### Callan

**December 31, 2016** 

Mendocino County Employees'
Retirement Association

**Investment Measurement Service Monthly Review** 

The following report was prepared by Callan Associates Inc. ("CAI") using information from sources that include the following: fund trustee(s); fund custodian(s); investment manager(s); CAI computer software; CAI investment manager and fund sponsor database; third party data vendors; and other outside sources as directed by the client. CAI assumes no responsibility for the accuracy or completeness of the information provided, or methodologies employed, by any information providers external to CAI. Reasonable care has been taken to assure the accuracy of the CAI database and computer software. Callan does not provide advice regarding, nor shall Callan be responsible for, the purchase, sale, hedge or holding of individual securities, including, without limitation securities of the client (i.e., company stock) or derivatives in the client's accounts. In preparing the following report, CAI has not reviewed the risks of individual security holdings or the conformity of individual security holdings with the client's investment policies and guidelines, nor has it assumed any responsibility to do so. Advice pertaining to the merits of individual securities and derivatives should be discussed with a third party securities expert. Copyright 2017 by Callan Associates Inc.

#### **Investment Manager Asset Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of December 31, 2016, with the distribution as of November 30, 2016. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

#### **Asset Distribution Across Investment Managers**

	December 3	1, 2016			0, 2016	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Domestic Equities	\$177,501,285	39.60%	\$0	\$2,033,949	\$175,467,336	39.67%
Large Cap Equities	\$121,564,431	27.12%	\$0	\$1,184,279	\$120,380,152	27.21%
Vanguard S&P 500 Index	22,312,891	4.98%	0	432,171	21,880,720	4.95%
Dodge & Cox Stock	26,417,302	5.89%	0	328,666	26,088,636	5.90%
Boston Partners	26,099,697	5.82%	0	382,141	25,717,556	5.81%
Harbor Cap Appreciation	23,562,112	5.26%	0	(15,751)	23,577,863	5.33%
Janus Research	23,172,429	5.17%	0	57,052	23,115,377	5.23%
Mid Cap Equities	\$20,849,860	4.65%	\$0	\$36,180	\$20,813,680	4.71%
Fidelity Low Priced Stock	5,433,704	1.21%	0	30,831	5,402,873	1.22%
Royce Total Return	5,572,751	1.24%	0	155,650	5,417,101	1.22%
Morgan Stanley	3,951,675	0.88%	0	(153,610)	4,105,285	0.93%
Janus Enterprise	5,891,731	1.31%	0	3,309	5,888,421	1.33%
Small Cap Equities	\$26,065,254	5.81%	\$0	\$639,070	\$25,426,184	5.75%
Prudential Small Cap Value	13,856,181	3.09%	0	676,089	13,180,092	2.98%
AB US Small Growth	6,941,220	1.55%	0	(29,771)	6,970,991	1.58%
RS Investments	5,267,854	1.18%	0	(7,248)	5,275,102	1.19%
Micro Cap Equities	\$9,021,740	2.01%	\$0	\$174,420	\$8,847,320	2.00%
AMG Managers Emrg Opp Fu		2.01%	0	174,420	8,847,320	2.00%
International Equities	\$128,025,375	28.56%	\$0	\$2,521,530	\$125,503,845	28.37%
EuroPacific	27,258,060	6.08%	0	130,266	27,127,795	6.13%
Harbor International	27,313,002	6.09%	0	214,448	27,098,555	6.13%
Columbia Acorn Int'l	14,346,879	3.20%	0	91,552	14,255,327	3.22%
Oakmark International	31,012,239	6.92%	0	1,032,021	29,980,218	6.78%
Mondrian International	28,095,195	6.27%	0	1,053,244	27,041,951	6.11%
Domestic Fixed Income	\$95,227,788	21.24%	\$0	\$580,215	\$94,647,574	21.40%
Dodge & Cox Income	48,137,991	10.74%	0	272,824	47,865,167	10.82%
PIMCO	47,089,798	10.50%	0	307,391	46,782,407	10.58%
Real Estate	\$37,425,884	8.35%	\$(9,353,852)	\$803,351	\$45,976,386	10.39%
RREEF Public Fund	-	-	(7,853,852)	0	7,853,852	1.78%
RREEF Private Fund	20,428,994	4.56%	(1,500,000)	484,992	21,444,002	4.85%
Barings Core Property Fund	16,132,889	3.60%	0	318,358	15,814,531	3.58%
625 Kings Court	864,000	0.19%	0	0	864,000	0.20%
Cash	\$10,100,177	2.25%	\$9,353,852	\$()	\$746,325	0.17%
Total Fund	\$448,280,509	100.0%	\$0	\$5,939,044	\$442,341,465	100.0%



#### **Investment Manager Returns**

The table below details the rates of return for the fund's investment managers over various time periods ended December 31, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2016

	_	Last	Last	Last	Last
	Last	3 Manathan	12	36	60 Marada
Domestic Equties	Month 1.15%	Months 4.60%	Months 10.90%	Months 6.66%	Months 14.42%
Russell 3000 Index	1.15%	4.21%	12.74%	8.43%	14.67%
Large Cap Equities	4.000/	0.000/	44.000/	0.050/	
Vanguard S&P 500 Index	1.98%	3.82%	11.93%	8.85%	-
S&P 500 Index	1.98%	3.82%	11.96%	8.87%	14.66%
Dodge & Cox Stock	1.26%	10.71%	21.28%	8.55%	17.01%
Boston Partners	1.44%	8.10%	13.76%	6.22%	14.46%
S&P 500 Index	1.98%	3.82%	11.96%	8.87%	14.66%
Russell 1000 Value Index	2.50%	6.68%	17.34%	8.59%	14.80%
Harbor Cap Appreciation (5)	(0.07%)	(1.92%)	(1.04%)	6.49%	13.97%
Janus Research (6)	0.25%	(0.93%)	1.60%	6.95%	14.10%
S&P 500 Index	1.98%	3.82%	11.96%	8.87%	14.66%
Russell 1000 Growth Index	1.24%	1.01%	7.08%	8.55%	14.50%
Mid Cap Equities					
Fidelity Low Priced Stock	0.57%	3.31%	8.79%	5.21%	13.14%
Royce Total Return (1)	2.87%	9.52%	26.13%	5.93%	12.59%
Russell MidCap Value Idx	1.78%	5.52%	20.00%	9.45%	15.70%
Manage Otavilar (2)	(2.740/)	(40.040/)	(40.000()	(0.050()	4.070/
Morgan Stanley (2)	(3.74%)	(10.91%)	(13.30%)	(6.05%)	4.67%
Janus Enterprise (6)	0.06%	0.36%	12.13%	9.13%	14.92%
Russell MidCap Growth Idx	0.35%	0.46%	7.33%	6.23%	13.51%
Small Cap Equities					
Prudential Small Cap Value (3)	5.13%	17.85%	33.99%	9.68%	15.40%
US Small Cap Value Idx	3.80%	12.11%	27.64%	9.16%	15.62%
Russell 2000 Value Index	4.13%	14.07%	31.74%	8.31%	15.07%
AB US Small Growth (4)	(0.43%)	2.66%	6.91%	1.61%	12.33%
RS Investments (1)	(0.14%)	2.56%	1.16%	3.64%	13.91%
Russell 2000 Growth Index	1.36%	3.57%	11.32%	5.05%	13.74%
Micro Cap Equities					
AMG Managers Emerging Opp Fund	1.97%	6.38%	17.97%	3.49%	14.65%
Russell Microcap Index	4.55%	10.05%	20.37%	5.77%	15.59%
Russell Micro Growth Idx	1.97%	1.46%	6.86%	2.33%	13.53%



 <sup>(1)</sup> Switched share class December 2009.
 (2) Switched share class in February 2014.
 (3) Switched share class in Septemeber 2015.
 (4) Switched to a mutual fund in September 2015.
 (5) Switched share class in June 2016.
 (6) Switched share class in July 2016.

#### **Investment Manager Returns**

The table below details the rates of return for the fund's investment managers over various time periods ended December 31, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

#### Returns for Periods Ended December 31, 2016

		Last	Last	Last	Last
	Last	3	12	36	60
	Month	Months	Months	Months	Months
International Equities	1.99%	(1.67%)	2.84%	(2.58%)	5.55%
MSCI ACWI ex-US Index	2.59%	(1.20%)	5.01%	(1.32%)	5.48%
EuroPacific (1)	0.48%	(4.15%)	1.01%	(0.60%)	7.22%
Harbor International (5)	0.79%	(4.29%)	0.27%	(3.50%)	4.88%
Oakmark International (4)	3.44%	6.47%	8.19%	(0.58%)	10.43%
Mondrian International	3.83%	(1.14%)	4.50%	(1.40%)	4.52%
MSCI EAFE Index	3.42%	(0.71%)	1.00%	(1.60%)	6.53%
MSCI ACWI ex-US Index	2.59%	(1.20%)	5.01%	(1.32%)	5.48%
Columbia Acorn Int'l (2)	0.64%	(8.52%)	(2.19%)	(2.55%)	6.60%
MSCI ACWI ex US Small Cap	2.12%	(3.52%)	3.91%	0.76%	7.74%
Domestic Fixed Income	0.61%	(1.85%)	4.10%	3.06%	3.49%
BB Aggregate Index	0.14%	(2.98%)	2.65%	3.03%	2.23%
Dodge & Cox Income	0.57%	(1.24%)	5.61%	3.46%	3.77%
PIMCO	0.66%	(2.46%)	2.59%	2.66%	3.21%
BB Aggregate Index	0.14%	(2.98%)	2.65%	3.03%	2.23%
Real Estate	2.01%	0.74%	6.97%	11.16%	10.88%
Real Estate Custom Benchmark (3)	1.32%	0.74%	8.63%	11.16%	11.44%
RREEF Private	2.27%	2.27%	7.95%	11.80%	12.00%
Barings Core Property Fund	2.01%	2.01%	8.62%	10.06%	10.04%
NFI-ODCE Equal Weight Net	0.65%	1.96%	8.37%	11.30%	11.24%
625 Kings Court	0.00%	0.00%	7.39%	9.78%	12.85%
020 Kings Oddit	0.00 /0	0.0070	1.00/0	J.1070	12.00 /0
Total Fund	1.34%	0.91%	6.66%	3.76%	8.90%
Total Fund Benchmark*	1.67%	0.70%	7.78%	4.87%	8.71%



<sup>\*</sup> Current Month Target = 39.2% Russell 3000 Index, 28.2% MSCI ACWIxUS Gross, 21.5% Blmbg Aggregate Idx, 9.0% NFI-ODCE Equal Weight Net and 2.1% FTSE NAREIT Composite Idx.
(1) Switched share class December 2009.
(2) Switched share class in February 2014.
(3) Real Estate Custom Benchmark is 50% NAREIT Composite Index and 50% NFI-ODCE Equal Weight Net through 12/31/2011; and 20% NAREIT Composite Index and 80% NFI-ODCE Equal Weight Net thereafter.
(4) Switched to CIT in November 2015.
(5) Switched share class in June 2016.

### Callan

January 18, 2017

Mendocino County Employees' Retirement Association

International Equity Education and Manager Structure

**Greg DeForrest, CFA** 

SF Consulting Group

**Greg Ungerman, CFA** 

SF Consulting Group

Alina Vartanyan, CFA

SF Consulting Group

# **Agenda**

- International Equity Education
- Current MCERA International Equity Portfolio
- MCERA International Equity Manager Structure Options



# Why International Equity?

### Overview

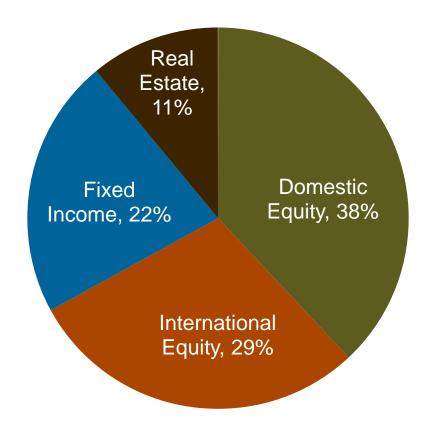
- Why International Equity
- Why International Small Cap
- Why Emerging Markets



### **MCERA**

- MCERA has a 29% target allocation to Non-US equity
- Non-US equity accounts for 43% of the Fund's total allocation to public equity
- Non-US equity represents 47% of the MSCI ACWI IMI as of September 30, 2016

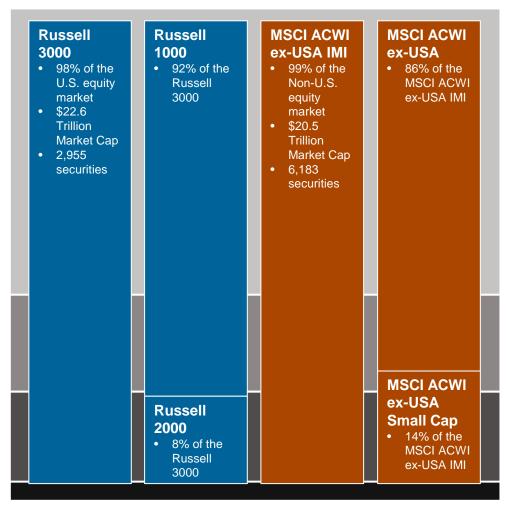
### **MCERA Target Asset Allocation**





### Non-US Equity Opportunity Set is Vast

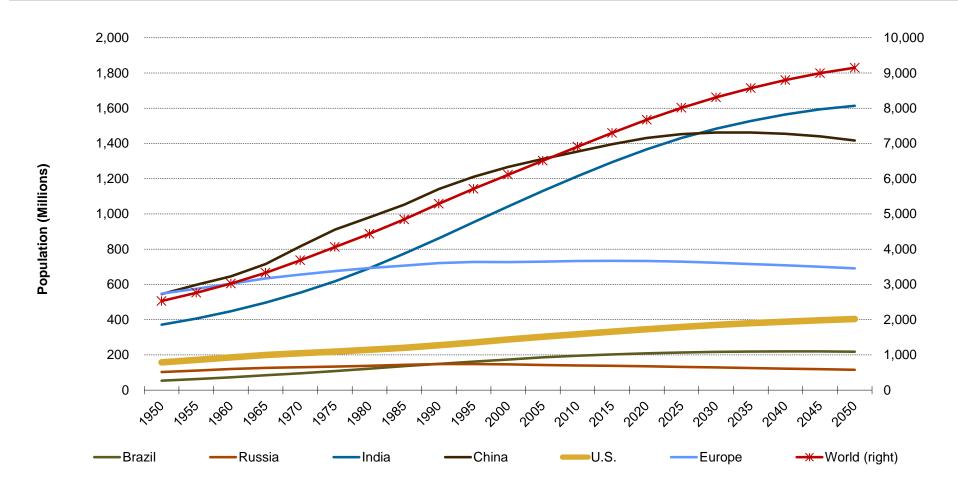
As of September 30, 2016



Sources: Callan, Russell, and MSCI

- The Russell 3000 and MSCI ACWI ex-USA IMI are capitalization weighted indices that include large, mid, and small cap stocks
- The indices assign different break points between their large/mid and small cap sub-indices
- Number of stocks
  - Russell 3000 = 2,955 stocks
    - Russell 2000 = 1,961 stocks
  - ACWI ex-USA IMI = 6.183 stocks
    - ACWI ex-US Small Cap = 4,330 stocks
- Market capitalization
  - Russell 3000 = \$22.6 trillion
    - Russell 2000 = \$1.7 trillion
  - ACWI ex-USA IMI = \$ 20.5 trillion
    - ACWI ex-US Small Cap = \$2.9 trillion
- But the future might not reflect today's market capitalization...

### **Demographic Trends**



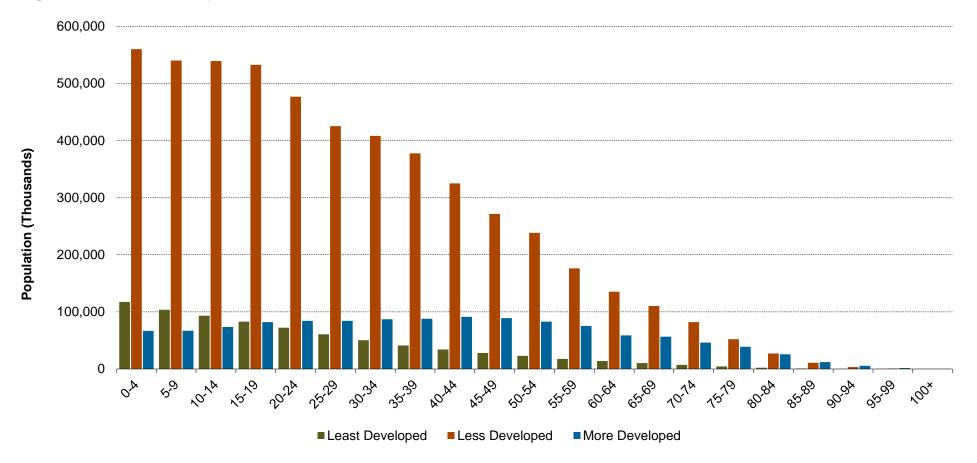
- World population is headed for 9 billion in 2050 with China and India accounting for much of the growth
- China's population is expected to peak around 2025

Source: Richard Hokenson, United Nations



# **Demographic Trends**

### Age Distribution by Level of Development



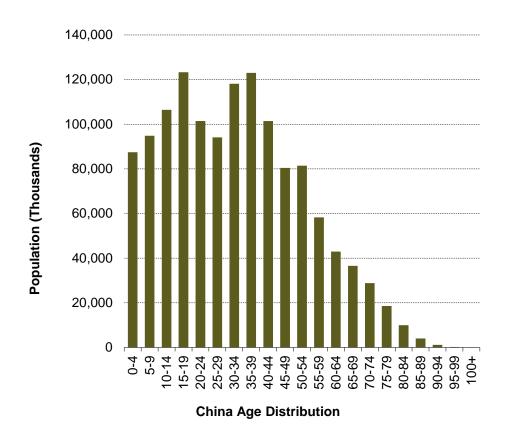
- Least and Less Developed countries are the engines of population growth (Frontier & EM)
- More Developed countries face declining population trends

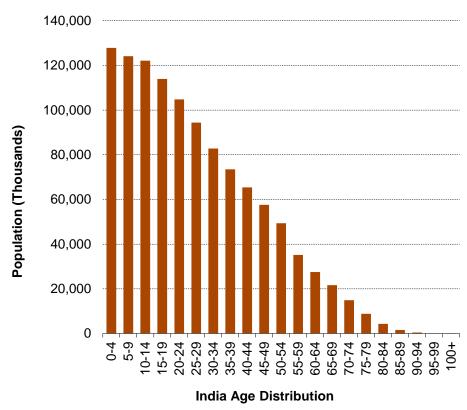
Source: Richard Hokenson, United Nations



### Why Does China Peak?

### China versus India – Age Group Distributions





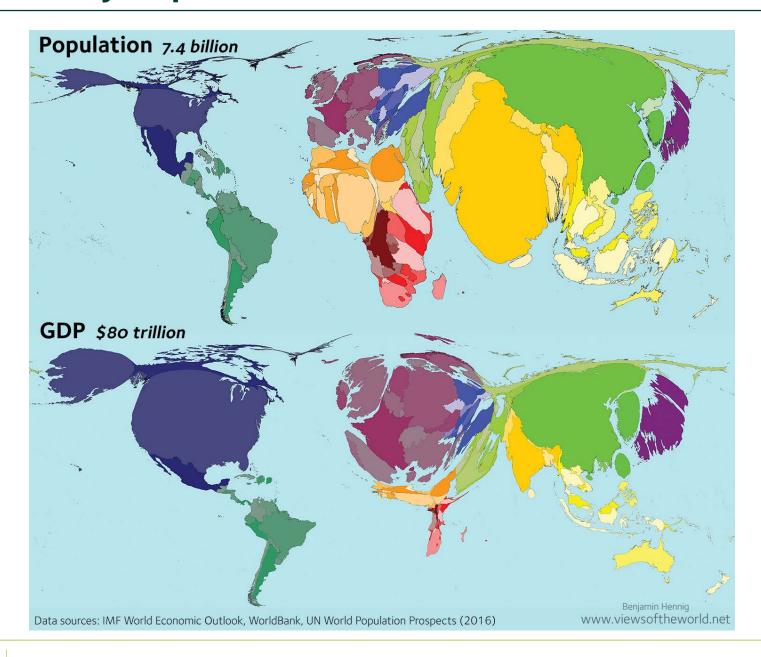
- China's 15 and under population is shrinking
- One-Child Policy (just officially ended)

- India's 15 and under population is growing
- Birthrates continue to increase

Source: United Nations Population Fund



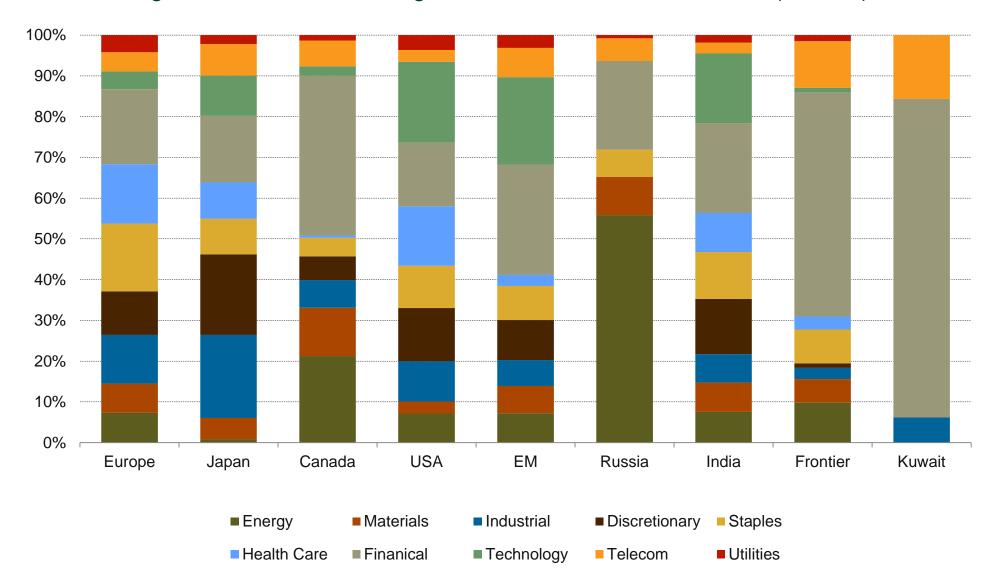
# The World by Population and GDP





# **Sector Allocation (Concentration)**

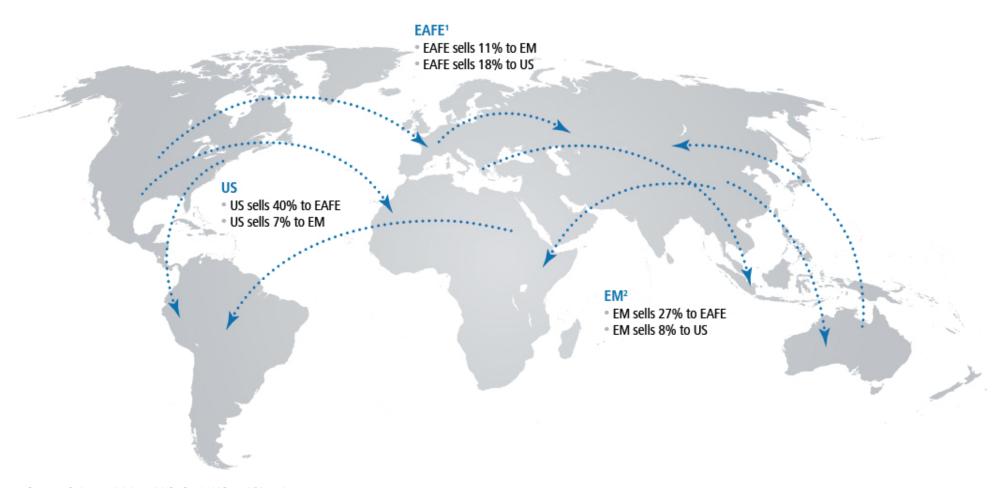
Different Regions and Countries Bring Different Sector Concentrations (6/30/16)





# **Global Integration Blurs Country and Regional Lines**

### US + Non-US Includes Some Global Integration



Source: Calamos Advisors LLC, Capital IQ and Bloomberg

Data as of December 31, 2012. Based on top 100 holdings of the MSCI EAFE Index, S&P 500 Index, MSCI Emerging Markets Index, which represent 53%, 65% and 54% of the total capitalization of the indices, respectively.

<sup>&</sup>lt;sup>2</sup> Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey



<sup>&</sup>lt;sup>1</sup>Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.

### **Global Integration**

### European Companies with High Revenue Exposure Outside Country of Domicile

<ul> <li>Standard Chartered</li> </ul>	90% Emerging Markets / 69% Emerging As	sia

viarkets / 64%	Latin America
V	Markets / 64%

<ul> <li>Fresenius Medical Care</li> </ul>	64% United States
• I ICSCIIIUS MICUICAI CAIC	

<ul><li>Swatch</li></ul>	30% China / 28% Europe ex-UK
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<ul><li>Essar Energy</li></ul>	100% Emerging Asia
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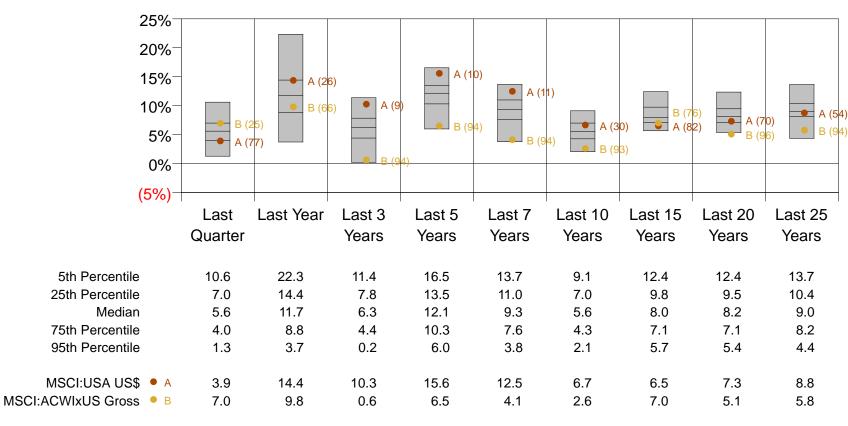
Source: Morgan Stanley Research (based on analysts' 2011 estimates in conjunction with company information)



### **US versus Non-US Performance**

#### **Cumulative Performance**

#### Returns for Periods Ended September 30, 2016 Group: Global Equity Database





# **Global Equity Performance**

### **US versus Non-US Matters**

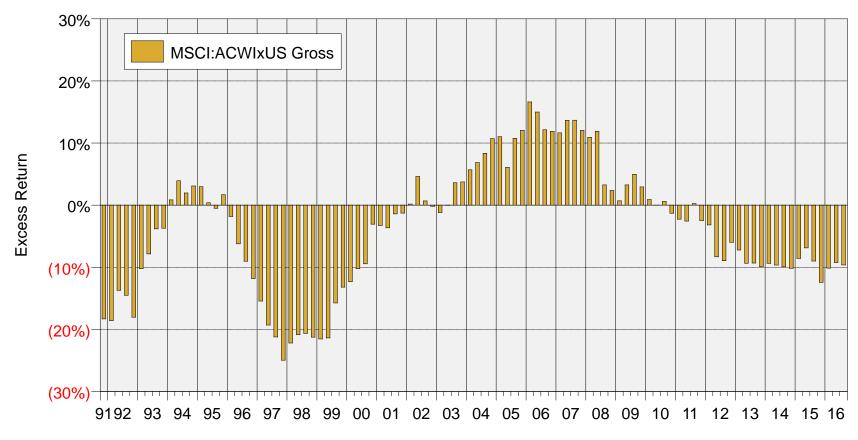
2007	2008	2009	2010	2011	2012	2013	2014	2015	3 Qtrs. 2016
MSCI:ACWI	MSCI:US IMI	MSCI:ACWI	MSCI:US IMI	MSCI:US IMI	MSCI:ACWI	MSCI:US IMI	MSCI:US IMI	MSCI:US IMI	MSCI:US IMI
ex US IMI		ex US IMI			ex US IMI				
16.1%	(37.0%)	43.6%	17.2%	1.2%	17.0%	33.4%	12.5%	0.6%	8.3%
MSCI:US IMI	MSCI:ACWI	MSCI:US IMI	MSCI:ACWI	MSCI:ACWI	MSCI:US IMI	MSCI:ACWI	MSCI:ACWI	MSCI:ACWI	MSCI:ACWI
	ex US IMI		ex US IMI	ex US IMI		ex US IMI	ex US IMI	ex US IMI	ex US IMI
5.8%	(46.0%)	28.7%	12.7%	(14.3%)	16.4%	15.8%	(3.9%)	(4.6%)	6.1%
4007	1000	4000	0000	0004	2222	0000	0004	2225	0000
1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
MSCI USA IMI	MSCI USA IMI	MSCI ACWI ex-USA IMI	MSCI USA IMI	MSCI USA IMI	MSCI ACWI ex-USA IMI				
IIVII	IIVII	ex-USA IIVII	IIVII	IIVII	ex-USA IIVII	ex-USA IIVII	ex-USA IIVII	ex-USA IIVII	ex-USA IIVII
24.70/	04.00/	07.70/	(40.00()	(44.00/)	(40.00()	40.00/	04.00/	47.70/	00.5%
31.7% MSCI ACWI	24.2%	37.7%	(10.6%)	(11.0%)	(12.9%)	42.3%	21.9%	17.7%	26.5%
ex-USA IMI	MSCI ACWI ex-USA IMI	MSCI USA IMI	MSCI ACWI ex-USA IMI	MSCI ACWI ex-USA IMI	MSCI USA IMI				
ex-03A IIVII	ex-03A IIVII	11011	ex-OSA IIIII	ex-03A IIVII			11411		
(3.3%)	12.0%	24.0%	(19.4%)	(19.8%)	(21.6%)	31.0%	12.3%	6.4%	15.7%
(3.370)	12.0 /0	27.0 /0	(13.770)	(13.070)	(21.070)	31.070	12.5/0	U. <del> 1</del> /0	13.770



### **US versus Non-US Performance**

### Rolling Performance

Rolling 12 Quarter Excess Return Relative To MSCI:USA US\$

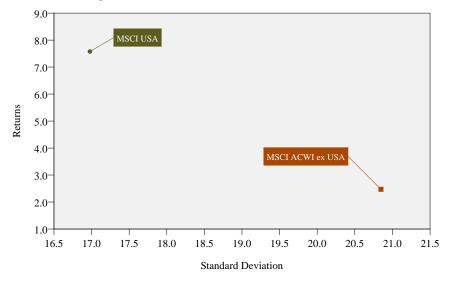


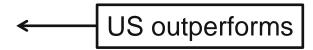


### **US versus Non-US Performance**

#### **Time Period Matters**

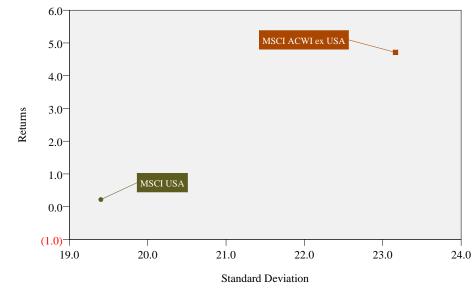
Return vs Risk for 10 Years Ended September 30, 2016





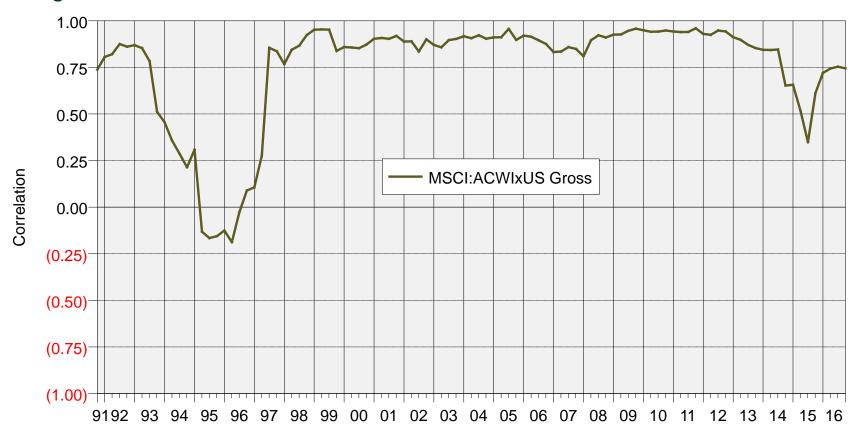
Return vs Risk for 10 Years Ended September 30, 2010





### **US versus Non-US Diversification Benefits**

#### Rolling 12 Quarter Correlation Relative To MSCI:USA US\$





### **Global Exposure**

#### Via a US + Non-US Structure

#### **Pros**

- Broadest opportunity set
- Multiple alpha (and risk) sources
  - Regional
  - Country
  - Global sector
  - Security
  - Currency
- Best opportunity set for thematic
  - Long-term structural changes
  - Intermediate term indicator driven
- Good use of active risk budget
- Manager expertise determines country allocation
- Access to economic growth
- Access to population growth (emerging consumer)

#### Cons

- Static US / Non-US allocation
- Larger cap bias for Non-US structure
- Less specialization
  - Emerging markets
  - International small cap
- Higher risk
  - Region/country allocation
  - Currency effect

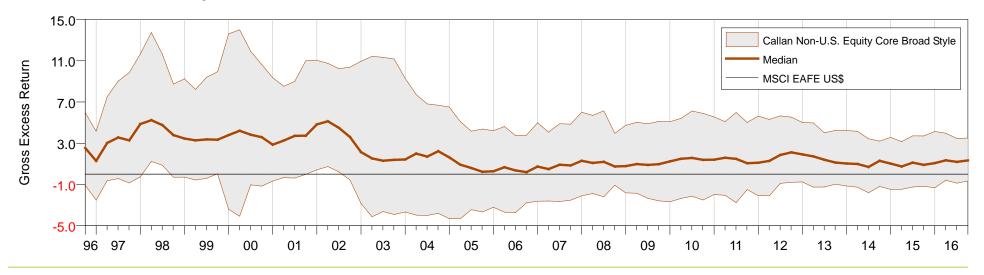
#### Non-U.S. Equity Core Broad Style versus MSCI EAFE

 Percent of rolling 3-year periods where Manager Beat Benchmark by more than Fee Hurdle – by Percentile

Fee Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	95%	94%	94%	93%	93%	90%	89%	85%	85%	84%
45th Percentile	100%	100%	99%	99%	96%	96%	96%	95%	94%	91%
40th Percentile	100%	100%	100%	100%	100%	100%	100%	99%	99%	98%
35th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
30th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

# Rolling 12 Quarter Gross Excess Return relative to MSCI EAFE US\$ for 20 Years ended September 30, 2016



1.96%

#### Non-U.S. Equity Core Plus Broad Style versus MSCI ACWI ex USA

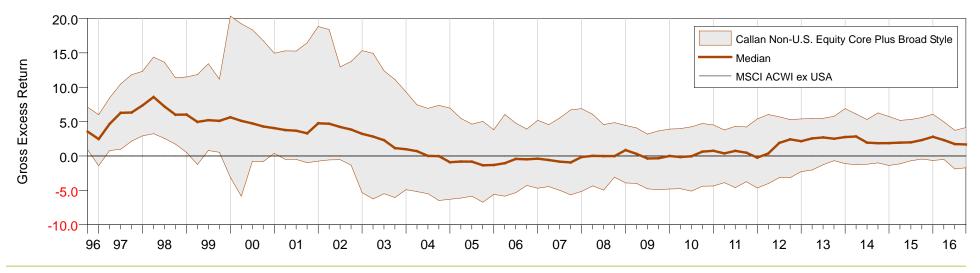
 Percent of rolling 3-year periods where Manager Beat Benchmark by more than Fee Hurdle – by Percentile

Fee Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	66%	65%	65%	65%	64%	63%	63%	60%	60%	59%
45th Percentile	73%	73%	73%	73%	70%	70%	69%	69%	69%	65%
40th Percentile	85%	85%	84%	83%	80%	79%	79%	79%	78%	76%
35th Percentile	94%	94%	93%	91%	90%	90%	88%	86%	84%	84%
30th Percentile	99%	99%	99%	99%	99%	99%	99%	99%	98%	96%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

2.09%

# Rolling 12 Quarter Gross Excess Return relative to MSCI ACWI ex USA for 20 Years ended September 30, 2016



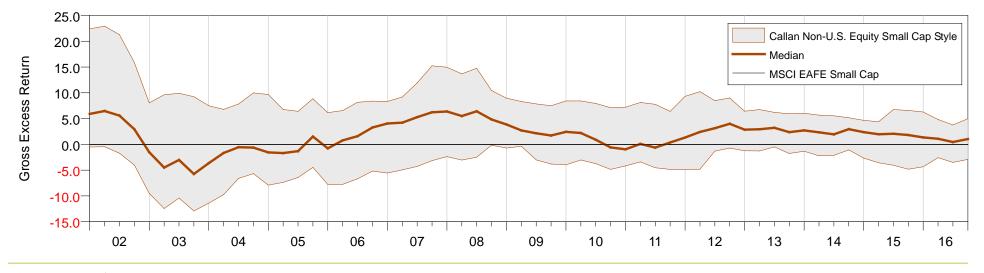
#### Non-U.S. Equity Small Cap Style versus MSCI EAFE Small Cap

 Percent of rolling 3-year periods where Manager Beat Benchmark by more than Fee Hurdle – by Percentile

Fee Hurdle	0.75%	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%	1.20%
Median	69%	68%	68%	68%	66%	66%	64%	63%	63%	63%
45th Percentile	75%	73%	73%	71%	71%	71%	71%	69%	69%	69%
40th Percentile	81%	80%	80%	80%	78%	78%	78%	75%	75%	75%
35th Percentile	93%	90%	90%	90%	90%	90%	88%	88%	88%	86%
30th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	98%	98%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

# Rolling 12 Quarter Gross Excess Return relative to MSCI EAFE Small Cap for 14 3/4 Years ended September 30, 2016



1.65%

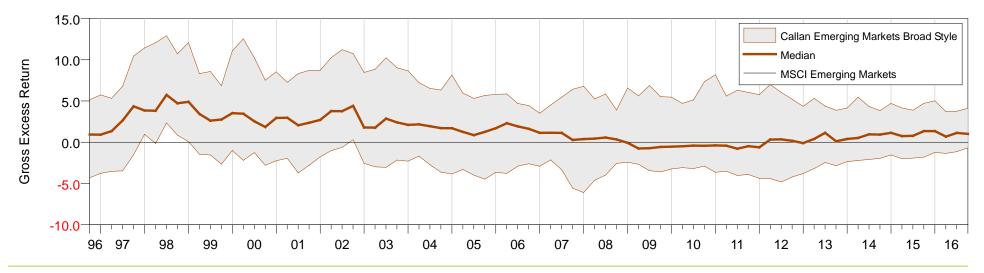
#### Emerging Markets Broad Equity Style versus MSCI Emerging Markets

 Percent of rolling 3-year periods where Manager Beat Benchmark by more than Fee Hurdle – by Percentile

Fee Hurdle	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%
Median	66%	66%	64%	64%	63%	60%	59%	58%	58%	51%
45th Percentile	76%	73%	73%	73%	71%	70%	70%	69%	69%	66%
40th Percentile	84%	84%	81%	80%	80%	78%	78%	75%	75%	74%
35th Percentile	93%	93%	91%	91%	89%	88%	86%	86%	86%	86%
30th Percentile	99%	99%	99%	98%	96%	96%	96%	96%	96%	95%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

# Rolling 12 Quarter Gross Excess Return relative to MSCI Emerging Markets for 20 Years ended September 30, 2016



1.49%

### What is Small Cap?

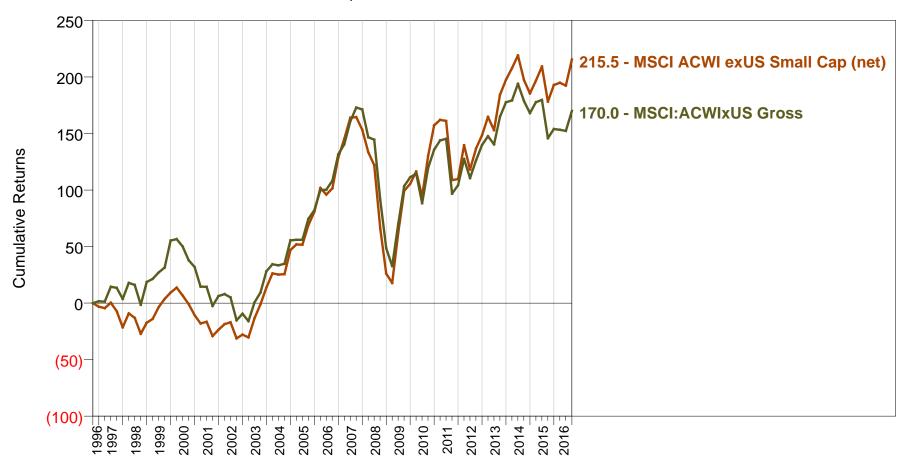
- MSCI Standard Indices (large + mid cap)
  - EAFE, ACWI exUS, World, EM, etc.
- MSCI Investible Market Indices (IMI) (standard + small)
  - EAFE IMI, ACWI exUS IMI, World IMI, EM IMI, etc.
- MSCI ACWI exUS Small Cap
  - Bottom 15% of market cap universe for each <u>country</u>
  - No single market cap cutoff
  - 71% of all stocks are small cap (by count)
- S&P
  - Bottom 15% (country)
- FTSE
  - Bottom 10% (regional)
- Russell
  - Bottom 15% (global)
  - Single market cap cutoff



Sources: MSCI, S&P, FTSE/Russell

#### Performance Potential

Cumulative Returns for 20 Years Ended September 30, 2016



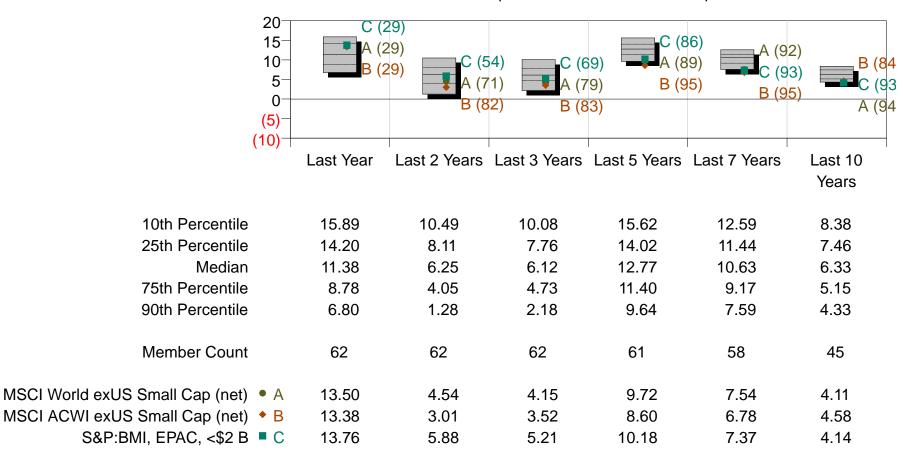
International small cap has outperformed international large cap over time.



Sources: Callan, MSCI

### **Active Management Pays**

Returns for Periods Ended September 30, 2016 Group: CAI International Small Cap



Most of the international small cap manager universe beats the indices over time.

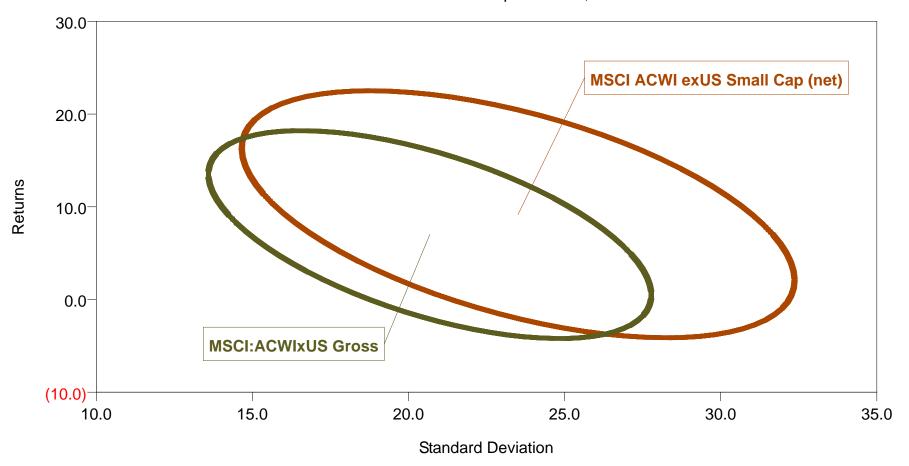
Sources: Callan, MSCI, S&P



25

#### Risk/Return

Rolling 20 Quarter Scatter Chart for 10 Years Ended September 30, 2016

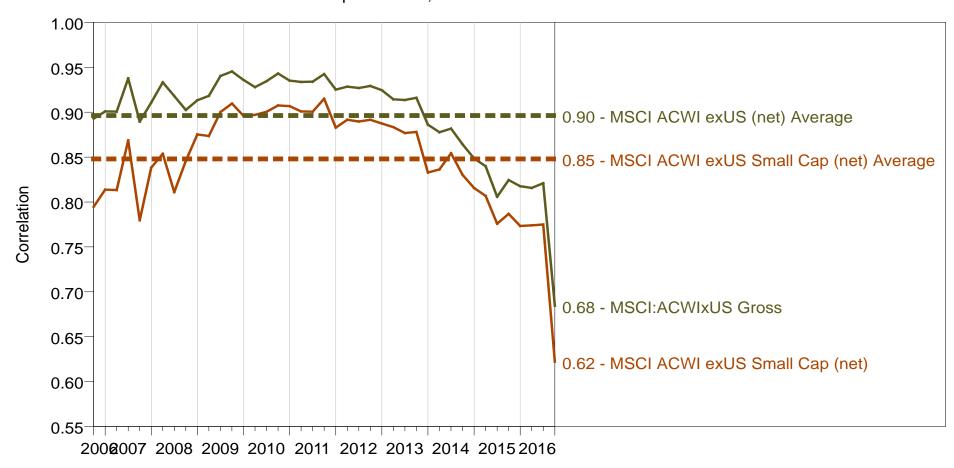


International small cap brings higher volatility (with higher returns).



#### **Diversification Benefits - Correlation**

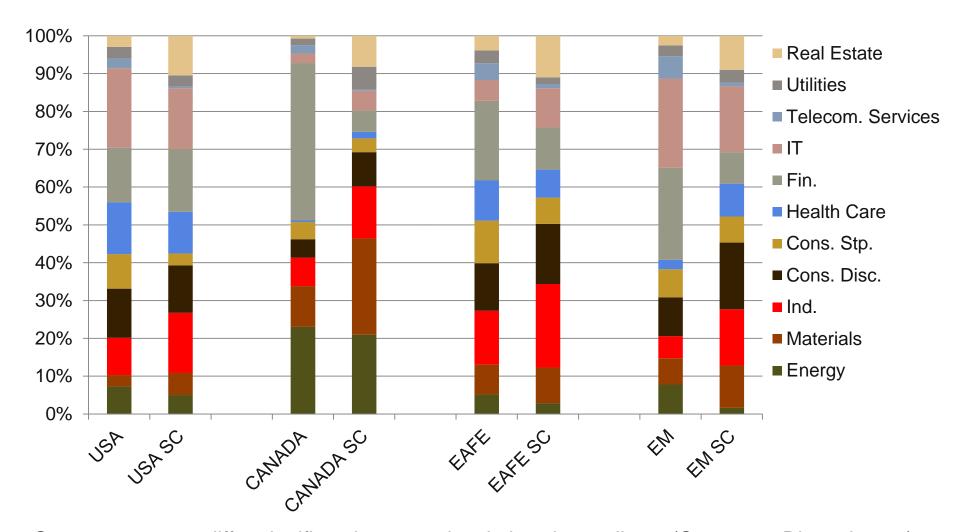
Rolling 20 Quarter Correlation Relative To S&P 500 for 10 Years Ended September 30, 2016



International small cap offers lower correlation to S&P 500.



#### Sector Differences



Sector exposures differ significantly – more local plays in small cap (Consumer Discretionary).

Sources: Callan, MSCI Nov 2016



### Summary

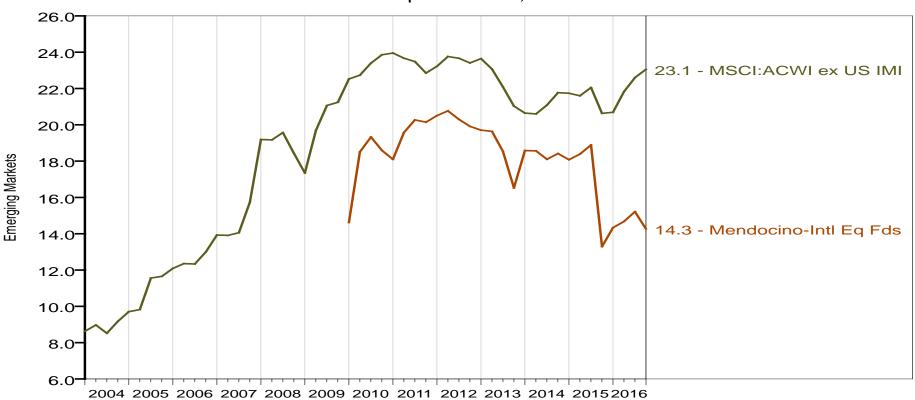
- Broadest opportunity set
- Better performing benchmarks
- Better performing managers at higher fees
- Higher volatility in isolation but lower correlation to your largest allocation
- Better access to local themes



# Why Emerging Markets?

### Historical Emerging Markets Exposure

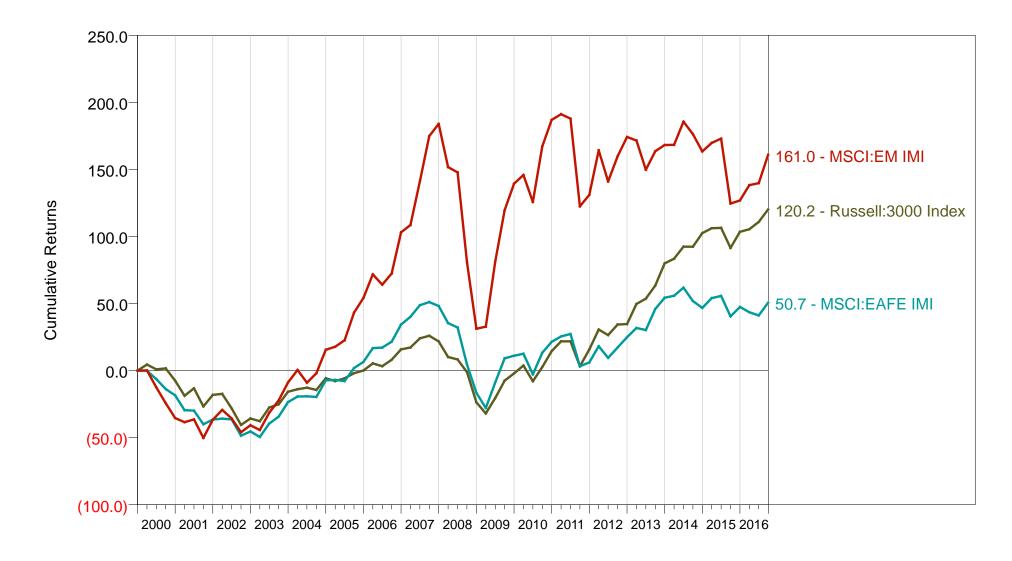
Emerging Markets for 12 3/4 Years Ended September 30, 2016



- Emerging markets has become a material part of the global universe
- MSCI ACWI exUS GDP Weighted index = 48% emerging markets (worth repeating)

# Why Emerging Markets?

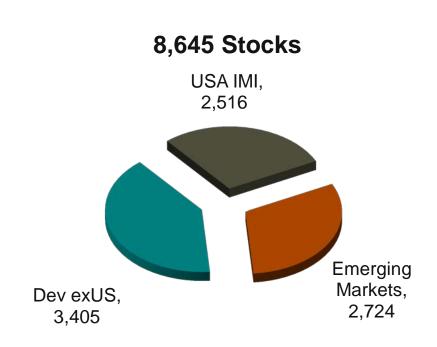
#### **Cumulative Performance**

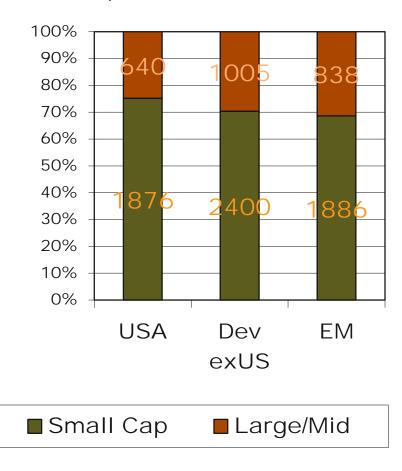


Source: MSCI, S&P, Russell, Callan



#### Number of Stocks in MSCI ACWI IMI (Investible Market Index)



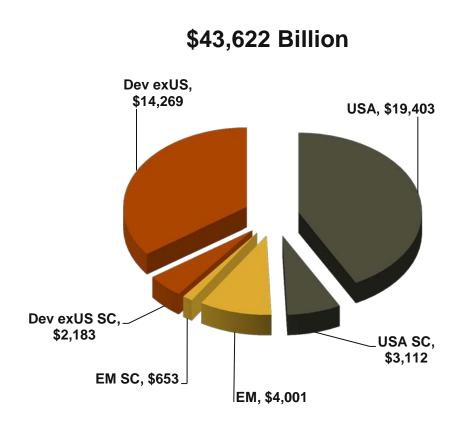


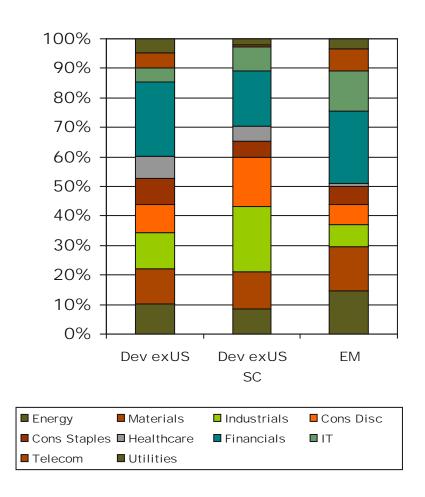
- Opportunity set is vast
- Over 30% of the global all-cap universe reside in emerging markets

Source: MSCI as of June 30, 2015



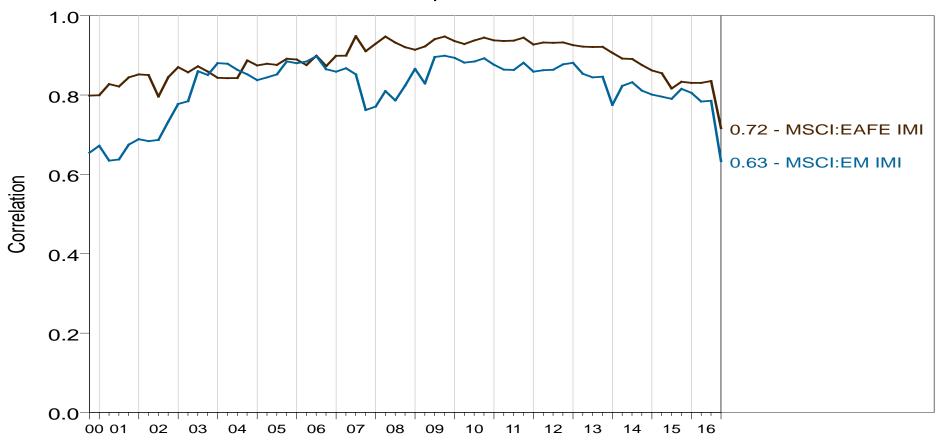
#### Different Sector Exposures – Especially in Emerging Markets





Sector diversification can be gained through broad mandates or a mix of specialized mandates

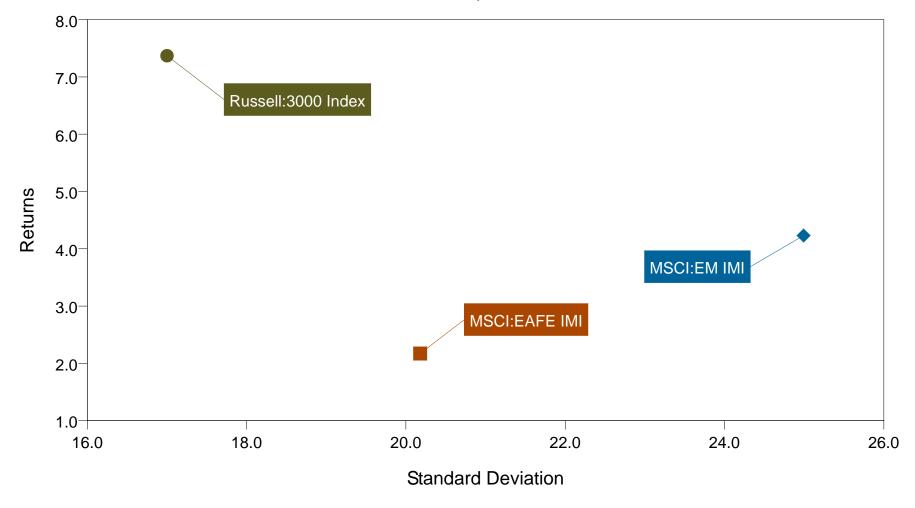
Rolling 20 Quarter Correlation Relative To Russell:3000 Index for 16 Years Ended September 30, 2016



 Although correlations of emerging markets has also increase, they offer better diversification than developed markets.

Risk / Return

Scatter Chart for 10 Years Ended September 30, 2016



Source: Callan, MSCI



Periodic Table of Investment Returns for Calendar Years 15 Years Ended September 30, 2016

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	3 Qtrs. 2016
Barc Agg	EM IMI	EM IMI	EM IMI	EM IMI	EM IMI	Barc Agg	EM IMI	EM IMI	NFI ODCE	EM IMI	RU 3000	RU 3000	NFI ODCE	EM IMI
10.3%	54.0%	26.6%	33.5%	31.7%	39.8%	5.2%	82.4%	19.9%	15.0%	18.7%	33.6%	12.6%	14.2%	15.0%
NFI	EAFE	EAFE	NFI	EAFE	NFI	NFI	EAFE	RU	Barc	EAFE	EAFE	NFI	Barc	RU
ODCE	IMI	IMI	ODCE	IMI	ODCE	ODCE	IMI	3000	Agg	IMI	IMI	ODCE	Agg	3000
4.4%	40.0%	21.2%	19.0%	26.1%	15.0%	(11.1%)	33.2%	16.9%	7.8%	17.6%	23.5%	11.4%	0.5%	8.2%
EM	40.0% RU	RU	EAFE	RU	EAFE	RU	85.2 % RU	NFI	RU	RU	NFI	Barc	EAFE	NFI
								ODCE			ODCE			ODCE
IMI	3000	3000	IMI	3000	IMI	3000	3000		3000	3000		Agg	IMI	
(6.5%)	31.1%	11.9%	14.8%	15.7%	10.4%	(37.3%)	28.3%	15.1%	1.0%	16.4%	12.4%	6.0%	0.5%	6.3%
EAFE	NFI	NFI	RU	NFI	Barc	EAFE	Barc	EAFE	EAFE	NFI	Barc	EM	RU	Barc
IMI	ODCE	ODCE	3000	ODCE	Agg	IMI	Agg	IMI	IMI	ODCE	Agg	IMI	3000	Agg
(13.9%)	8.2%	11.5%	6.1%	15.1%	7.0%	(43.7%)	5.9%	9.3%	(12.6%)	9.9%	(2.0%)	(1.8%)	0.5%	5.8%
RU	Barc	Barc	Barc	Barc	RU	EM	NFI	Barc	EM	Barc	EM	EAFE	EM	EAFE
3000	Agg	Agg	Agg	Agg	3000	IMI	ODCE	Agg	IMI	Agg	IMI	IMI	IMI	IMI
	99	.55	.55	.55				.99		.55				
(04 FC()	4.406	4.007	0.407	4.007	E 40/			C 50/		4.007				
(21.5%)	4.1%	4.3%	2.4%	4.3%	5.1%	(53.8%)	(31.3%)	6.5%	(19.5%)	4.2%	(2.2%)	(4.9%)	(13.9%)	2.2%

- Markets Rotate No market segment consistently wins over short periods of time
- This offers an opportunity to earn a rebalancing premium with disciplined rebalancing

Source: Callan, MSCI



#### Summary

- Broad international mandates bring benefits
- Specialized international mandates (emerging markets) bring their own benefits
- A mix of broad and specialized mandates offers...
  - Diversification benefits
  - Ability to tilt regional and sector exposures by broad managers
  - Ability to dive deep into certain market segments by specialists, which offer...
    - Specialized expertise
    - Potential for excess returns
  - A mix also brings the opportunity to earn a rebalancing premium at the plan level
- A mix of broad and specialized mandates bring challenges
  - Increased number of managers
  - Higher level of monitoring
  - Need for disciplined rebalancing program
  - Higher fees



# **Current MCERA International Equity Structure**

	Style	% Emerging Markets	Large Cap or Small Cap	5 Yr. Active Risk	Allocation (% of International Equity Assets)	Allocation (% of Total Portfolio)	Allocation (\$, mm)
Harbor International	Growth	7.2%	Large	3.21	22.7%	6.4%	\$28.54
Mondrian International	Value	19.0%	Large	3.38	18.9%	5.4%	\$23.78
EuroPacific	Growth	27.0%	Large	2.82	22.7%	6.4%	\$28.44
Oakmark International	Value	7.0%	Large	7.99	23.2%	6.6%	\$29.13
Columbia Acorn Int'l	Growth	14.1%	Small	3.66	12.5%	3.5%	\$15.68
Total					100.0%	28.3%	\$125.56

- Following the Asset Liability Study, the International Equity target allocation was increased from 25% to 29%. This change took place at the end of September, 2016.
- The International Equity Portfolio is split approximately 20% each in Harbor, Mondrian, EuroPac, and Oakmark, and 13% in the Dedicated Small/Mid Cap fund.

# **Non-US Equity Observations**

#### **Current Situation**

- Observations and comments for the current Non-US Equity structure:
  - Non-US Equity has performed well, but not over more recent periods.
  - Non-US Equity structure is underweight both small cap and emerging markets relative to the benchmark.
  - Alternatives structures will address these questions:
    - Is a Developed Market overweight still appropriate going forward?
    - Is the Small Cap underweight still appropriate going forward?
    - Is the Emerging Market underweight still appropriate going forward.
    - Do the manager's complement each other?
    - Is there an appropriate number of managers?

							Int'l Dev	reloped	Emei
					September 30, 2016		LC + MC	SC	LC + MC
					MSCI EAFE		100.0%		
					MSCI Emerging Markets				100.0%
					MSCI World Ex-US		100.0%		
					MSCI ACWI Ex-US		77.9%		22.1%
					MSCI ACWI Ex-US Small/Mid Cap		42.8%	35.1%	12.2%
					MSCI ACWI Ex-US IMI		66.2%	11.7%	18.8%
			11/30/2016		September 30, 2016		Int'l Dev	reloped	Emei
Sub-Asset Class	Manager	Start Date	\$ Actual	% Actua	Stated Benchmark	Style	LC + MC	SC	LC + MC
Int'l Developed	Mondrian International	2Q 2011	\$27,041,951	21.5%	MSCI ACWI Ex-US	Value	16.8%		4.8%
	Oakmark International	4Q 2006	\$29,980,218	23.9%	MSCI World Ex-US	Core	23.9%		
	American Funds: EuroPacific	3Q 2004	\$27,127,795	21.6%	MSCI ACWI Ex-US	Growth	16.8%		4.8%
	Harbor International	3Q 2006	\$27,098,555	21.6%	MSCI EAFE	Growth (GARP)	21.6%		
Small Cap	Columbia Acorn Intl	3Q 2004	\$14,255,327	11.4%	MSCI ACWI Ex-US Small/Mid Cap	Growth	4.9%	4.0%	1.4%
Emerging Markets									
	<del></del>								
Beta Composite Exposi	ure		\$125,503,846	100.0%			84.0%	4.0%	10.9%
ACWI-Ex US IMI Bench	nmark						66.2%	11.7%	18.8%
Difference between Bo	eta Composite and Benchmark						17.8%	-7.7%	-7.9%

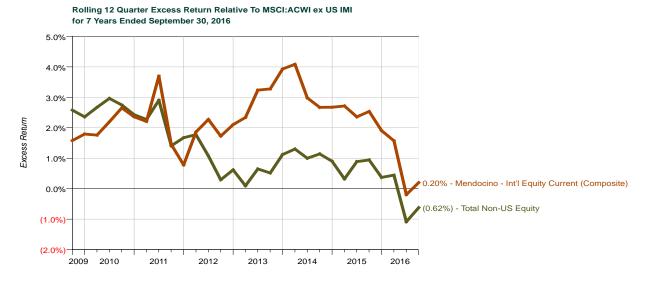


1.6%

9.9%

#### **Performance**

#### Return-Based: Excess-Returns and Tracking Error



Rolling 12 Quarter Tracking Error Relative To MSCI:ACWI ex US IMI for 7 Years Ended September 30, 2016

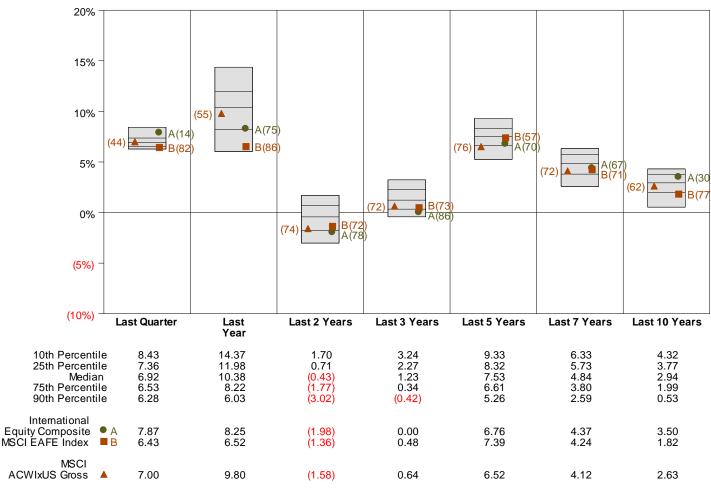


- Top charts show "relative-return" performance on a rolling 3-year (36 month) basis.
- "Total Non-US Equity" represents the fund's actual performance.
  - Excess return has been strong until more recent periods.
- "Int'l Equity Current (Composite)" shows what the current manager line-up would have produced historically.
- The bottom charts shows the tracking error in performance.
  - Total Non-US Equity has exhibited total tracking error between 2-3%.

# **International Equity Portfolio**

#### Performance as of September 30, 2016

#### Performance vs Pub Pln-International Equity (Gross)

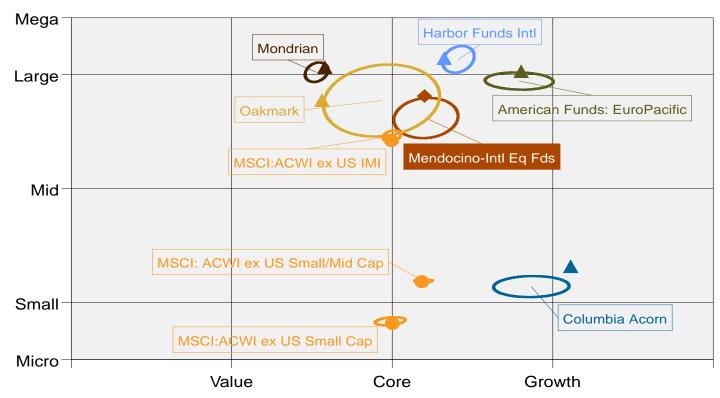


• In general, the International Equity composite has kept up with the MSCI ACWI ex-US Index.

# **Style Map**

#### Holdings-Based Analysis: Capitalization and Style

Style Map for 5 Years Ended September 30, 2016



- Analysis confirms that the fund historically is marginally overweight to large cap stocks, and has a slight growth bias.
- Callan observes that style analysis tends to be less of a predictor of performance for Non-US equity than domestic equity. Country selection is as important.

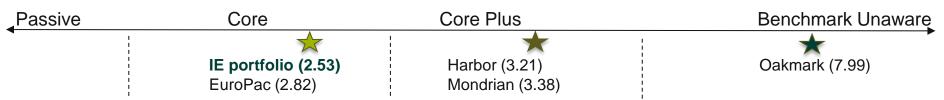
# **International Equity Structure**

#### Manager Generalizations by Approach

#### Terminology:

- Passive and/or Enhanced Passive commonly used within developed markets.
- Core minimal drift from the benchmark, blend of growth & value, exposure to emerging markets
- Core Plus some divergence from the benchmark
- Benchmark Unaware performance tends to exhibit high tracking error relative to the benchmark; composition may differ significantly from the benchmark.
- Dedicated Specialty Managers i.e. International Small Cap and Dedicated Emerging Markets; provide a depth of coverage in these areas which can lead to exploiting greater inefficiencies and generating greater potential alpha
  - Columbia Acorn International is an example of SMID style in MCERA's portfolio

MCERA's Active Risk Spectrum (Trailing 5 years versus MSCI ACWI ex-US)



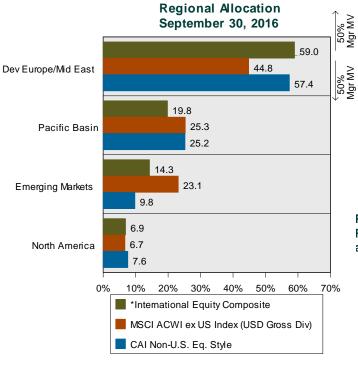
#### MCERA's Emerging Markets allocation Quarter ending Sep. 30, 2016

EAFE		EAFE Plus		ACWI ex-US
		Harbor 7.2%	IE portfolio	Mondrian 19.0%
		Oakmark 7.0%	14,3%	EuroPac 27.0%



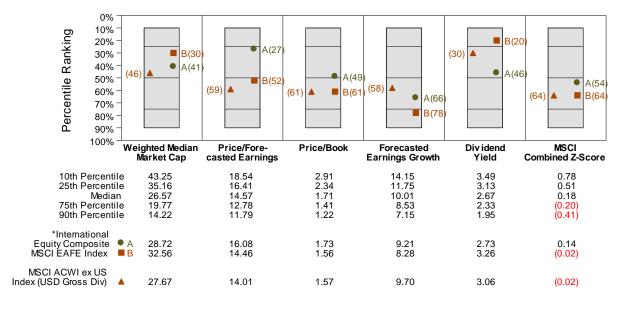
# **International Equity Portfolio**

#### Characteristics as of September 30, 2016



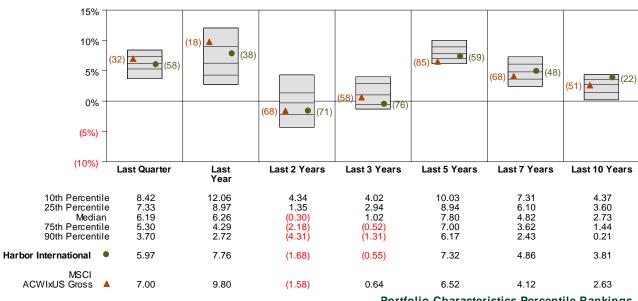
Existing structure has an Emerging Markets underweight

Portfolio Characteristics Percentile Rankings Rankings Against CAI Non-U.S. Equity Style as of September 30, 2016



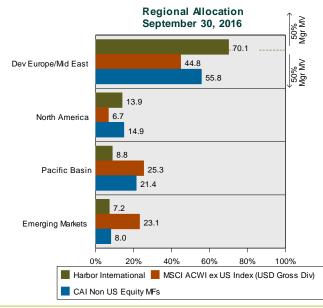
#### Harbor – Performance and Characteristics as of 9/30/16

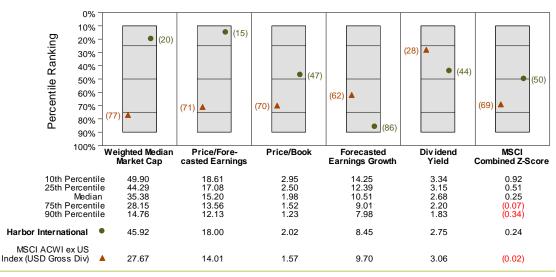
#### Performance vs CAI Non US Equity Mutual Funds (Net)



- Capitalization: Large
- Style: Value philosophy, but plots Growth
- Active: Tracking Error 3.21
- EM%: 7.2%

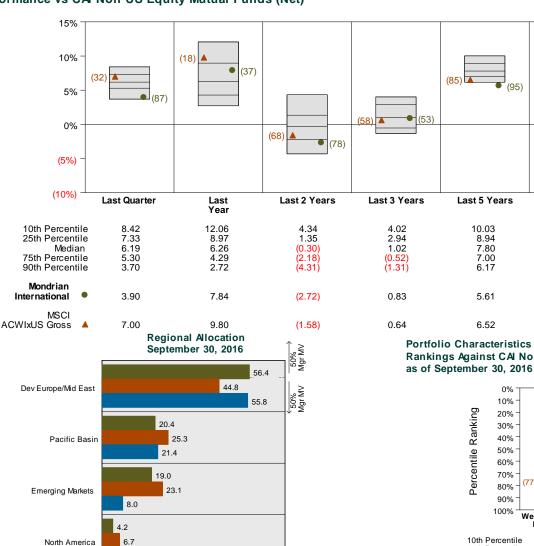
Portfolio Characteristics Percentile Rankings Rankings Against CAI Non US Equity Mutual Funds as of September 30, 2016





#### Mondrian – Performance and Characteristics as of 9/30/16

Performance vs CAI Non US Equity Mutual Funds (Net)



Capitalization: Large

Style: Value

(56)

Last 5-1/2

Years

5.46

4.31

2.98

1.86

0.96

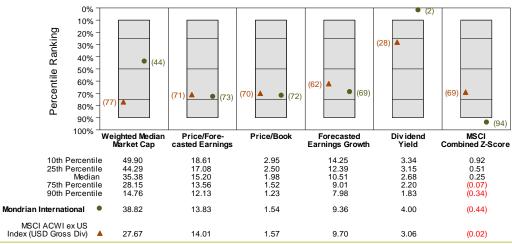
2.64

1.86

Active: Tracking Error 3.38

• EM%: 19.0%

Portfolio Characteristics Percentile Rankings Rankings Against CAI Non US Equity Mutual Funds as of September 30, 2016





Mondrian International MSCI ACWI ex US Index (USD Gross Div)

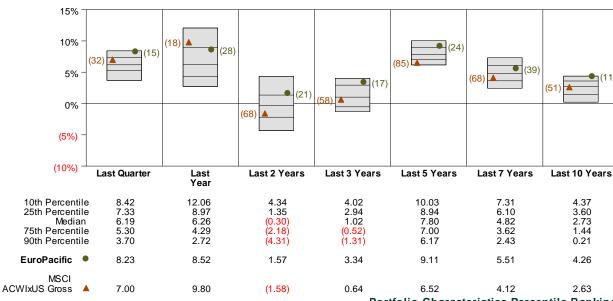
30% 40% 50% 60% 70%

20%

CAI Non US Equity MFs

## **EuroPac – Performance and Characteristics as of 9/30/16**

#### Performance vs CAI Non US Equity Mutual Funds (Net)

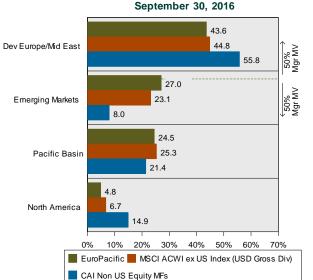


Capitalization: Large

Style: Growth

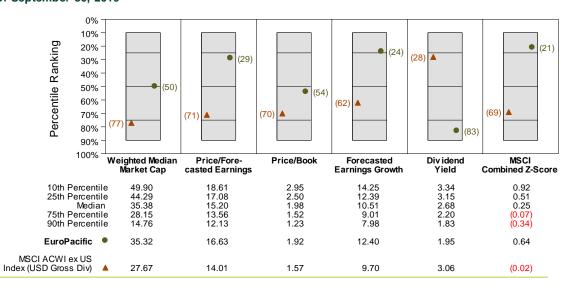
Active: Tracking Error 2.82

• EM%: 27.0%



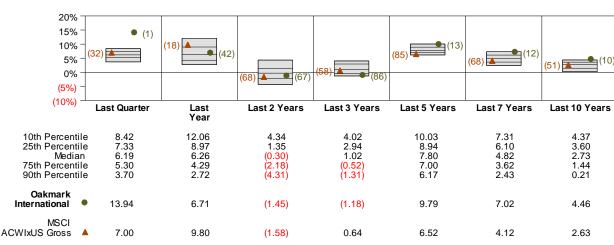
Regional Allocation

Portfolio Characteristics Percentile Rankings Rankings Against CAI Non US Equity Mutual Funds as of September 30, 2016



## Oakmark - Performance and Characteristics as of 9/30/16

#### Performance vs CAI Non US Equity Mutual Funds (Net)

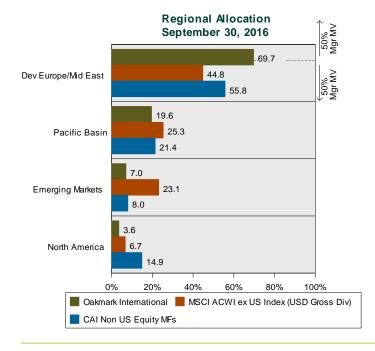


Capitalization: Large

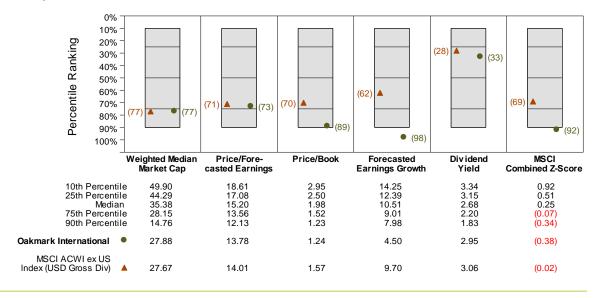
Style: Value

Active: Tracking Error 7.99

EM%: 7.0%

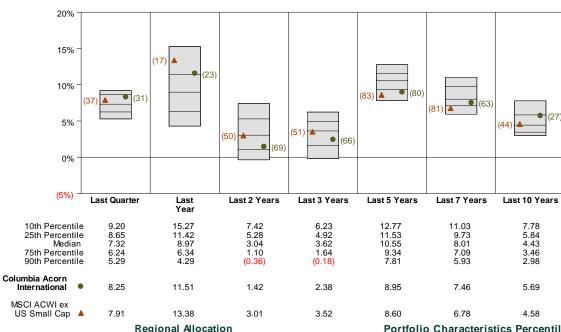


Portfolio Characteristics Percentile Rankings Rankings Against CAI Non US Equity Mutual Funds as of September 30, 2016



## Columbia - Performance and Characteristics as of 9/30/16

Performance vs CAI International Small Cap Mut Funds (Net)



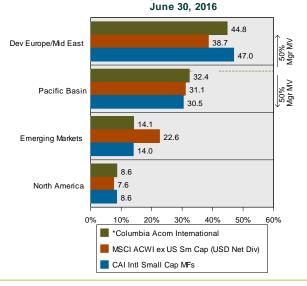
Capitalization: SMID

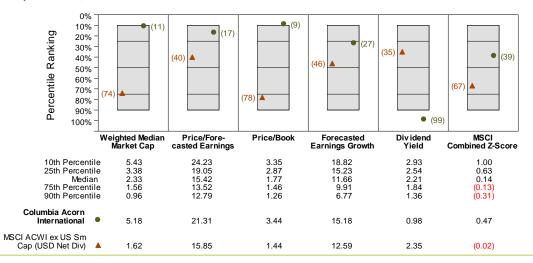
• Style: Growth

Active: Tracking Error 3.66

EM%: 14.1%

Portfolio Characteristics Percentile Rankings Rankings Against CAI International Small Cap Mut Funds as of September 30, 2016









# **Guiding Principles of Investment Structure All Asset Classes**

- Active management offers the potential to add value over the index and can be complementary to passive management.
  - Excess returns are more difficult to achieve in efficient markets such as large cap U.S. equity and U.S. fixed income
  - Potential for excess returns are compelling in small/mid cap US equity, non-US equity, emerging equity and non-US small cap equity
- Well-diversified market-neutral exposure with no unintended biases
  - Avoid overlapping mandates
  - May wish to purposefully add bias to small/mid cap U.S. equity and emerging markets equity for potential return enhancement
- Callan's overriding philosophy is to keep the structure as simple as possible
- Allocations to managers should be meaningful for the Plan
- The appropriate number of managers must balance style and relationship diversification with lower fees and more manageable monitoring
- Two primary influences on the appropriate number of managers
  - Size of the allocation relative to the total Plan
  - The higher the allocation, the greater the desired manager diversification
- Active versus passive
  - Fewer managers may be suitable when the portfolio is managed passively.



# **International Equity Structure**

#### Guiding Principles/Best Practices

- Role of international equity A complement to domestic equity in the total equity portion of the Fund.
  - Increased opportunity set 55% of global market capitalization.
  - Diversification benefits afforded by exposure to country, sector, and currency factors.
  - Active management has proven to be successful at exploiting inefficiencies and differences between markets.
- A rational portfolio is constructed by allocations to strategies along a spectrum of risk, defined relative to a broad market benchmark.
- Common Risk Factors:
  - Style Factors: Value, Core, Growth
  - Emerging versus Developed
  - Active risk: Low Tracking Error (benchmark aware) versus High Tracking Error (benchmark unaware)
  - Large Cap versus Small Cap
  - Active versus Passive

# **International Equity Structure Alternatives**

More COMPLEXITY Less

Two International Value Managers Two
International
Growth
Managers

International Small Cap Manager

> Emerging Markets Manager

International Value Manager International Growth Manager

International Small Cap Manager Passive EAFE

International Small Cap Manager

Emerging Markets Manager Passive ACWI IMI

#### **Investment Philosophy Embedded in Structures**

- Existing managers, with the exception of Small Cap, are in good standing
- Active management pays in Developed Markets
- Dedicated Small Cap and Emerging Market mandates are needed to increase exposure to those markets and exploit alpha opportunities
- Active management pays in Developed Markets
- Dedicated Small Cap is needed to increase exposure to that market and exploit alpha opportunities
- Two of the existing managers have benchmark-like exposure to Emerging Markets and a dedicated mandate is not necessary
- Active management does not pay in developed markets
- Active management does pay in Small Cap and Emerging Markets
- Active management does not pay in any international equity category



#### **Alternative Structures**

Percentage Allocations			Actual					
Sub-Asset Class	Equity Manager	Benchmark	EM %	Style	% Current	Alt 1	Alt 2	Alt 3
Int'l Developed	Mondrian International	MSCI ACWI Ex-US	18.5%	Value	21.5%	42.5%	17.5%	
	Oakmark International	MSCI World Ex-US	7.5%	Value	23.9%		20.0%	
	American Funds: EuroPacific	MSCI ACWI Ex-US	26.8%	Growth	21.6%	42.5%	17.5%	
	Harbor International	MSCI EAFE	7.4%	Growth (GARP)	21.6%		20.0%	
	New Manager (Passive)	MSCI EAFE	0.0%	Core				65.0%
		MSCI ACWI Ex-US Small/Mid						
Small Cap	Columbia Acorn Intl	Cap	13.8%	Growth	11.4%			
	New Manager	MSCI ACWI Ex-US Small Cap	22.1%	Core		15.0%	15.0%	15.0%
Emerging Markets	New Manager	MSCI Emerging Markets	100.0%	Core			10.0%	20.0%
Total					100.0%	100.0%	100.0%	100.0%
Size / Style Characteris	etics							
•	gregate Plan Beta Composite	e and Benchmark			% Current	Alt 1	Alt 2	Alt 3
nt'l Developed	Large + Mid Cap				17.8%	0.0%	1.1%	-1.2%
	Small Cap				-7.7%	0.0%	0.0%	0.0%
Emerging	Large + Mid Cap				-7.9%	0.0%	-1.1%	1.2%
	Small Cap				-2.2%	0.0%	0.0%	0.0%
Actual Emerging					-7.4%	0.4%	2.1%	1.2%
Dollar Allocations & Fe	ees							
Sub-Asset Class	Equity Manager	Benchmark		Style	% Current	Alt 1	Alt 2	Alt 3
nt'l Developed	Mondrian International	MSCI ACWI Ex-US		Value	\$27.0	\$53.3	\$22.0	
	Oakmark International	MSCI World Ex-US		Value	\$30.0		\$25.1	
	American Funds: EuroPacific	MSCI ACWI Ex-US		Growth	\$27.1	\$53.3	\$22.0	
	Harbor International	MSCI EAFE		Growth (GARP)	\$27.1		\$25.1	
	New Manager (Passive)	MSCI EAFE		Core	*		,	\$81.6
	rvew manager (r addive)	MSCI ACWI Ex-US Small/Mid		0010				ψ01.0
Small Cap	Columbia Acorn Intl	Cap		Growth	\$14.3			
	New Manager	MSCI ACWI Ex-US Small Cap		Core	¥ · · · · ·	\$18.8	\$18.8	\$18.8
Emerging Markets	New Manager	MSCI Emerging Markets		Core		ψ10.0	\$12.6	\$25.1
amorging markets	- Non Managor	Moor Emorging Markoto		2010			Ψ12.0	Ψ20.1
Total					\$126	\$126	\$126	\$126
Estimated Fees					0.71%	0.66%	0.75%	0.40%
Est \$ Fees (thousands)					\$895	\$832	\$945	\$504

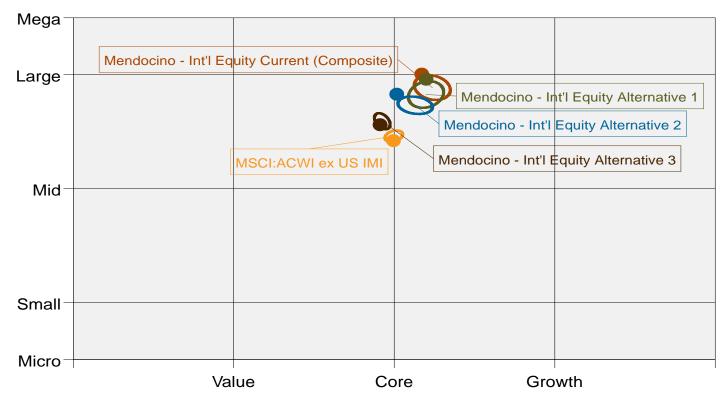
- % Current is one alternative option to consider, maintaining the developed market over-weight.
- Alternative 1 reduces the number of managers, and is weighted to better align with the total fund benchmark.
- Alternative 2 keeps the current line-up of developed managers, and adds new allocations to small cap and emerging markets.
- Alternative 3 introduces a new passive mandate to materially reduce fees.
- Estimated fees were developed for each alternative using existing fee schedules.



# **Style Map**

#### Holdings-Based Analysis: Capitalization and Style

Style Map for 5 Years Ended September 30, 2016

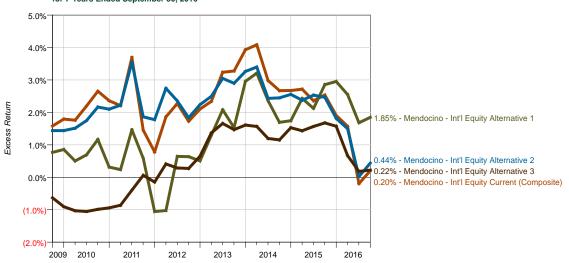


- The alternative structures move the fund holdings more in line with the total fund benchmark, as shown on a historical basis.
- Alternative 3, with a large passive allocation, demonstrates the tightest alignment.

#### **Performance**

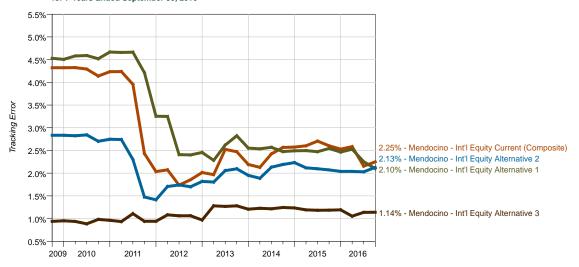
#### Return-Based: Excess-Returns and Tracking Error

Rolling 12 Quarter Excess Return Relative To MSCI:ACWI ex US IMI for 7 Years Ended September 30, 2016



- The top chart shows "relativereturn" historical performance of the alternative structures on a rolling 3-year (36 month) basis.
- Alternative 1 and 2 would maintain more active management potential.





- The bottom charts shows the historical tracking error in performance.
- Alternative 3 maintains a similar level, while Alternative 2 and 3 seek to reduce tracking error.



#### **Alternative Structures**

	\$ Current	Alternative 1	Alternative 2	Alternative 3
Broad Market Managers				
Mondrian International	\$27.0	\$53.3	\$22.0	
Oakmark International	\$30.0		\$25.1	
American Funds: EuroPacific	\$27.1	\$53.3	\$22.0	
Harbor International	\$27.1		\$25.1	
New Manager (Passive)				\$81.6
Specialty Managers				
Columbia Acorn Intl	\$14.3			
New Manager Small Cap		\$18.8	\$18.8	\$18.8
New Manager Emerging Market			\$12.6	\$25.1
Total International Equity	\$126	\$126	\$126	\$126
Estimated Asset Weighted Fee	0.71%	0.66%	0.75%	0.40%

## Investment Philosophy Embedded in Structures

- Current Structure is appropriate
- Active management pays in Developed Markets
- Dedicated Small Cap is needed to increase exposure to that market and exploit alpha opportunities
- Two of the existing managers have benchmark-like exposure to Emerging Markets and a dedicated mandate is not necessary
- Existing managers, with the exception of Small Cap, are in good standing
- Active management pays in Developed Markets
- Dedicated Small Cap and Emerging Market mandates are needed to increase exposure to those markets and exploit alpha opportunities
- Active management does not pay in developed markets
- Active management does pay in Small Cap and Emerging Markets



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