

Economic Exposure Indices: The Future of Country- Based Analysis



Matt Hougan

Executive Vice President,
Global Head of Content
IndexUniverse



**Raman Aylur
Subramanian, CFA**

Executive Director,
Index Applied Research
MSCI

Importance of Economic Exposure

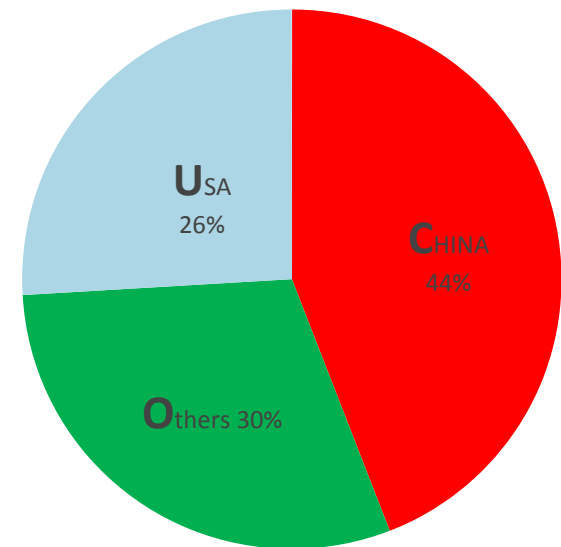
ASIA BUSINESS | November 30, 2012, 4:31 p.m. ET

China Worries Undermine Shares of Yum Brands

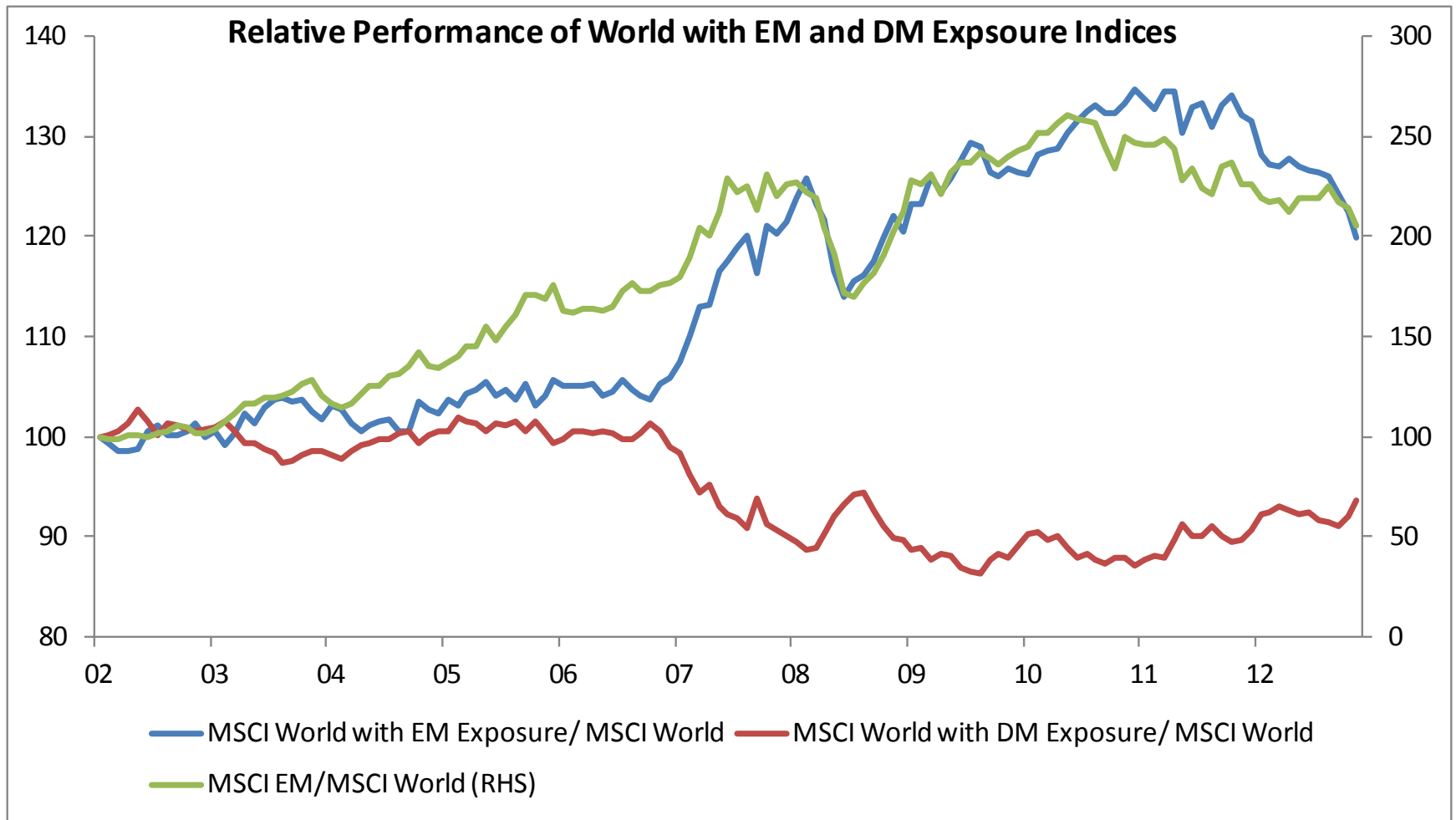
November 2012, Stock Fell 9.9%



Yum Brands Economic Exposure: China Impact

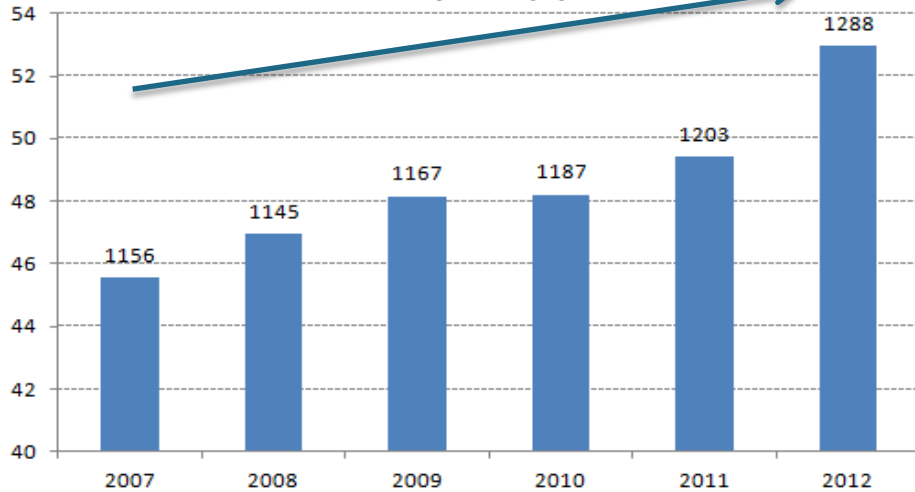


Performance Implication of Economic Exposure

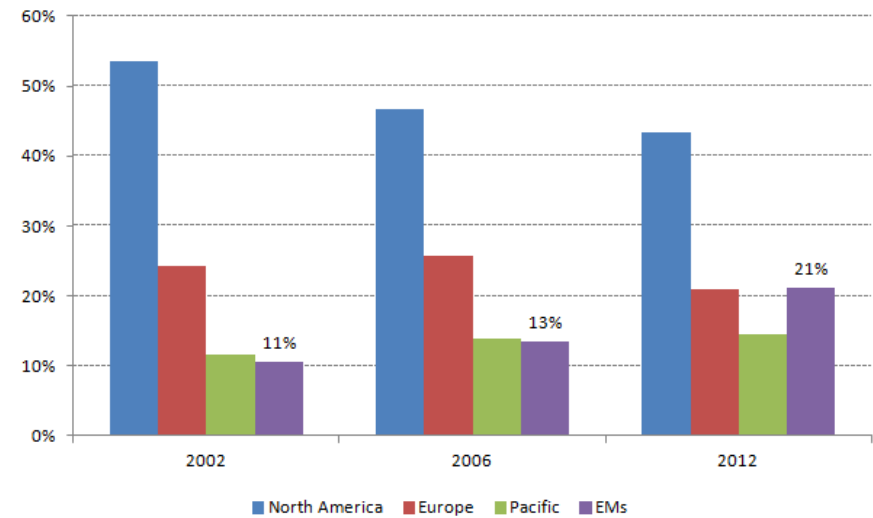


Globalization and Economic Exposures of Companies

Proportion of MSCI ACWI companies with High International exposure (%)

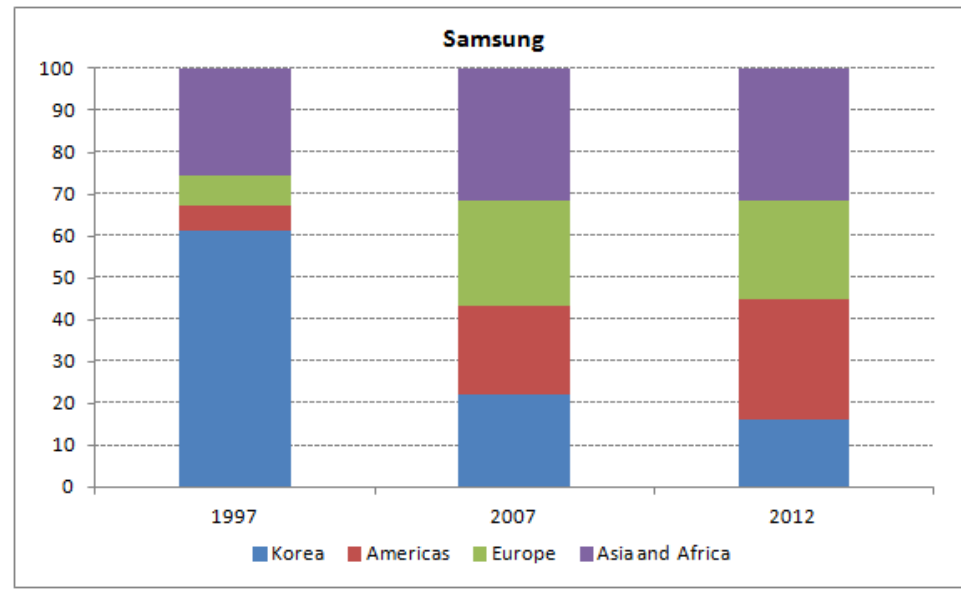
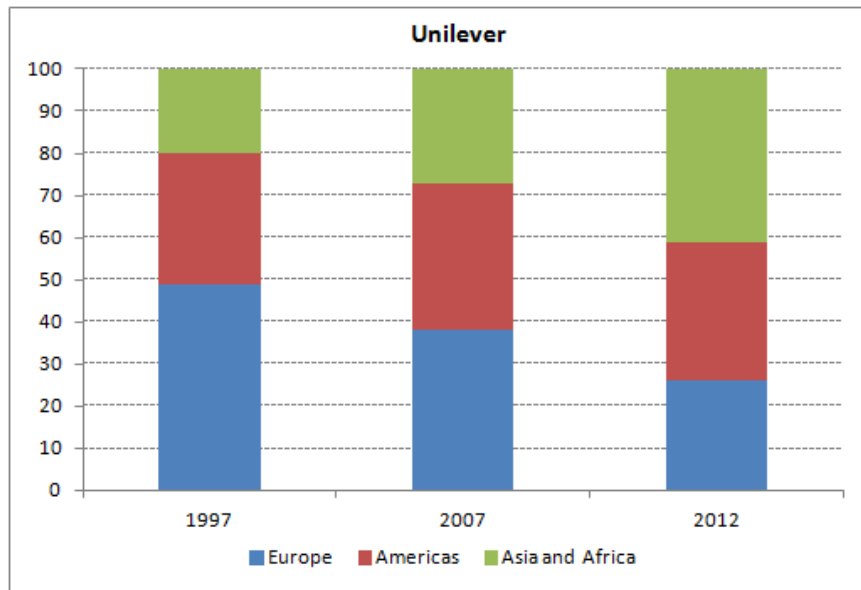


Revenue distributions of MSCI World companies



High international exposure refers to exposures more than 30%. The figure on top of the first bar chart shows the number of companies with high international exposure

Economic Exposures of Companies – A Shifting Landscape

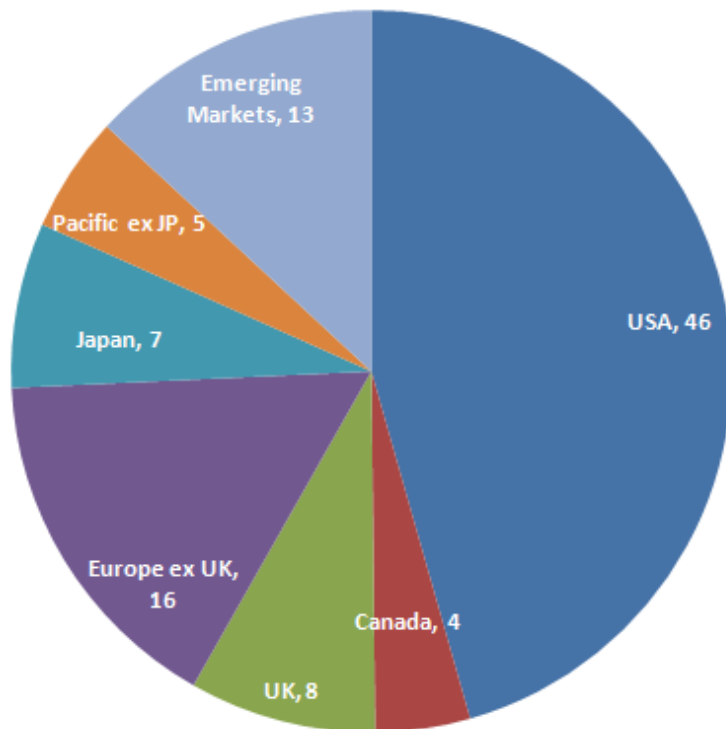


Source : Unilever and Samsung Annual Reports ; % Revenues from different regions

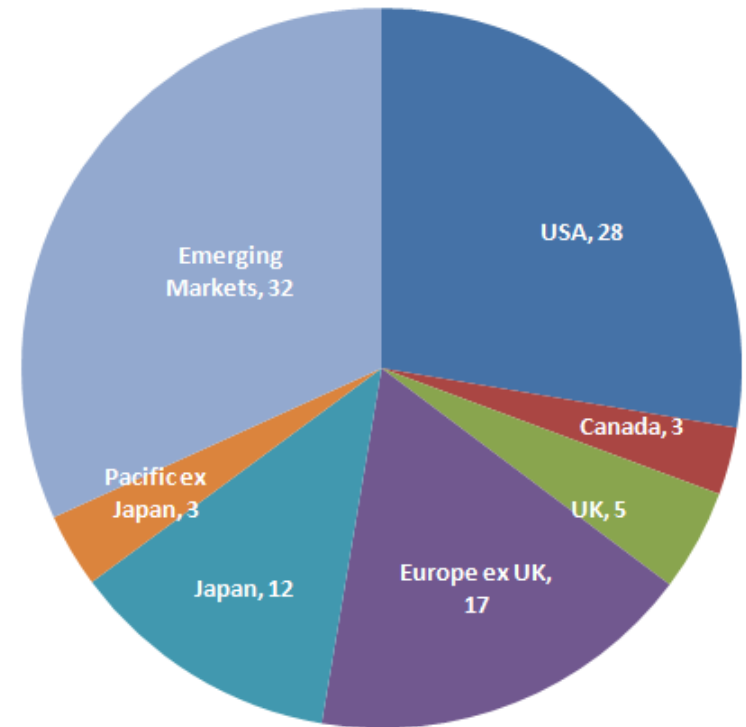
Economic Exposures of Global Mandates

Economic Exposures of a Typical Global Mandate

Market Cap weight of MSCI ACWI



Revenue exposure of MSCI ACWI



Data as of Dec 2012. The revenue exposure to emerging markets also includes the frontier markets. Europe ex UK and Pacific ex JP exposures are based on MSCI region definitions

Challenges in Estimating Economic Exposure

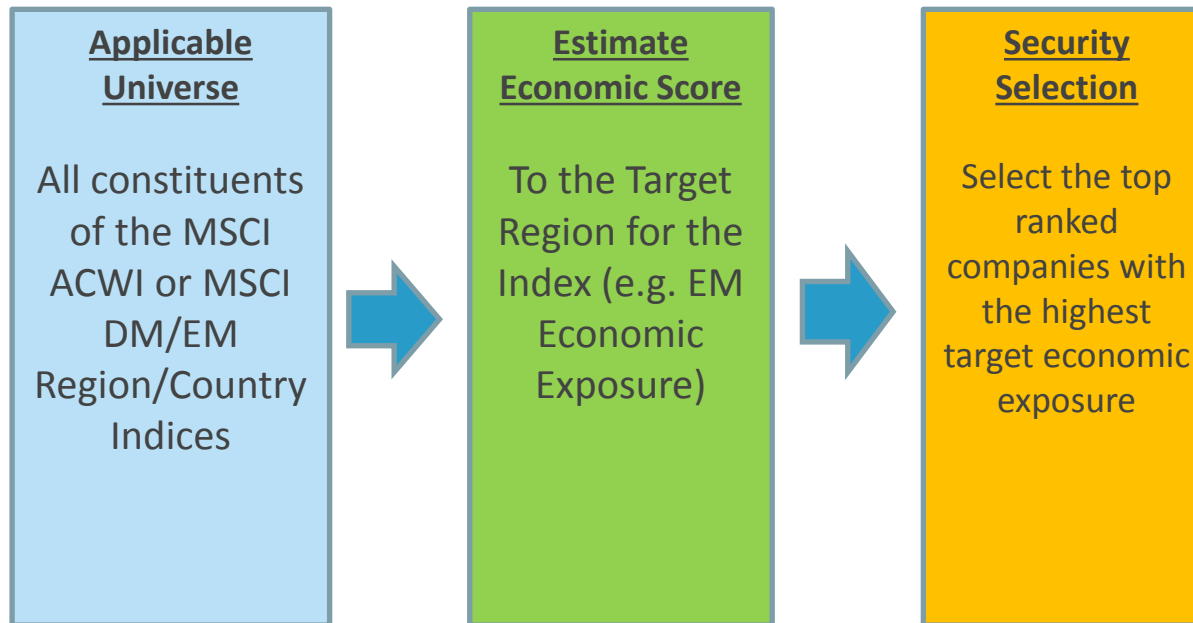
- Huge disparities in reported geographic segments across companies
- Economic Exposure provides a consistent approach to estimating revenue
- MSCI estimates a company's economic exposure based on the:
 1. company's reported revenues by geographic segment and
 2. GDP weights of the countries and regions in the specific reporting segment

Nestle		
Geographic Segment	Revenue (CHF mil)	Revenue (%)
France	5,646	7%
Germany	3,444	4%
United Kingdom	2,678	3%
Italy	2,273	3%
Spain	1,789	2%
Russia	1,704	2%
Switzerland	1,799	2%
Rest of Europe	6,871	8%
USA	21,474	26%
Canada	2,017	2%
Greater China Region	2,509	3%
Japan	1,725	2%
Philippines	1,851	2%
Rest of Asia	8,524	10%
Brazil	5,418	6%
Mexico	2,962	4%
Latin America and the Caribbean	5,568	7%
Africa	2,903	3%
Australia	2,101	3%
Oceania	386	0%
Total	83,642	100%

Amazon		
Geographic Segment	Revenue (\$ mil)	Revenue (%)
North America	26,705	56%
International	21,372	44%
Total	48,077	100%

Procter and Gamble's reported geographic segments	
2006	2011
North America	North America
Western Europe	Western Europe
North East Asia	CEE, Middle East and Africa
Developing geographies	Latin America
	Japan, China, ASEAN, Australia, India and Korea

MSCI Economic Exposure Indices: Balancing Portfolio Economic Exposure and Adequate Market Cap Coverage



- **Adequate Capacity:** Exposure times market cap weighting
- **Frequent Rebalancing:** Semi-Annual
- **Low Turnover:** Use of Buffer Zones

MSCI Indices with EM Exposure

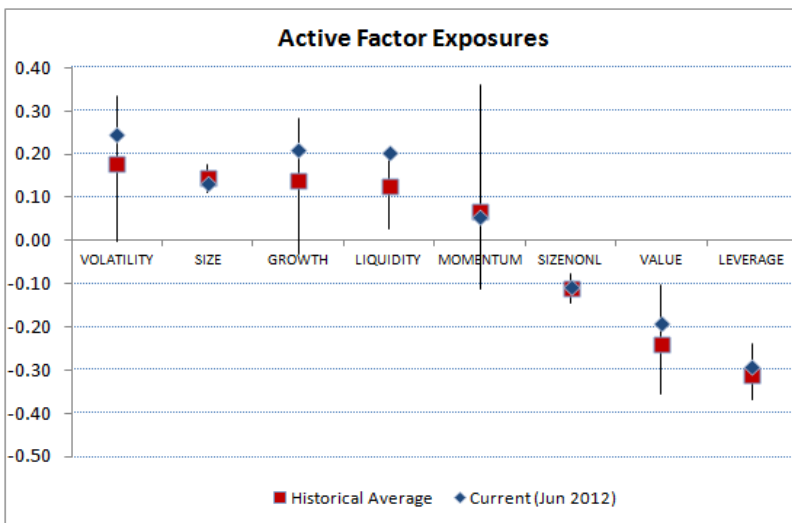
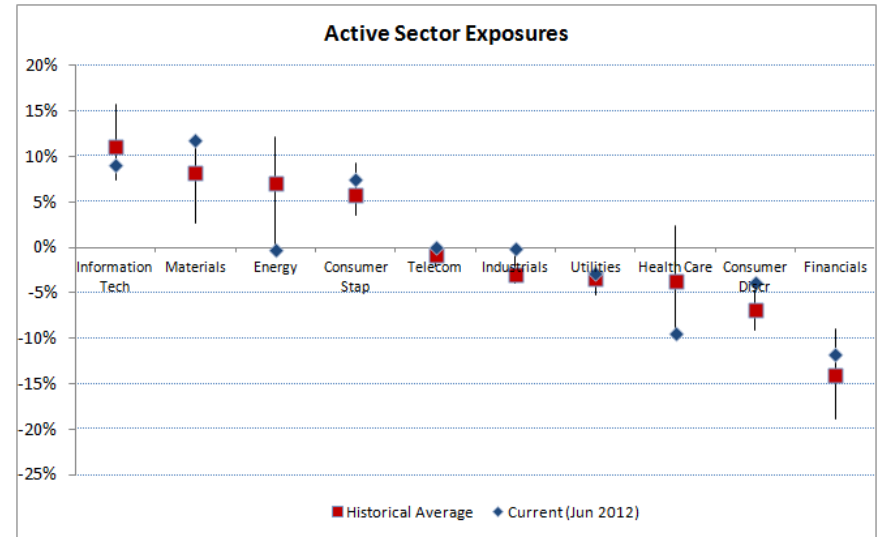
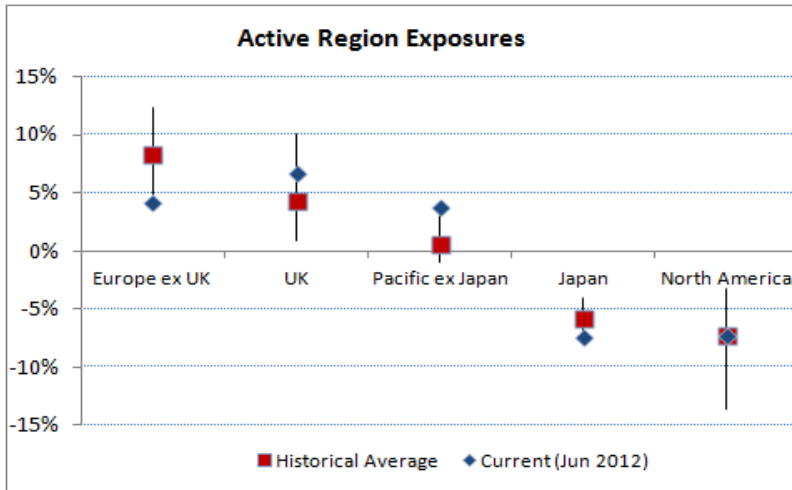
Index	# companies	Market cap coverage	Cap-weighted EM Exp	Portfolio EM Exp	Max EM Exp	Min EM Exp
MSCI World with EM Exposure Index	300	24.7%	0.45	0.49	1.00	0.31
MSCI USA with EM Exposure Index	100	27.6%	0.38	0.42	1.00	0.26
MSCI Europe with EM Exposure Index	100	31.0%	0.47	0.50	1.00	0.35
MSCI EAFE with EM Exposure Index	200	32.2%	0.45	0.49	1.00	0.31
MSCI Japan with EM Exposure Index	50	20.8%	0.38	0.41	0.69	0.29
MSCI Pacific ex Japan with EM Exposure Index	50	24.6%	0.46	0.52	1.00	0.28

Performance Characteristics of the Back-calculated MSCI Indices with EM Exposure

May 2002 - Nov 2012	MSCI World	MSCI World with EM Exp	MSCI USA	MSCI USA with EM Exp	MSCI Europe	MSCI Europe with EM Exp	MSCI EM
Return(%)*	5.5	7.9	5.0	7.1	6.2	8.7	13.6
Risk (%)	16.8	19.0	15.8	17.5	20.9	21.5	24.3
Active Risk (%)		4.5		5.5		4.3	
Number of companies	1,529	300	577	100	421	100	600
One-way Annual Turnover (%)	3.9	19.6	3.0	13.2	4.8	17.9	9.9
Float Market Cap Coverage (%)		24.3		27.7		34.2	
Concentration (Top 10 security wght)		17.3		52.0		45.9	
Maximum Inclusion Factor		5.5		14.1		12.0	
Average Portfolio Economic Exposure**		0.36		0.34		0.38	
Min Security-level Economic Exposure***		0.30		0.27		0.33	

* Gross Total Return in USD; ** Average Portfolio Economic Exposure is the average across semi-annual rebalancings *** Minimum Security-level economic exposure is as of Jun 2012

Active Exposures of the Back-calculated MSCI World with EM Exposure Index

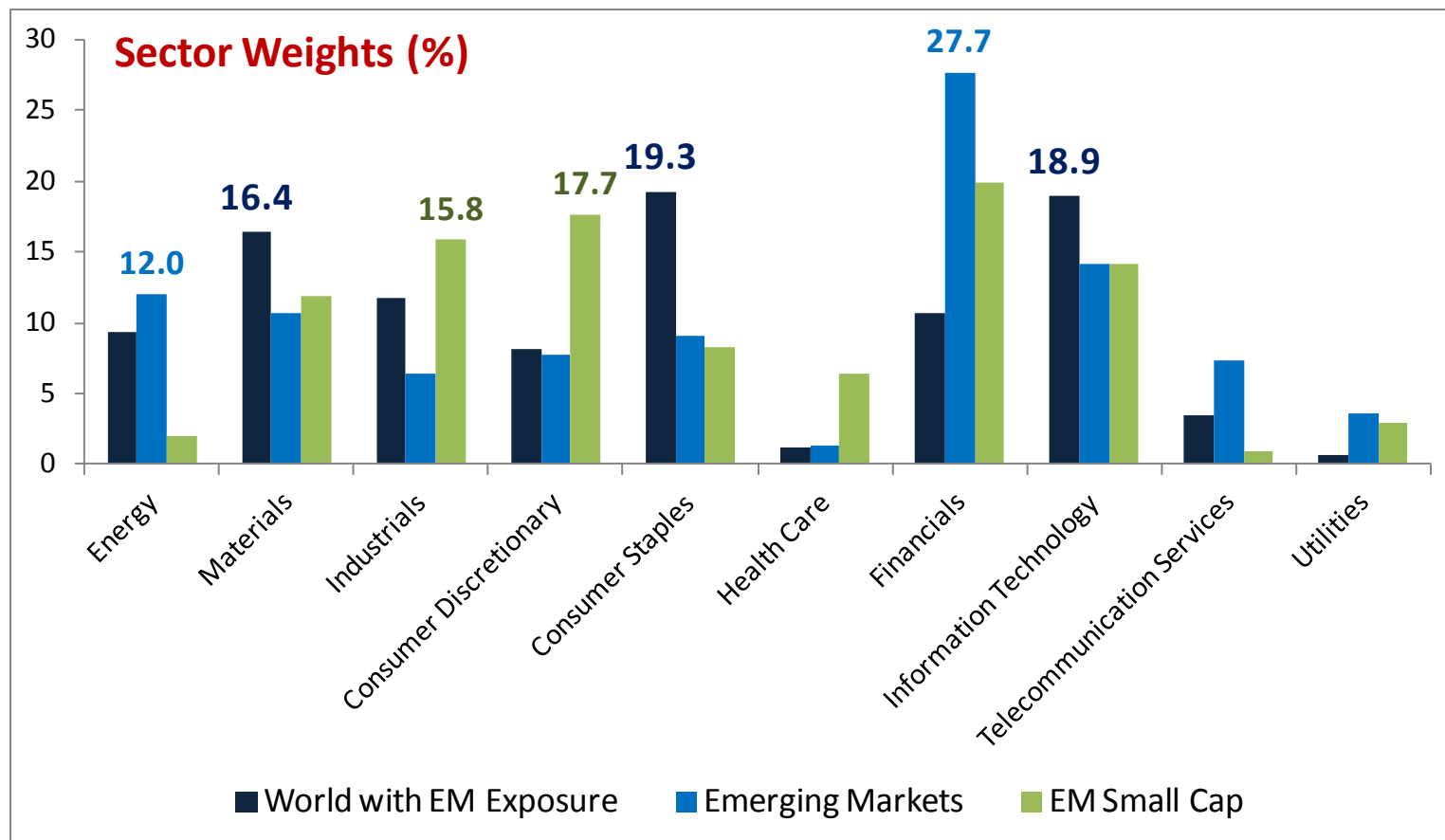


Top 10 companies by weight in the MSCI World with EM Exposure Index

Sno	Name	Country	Sector	Index wght (%)
1	APPLE	USA	Information Tech	6.29
2	NESTLE	SWITZERLAND	Consumer Staples	2.89
3	QUALCOMM	USA	Information Technology	2.85
4	BHP BILLITON LTD	AUSTRALIA	Materials	2.53
5	PHILIP MORRIS INT	USA	Consumer Staples	2.41
6	PROCTER & GAMBLE CO	USA	Consumer Staples	2.28
7	HSBC HOLDINGS (GB)	UNITED KINGDOM	Financials	2.23
8	INTEL CORP	USA	Information Technology	2.19
9	BRITISH AMERICAN TOBACCO	UNITED KINGDOM	Consumer Staples	1.93
10	VODAFONE GROUP	UNITED KINGDOM	Telecommunication Services	1.81

Average exposures based on data from May 2002 - Nov 2012. Top 10 companies by weight using data as of Dec 2012.

Contrasting the MSCI World with EM Exposure Index and the MSCI EM Indices



Data as of March 31, 2013

MSCI Economic Exposure Indices in the Investment Process

- The MSCI Indices with EM Exposure can be used by institutional investors with constraints on investments in emerging markets due to regulation, accessibility issues or potential concerns on governance

	MSCI ACWI	MSCI World	MSCI EM	MSCI ACWI GDP Weighted	MSCI World with EM Exp	MSCI World + MSCI World with EM Exp		
						75:25	50:50	25:75
Direct Exposure to Emerging Markets	13.0	0.0	100.0	31.0	0.0	0.0	0.0	0.0
EM Economic Exposure (%)	29.0	20.7	84.4	40.4	48.9	27.8	34.8	41.9
Annual Return (%)	6.7	6.3	13.6	8.6	8.1	6.8	7.2	7.7
Annual Volatility (%)	17.2	16.7	24.0	18.9	18.8	17.1	17.6	18.2
Return/ Risk	0.39	0.38	0.57	0.45	0.43	0.40	0.41	0.42

Source: MSCI, World scope. Data from May 2002 – March 2013. Direct exposure to emerging markets refers to the market cap weight of emerging market companies in the index. EM exposure of emerging market companies estimated using available World scope data as of 2010. Other exposure data are as of Dec 2011. Information ratio is the ratio of Active return / tracking error.

MSCI Economic Exposure Indices in the Investment Process

- The MSCI World with EM Exposure Index together with the MSCI EM Index provides a broader opportunity set for global institutional investors to access emerging markets growth

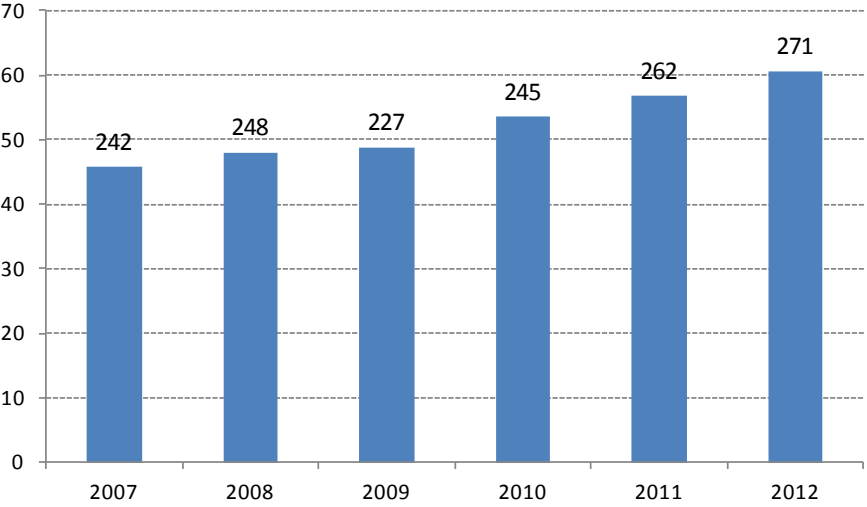
	MSCI ACWI	MSCI World	MSCI EM	MSCI ACWI GDP Weighted	MSCI World with EM Exp	MSCI EM+MSCI World with EM Exp	MSCI EM + MSCI World with EM Exp		
							75:25	50:50	25:75
Market Cap Weight in MSCI ACWI(%)*	100.0	86.9	13.1	31.0	21.9	34.9			
EM Economic Exposure (%)	29.0	20.7	84.4	40.4	48.9	71.1	75.5	66.7	57.8
Annual Return (%)	6.7	6.3	13.6	8.6	8.1	10.6	12.3	11.0	9.6
Annual Volatility (%)	17.2	16.7	24.0	18.9	18.8	21.2	22.4	20.9	19.7
Return/ Risk	0.39	0.38	0.57	0.45	0.43	0.50	0.55	0.52	0.49

Source: MSCI, World scope. Data from May 2002 - March 2013. For MSCI ACWI GDP weighted Index, the EM weight in MSCI ACWI is shown. EM exposure of emerging market companies estimated using available World scope data as of 2010. Other exposure data are as of Dec 2011. Information ratio is the ratio of Active return / tracking error.

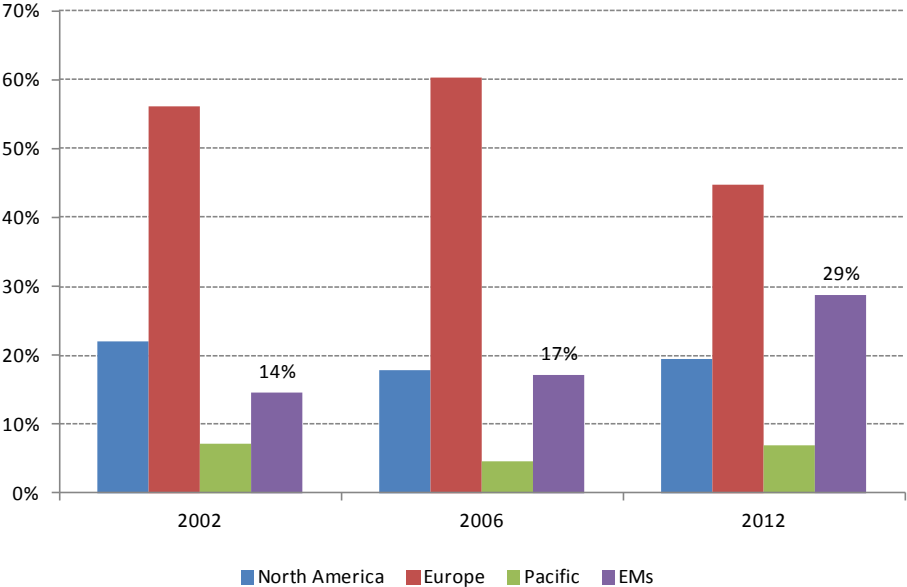
How European is Europe?

- Over the last five years, the percentage of European companies with high international exposure has risen from 45% in 2007 to 60% in 2012
- Another striking fact is the high economic exposure of European companies to emerging markets that has risen from 14% in 2002 to nearly 29% in 2012

Proportion of MSCI Europe companies with High International exposure (%)

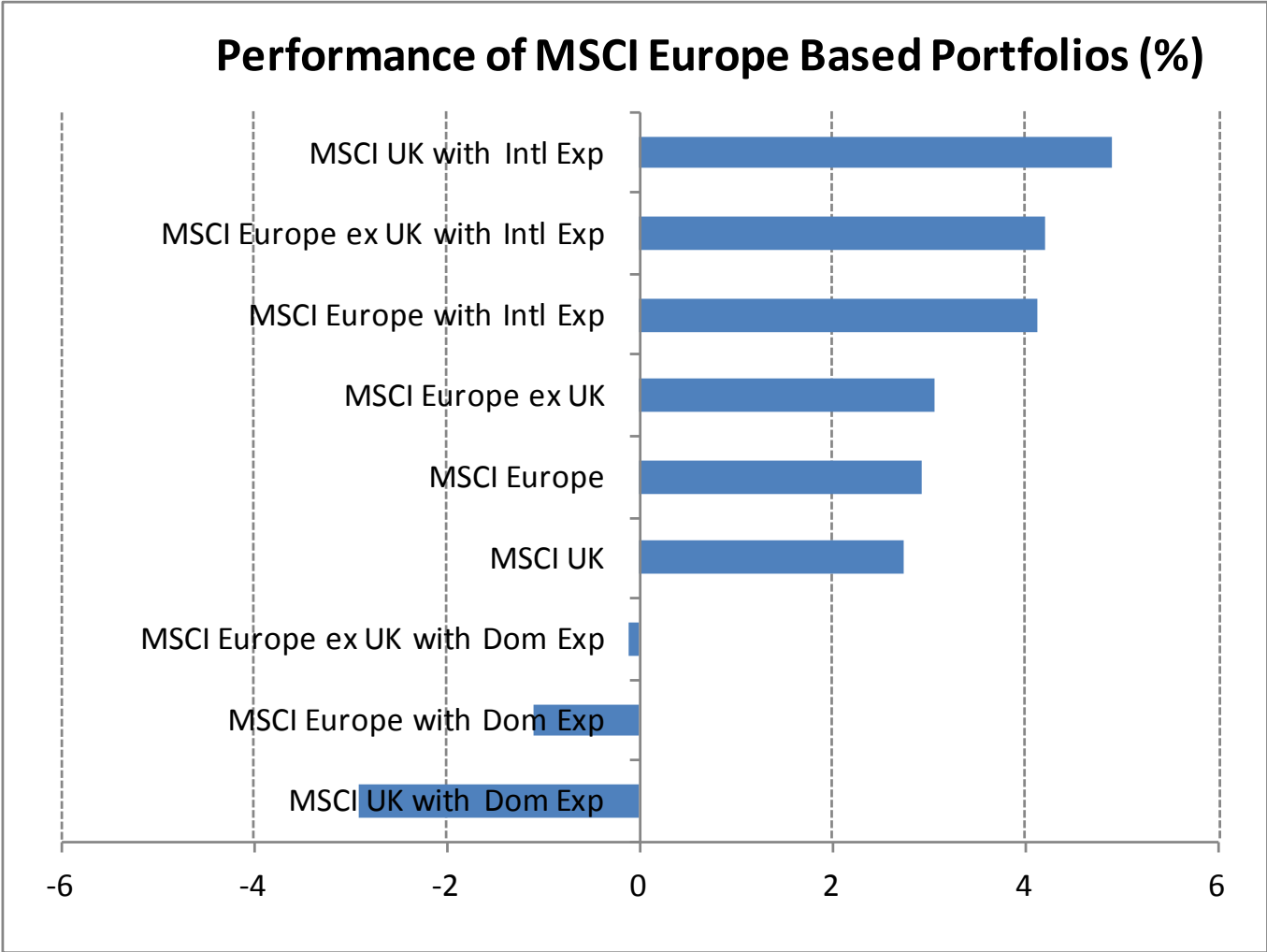


Revenue distributions of MSCI Europe companies

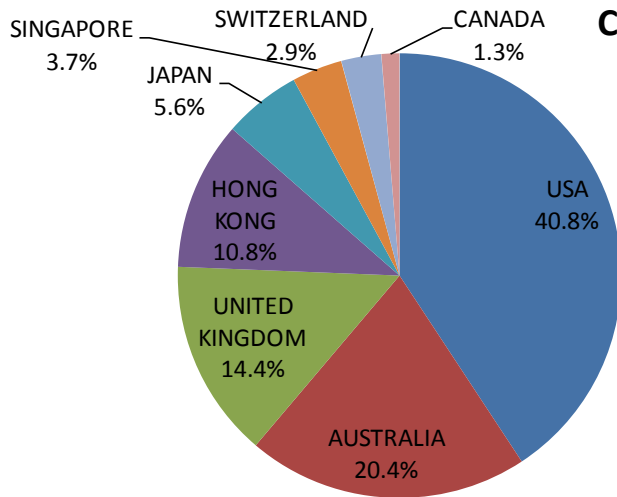


Performance Implications

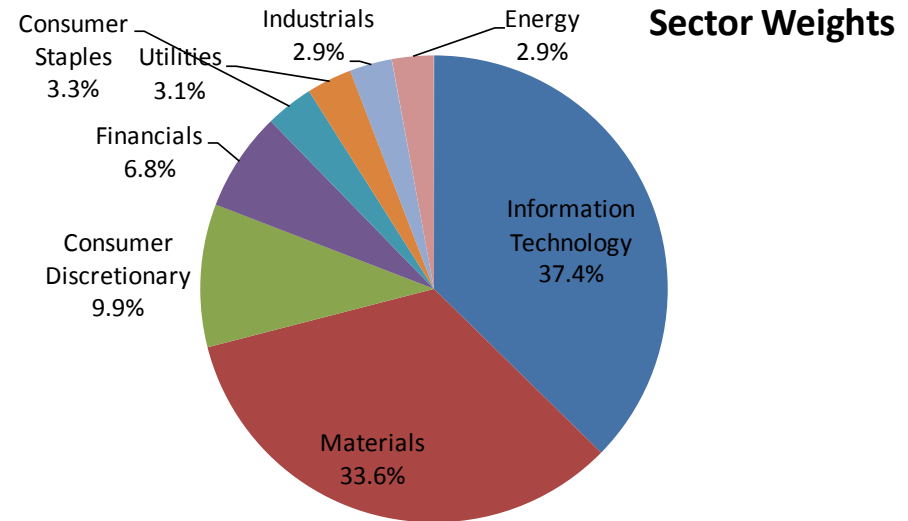
May2002 to
November 2012



MSCI World with China Exposure



Country Weights

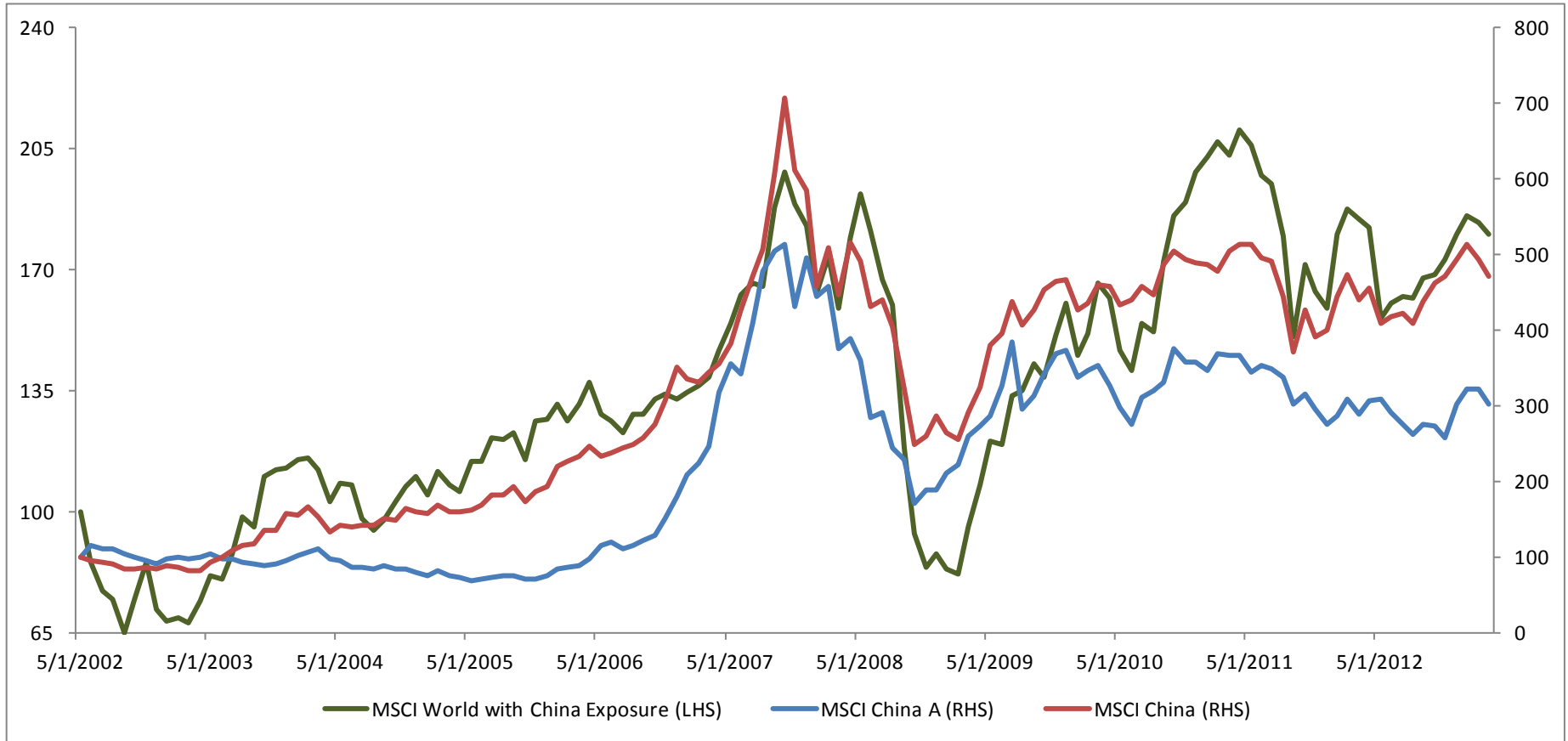


Sector Weights

Top 10 Constituents

	Country	Mkt Cap (USD Billions)	Index Wt. (%)	Sector	Sector Wt. (%)
QUALCOMM	US	133.21	17.97	Info Tech	48.1
BHP BILLITON LTD	AU	91.95	12.40	Materials	36.9
RIO TINTO PLC	GB	54.02	7.29	Materials	21.7
BHP BILLITON PLC	GB	51.48	6.94	Materials	20.7
YUM BRANDS	US	40.13	5.41	Cons Discr	54.7
TEXAS INSTRUMENTS	US	29.81	4.02	Info Tech	10.8
HONGKONG CHINA GAS	HK	23.18	3.13	Utilities	100.0
RIO TINTO LTD	AU	22.35	3.02	Materials	9.0
WOODSIDE PETROLEUM	AU	21.49	2.90	Energy	100.0
MURATA MANUFACTURING CO	JP	19.78	2.67	Info Tech	7.1
Total		487.43	65.75		

Investing in China Through Developed Markets



Summary

- With increasing globalization, many companies operate across different regions and countries and therefore it is difficult to disentangle these companies from their global footprint
- MSCI adopts a consistent approach to estimate the economic exposure of companies to different regions using the geographic distribution of their revenues
- The economic exposure of companies can serve as a complementary or alternative definition of the country factor and brings a new dimension to the construction and evaluation of global equity portfolios
- Emerging markets play an increasingly important role in the global economy and in the asset allocation of institutional investors
- **The MSCI Economic Exposure Indices are complementary to traditional cap weighted EM benchmarks and provide an alternative approach to analyzing emerging markets and global growth**

Thank You.
Questions?

