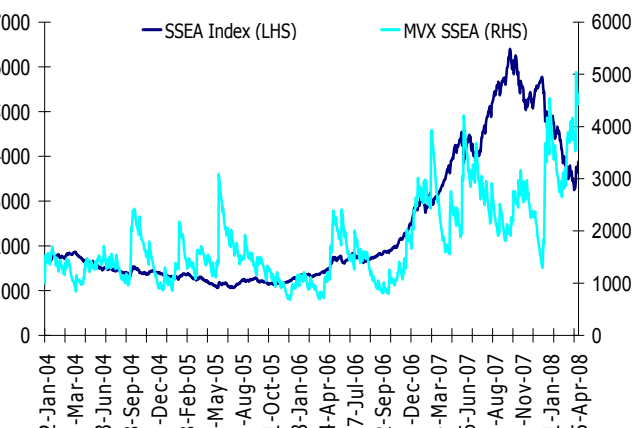
**S&P500**



**India**

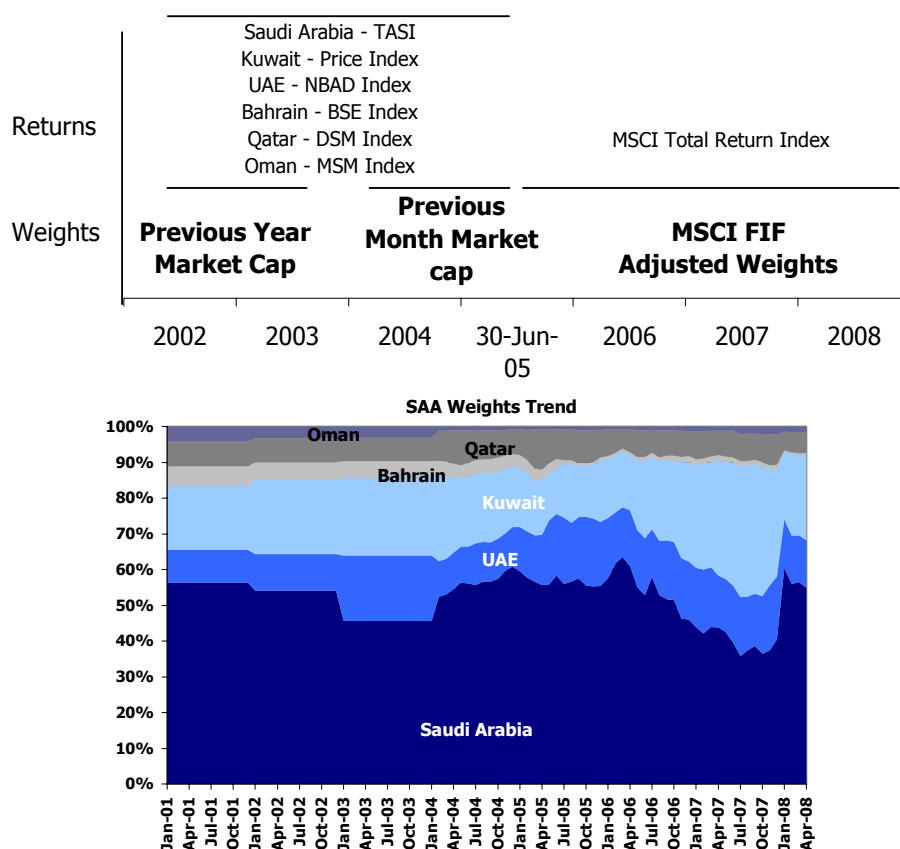


**China**



### Appendix 3: Methodology – Asset Allocation

**Strategic Asset Allocation (SAA):** SAA refers to long-term policy allocation. This is a benchmark portfolio constituted based on monthly weights derived from average market capitalization of respective stock markets. SAA can be useful to investors when it is difficult to determine market direction. Our SAA is as provided below:



**Tactical Asset Allocation (TAA):** TAA refers to short-term changes made to SAA in order to derive return in excess of SAA. In other words, TAA assumes that we have views (positive or negative) on the respective markets and these are expressed either as underweight or overweight to the SAA. For e.g. the strategic allocation to Saudi Arabia is 56%. In a particular month, we may be bullish on Saudi Arabia and may want to increase the weight (overweight) to 70%. The stress is on short-term performance, which leaves investors' long-term risk tolerances and preferences unaffected. Our proprietary algorithm model tactically underweight and overweight GCC markets based on this trend. The nature of the movement of weights under various strategies is as provided in the table below:

S No	Strategy	Overweight If	Underweight If	No change If
1	SAA	MSCI FIF Adjusted Weight Increases	MSCI FIF Adjusted Weight Decreases	MSCI FIF Adjusted Weight remains stable
2	Momentum	markets go up	markets go down	Markets remain stable
3	Mean Reversion	markets go down	markets go up	Markets remain stable
4	Risk	volatility goes down	volatility goes up	Volatility Remains stable

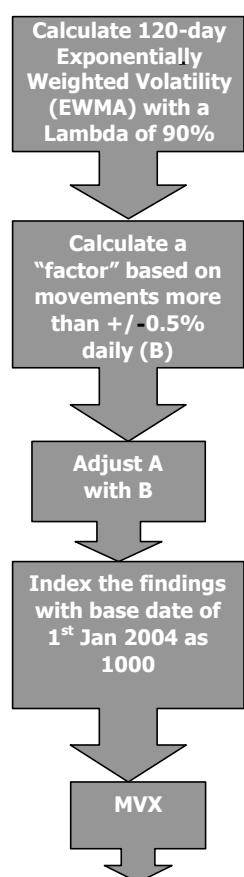
**Range:** Changes to TAA can be made subject to certain limits on upper and lower levels. The limits are put in place to ensure that no drastic action is incorporated in the model. It is also a tool to contain the risk of the model. Presently, the limit is set to +/- 50%. The various limits (max and min) are detailed below for various strategies:

Strategies	Decision Characteristics		
	Min	Max	Neutral/Spot
Momentum	50% of SAA	150% of SAA	SAA
Mean Reversion	50% of SAA	150% of SAA	SAA
Risk Based	50% of SAA	150% of SAA	SD Weight

**Leverage/Cash Level:** Our proprietary model is tuned to restrict leverage/cash level of the portfolio to a limit of +/- 20%.

## Appendix 4: Methodology – Markaz Volatility Index

Markaz Volatility Index (MVX) follows the following steps for its calculation.



- The MVX has a base date of 1 Jan 2004, for all the indices which have data from 1<sup>st</sup> Jan 2004. The average of the below mentioned parameters for all the countries is taken as the base value and converted into 1000.
- MVX is calculated based on Exponentially Weighted Moving Average (EWMA) for a period of 120-days Using EWMA provides more weight to recent volatility than historic. MVX also considers a second parameter i.e., the number of days during the previous 120 trading days where index trades outside a pre-set level. Presently, this level is +/-0.5% based on historic relationships (refer table below).
- Any movement outside this band indicates heightened level of volatility.
- The second parameter is reinforcement to the first parameter and may be influenced by the first parameter. However, since the methodology is uniformly applied across all the markets, the model is strengthened by the second parameter.

	% Number of days of deviation (Updated April' 08)									
	Saudi Arabia	Kuwait	Qatar	Oman	Dubai	Abu Dhabi	Bahrain	MSCI EM	S&P	GCC
Less than +/-0.25%	17	33	25	37	16	25	44	24	33	27
+/-0.25% & +/-0.50%	16	25	17	23	16	20	27	22	22	21
+/-0.50% & +/-0.75%	11	18	12	14	12	15	12	18	15	16
+/-0.75% & +/-1.00%	11	12	9	10	9	9	9	11	12	13
+/-1.00% & +/-1.25%	11	5	8	7	10	8	3	7	7	7
+/-1.25% & +/-1.50%	6	3	5	2	7	6	2	7	4	6
+/-1.50% & +/-1.75%	5	2	4	2	7	5	1	3	3	3
+/-1.75% & +/-2.00%	3	1	2	2	3	3	1	2	1	2
+/-2.00%	21	2	17	3	20	11	2	7	4	7
Total	100	100	100	100	100	100	100	100	100	100

Note: Timeline observation - 30 Jun 04 - 30 Apr 08

Source: Markaz Research.

Note: Indices used - Saudi Arabia: TASI, Kuwait – Price Index, Qatar – Doha Market Index, Oman – Muscat SM Index, Abu Dhabi – ADI Index, Dubai – DFM Index, Bahrain – BAX Index, EM – MSCI EM, S&P – S&P 500 Index & GCC – MSCI GCC Index

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