Long-Term Capital Market Assumptions 2016

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The Committee's output of expected asset class returns, risks, and correlations are intended to guide investors in identifying optimal policy asset allocations.

Introduction

The CUNA Mutual Fiduciary Consultants (CMFC) Capital Markets Committee (Committee) was formed in 2015 to help inform investors' long-term strategic decisions. The Committee's output of expected asset class returns, risks, and correlations are intended to guide investors in identifying optimal policy asset allocations. The firm intends to review and revise these assumptions annually.

The Committee's guiding principles include:

- Return assumptions are generally forward-looking but informed by history
- Risk assumptions are best informed by history
- Correlation assumptions are best informed by history, but with an overweight to the post-Global Financial Crisis period
- The assumptions represent expectations for a 10-year horizon

CUNA Mutual Fiduciary Consultants Capital Markets Committee

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Asset Class Returns

Equity

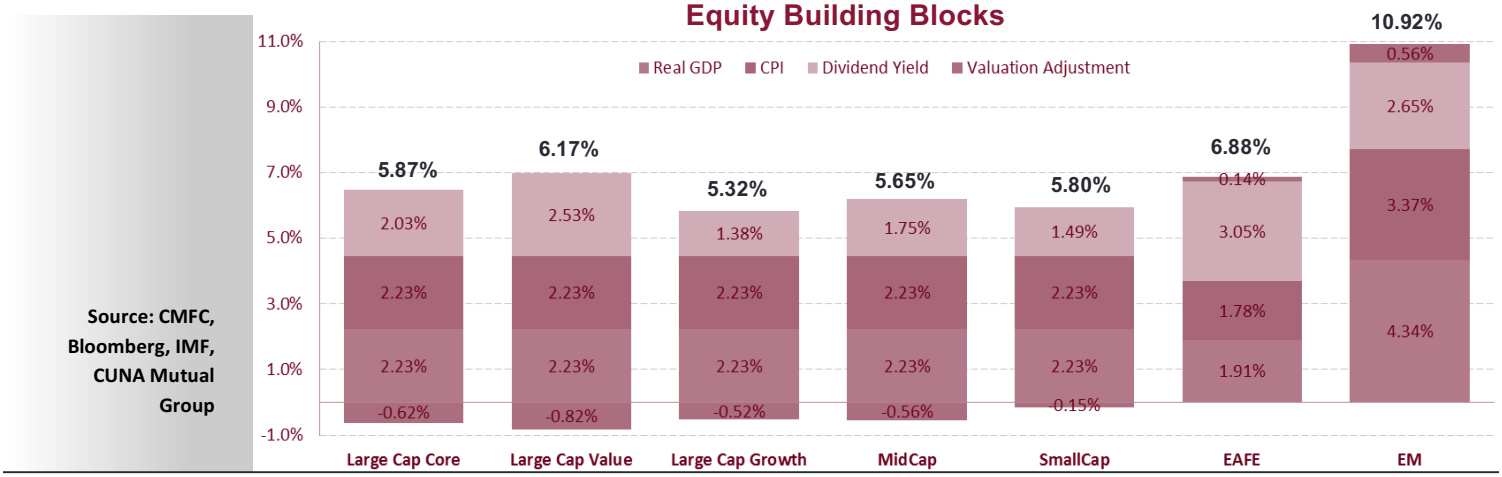
The Committee's equity return assumptions are based on four building blocks:

1. Inflation expectations
2. Real GDP expectations
3. Dividend expectations
4. Valuation adjustments

For inflation and real GDP expectations, the Committee used country-specific Bloomberg consensus forecasts for 2016 and 2017, and IMF forecasts for 2018 through 2020. Assumptions in 2020 were carried through until 2025. For the U.S., the Committee replaced 2016 and 2017 Bloomberg consensus forecasts with CUNA Mutual Group chief economist's predictions. The 10-year average became the Committee's building block entry. For the non-U.S. Developed and Emerging Market indices, country results were market- cap weighted. (See the appendix for details.)

For dividend expectations and valuation adjustments, the Committee compared current levels to historical averages and assumed there would be a linear 10-year reversion to the average. Again, the average of the projected 10-year levels was used as the building block. (See the appendix for details.)

Results of this building block approach are as follows:



Source: CMFC, Bloomberg, IMF, CUNA Mutual Group

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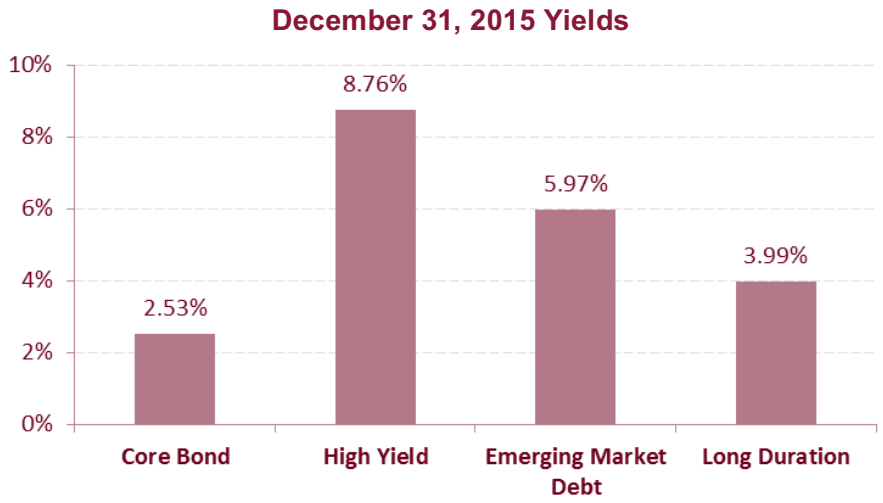
Based on the Committee's capital market assumptions, optimized portfolios will tend to favor non-U.S. equities over their U.S. counterparts.

Equity Reflections

Based on the Committee's capital market assumptions, optimized portfolios will tend to favor non-U.S. equities over their U.S. counterparts. Within U.S. equities, Value stocks will be favored over Growth stocks, and Large-Cap stocks will be favored over Small-Cap and Mid-Cap stocks. The Committee generally felt U.S. equities were slightly over valued (hence the negative valuation adjustments) while non-U.S. equities were slightly undervalued. Additionally, the current and historical dividend yield is higher for the EAFE index versus similar U.S. indexes, which more than makes up for lower expected Inflation and Real GDP. With higher expected Real GDP growth and Inflation, Emerging Market stocks are expected to produce the highest return over the next 10 years, albeit with the highest expected risk.

Fixed Income

The Committee feels yield is the best starting point for estimating future fixed income total returns. For Core Bond, Emerging Market Debt, and Long-Duration Bonds, yield has historically proven to be a fairly good predictor of future return. As such, the Committee used the yield as of 12/31/2015 for its return estimate. For High Yield, yield has historically overestimated return, so current yield was adjusted down to obtain a return estimate.



Source: BofA Merrill Lynch; US Broad Market Index, US High Yield Constrained Index, Emerging Markets Debt Sovereign and Corporates Plus Index, 10+ Corporate & Government Index Group

While the expected return for Core Aggregate bonds are underwhelming, the risk reduction benefits of their low correlations versus other asset classes still make them attractive.

Fixed Income Reflections

Spreads widened in 2015, so the Committee feels High Yield is currently an attractive asset class with an end-of-year yield of nearly 8.8%. The Committee recognizes that this historical yield has not been realized on a total return basis (Chart: "Is Yield a Return Predictor: High Yield"), but reducing it by as much as 300 basis points still leaves a residual return of 5.8%. Combining that return with the asset class's historical standard deviation of 8.45% provides a very attractive return/risk profile. That's especially true when considering High Yield's nature as a hybrid asset class, pulling both fixed income and equity characteristics. Emerging Market Debt yields were about 6% at the end of last year. Historically, projected returns for the asset class have clustered around 6% when yields were that low (Chart: "Is Yield a Return Predictor: Emerging Market Debt"). But Emerging Market Debt has historically been more risky than High Yield or any other fixed income asset class. Core Aggregate bond yields are suppressed but have proven a good predictor of return. While the expected return for Core Aggregate bonds are underwhelming, the risk reduction benefits of their low correlations versus other asset classes still make them attractive.

Is Yield a Return Predictor: High Yield

Source: CMFC and Merrill Lynch. High Yield represented by BofA Merrill Lynch US High Yield Constrained Index

Is Yield a Return Predictor: Core US Bonds

Source: CMFC and Merrill Lynch. Core US Bonds represented by BofA Merrill Lynch US Broad Market Index

Is Yield a Return Predictor: Emerging Market Debt

Source: CMFC and Merrill Lynch. Emerging Market Debt represented by BofA Merrill Lynch Emerging Markets Debt Sovereign and Corporates Plus Index

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Alternatives

The Committee does think value can be achieved through diversifying investment in less traditional asset classes like U.S. Real Estate and Global Listed Infrastructure. The firm's Investment Committee only approves equity exchange-traded solutions to fund the asset class, so the Committee's approach for return was very similar to its equity approach. The Committee felt that the Real GDP building block was not appropriate for these asset classes, so return expectations used only the remaining three building blocks.

The decision was made to overweight correlations since the Global Financial Crisis. Correlations since 1/1/2010 were given twice the weight as longer-term correlations (back to 1990).

Risk and Correlation

The Committee used history to inform its views on future Risk and Correlation. For Risk, Standard Deviation was used as the risk metric and historical results were used as the best estimate for future risk. Each asset class used data from inception. The Committee took a slightly different view on Correlation. While still using history, the Committee felt recent history is more relevant and will be a better predictor of future correlations. The decision was made to overweight correlations since the Global Financial Crisis. Correlations since 1/1/2010 were given twice the weight as longer-term correlations (back to 1990).

Benchmarks Used for Risk and Correlation Historical Data

Asset Category	Asset Class	Benchmark
Equities	US Large Cap Core	S&P 500
	US Large Cap Growth	Russell 1000 Growth
	US Large Cap Value	Russell 1000 Value
	US Mid Cap	Russell Mid Cap
	US Small Cap	Russell Small Cap
	Non US Developed	MSCI EAFE
	Emerging Markets	MSCI EM
	US Real Estate	Dow Jones US Select REIT Index
	Global Infrastructure	S&P Global Infrastructure Index
Fixed Income	Core Bond	Barclays Capital Aggregate Bond Index
	High Yield	Barclays Capital High Yield Corporate Bond
	Emerging Market Debt	The BofA Merrill Lynch Emerging Markets Sovereign Bond
	Long Duration Bonds	Barclays Capital Long Government/Credit Index

Capital Market Assumptions

	Expected Annual Return	Expected Annual Risk	Correlation: 1	2	3	4	5	6	7	8	9	10	11	12	13
1. US Large Cap	5.87	16.67	1.00												
2. US Large Cap Growth	5.32	17.16	0.97	1.00											
3. US Large Cap Value	6.17	14.65	0.97	0.90	1.00										
4. US Mid-Cap	5.65	16.75	0.95	0.94	0.94	1.00									
5. US Small Cap	5.80	19.52	0.87	0.86	0.87	0.95	1.00								
6. Non US Developed Equity	6.88	17.03	0.84	0.82	0.81	0.81	0.72	1.00							
7. Emerging Markets Equity	10.92	23.23	0.74	0.74	0.73	0.76	0.71	0.81	1.00						
8. US High Yield Bond	5.76	8.45	0.70	0.68	0.70	0.73	0.67	0.73	0.73	1.00					
9. Emerging Markets Debt	5.97	11.70	0.65	0.64	0.64	0.64	0.56	0.80	0.87	0.74	1.00				
10. Core Bond	2.53	5.42	-0.13	-0.11	-0.15	-0.12	-0.18	-0.05	-0.02	0.19	0.18	1.00			
11. Long Duration Bonds	3.99	9.65	-0.21	-0.20	-0.22	-0.21	-0.27	-0.14	-0.11	0.08	-0.01	0.91	1.00		
12. US Real Estate (REIT)	6.75	18.52	0.61	0.58	0.64	0.67	0.62	0.57	0.54	0.62	0.59	0.22	0.15	1.00	
13. Global Listed Infrastructure	4.96	15.14	0.81	0.79	0.81	0.78	0.67	0.91	0.80	0.80	0.79	0.06	-0.06	0.69	1.00

Negative Correlation	Low Correlation	Moderate Correlation	High Correlation
-1	0	0.5	0.9 1

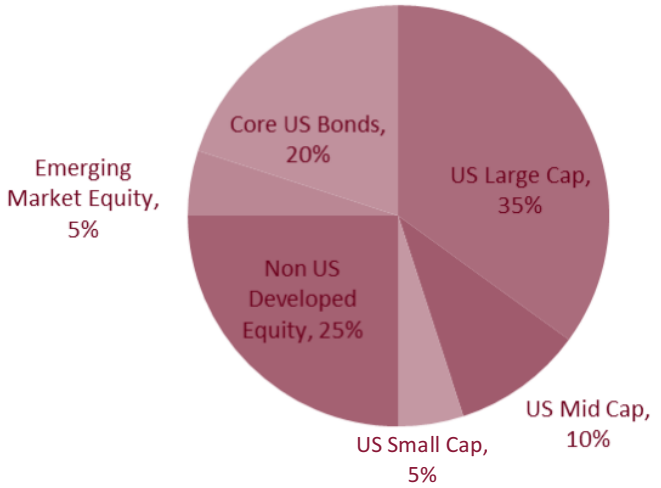
The Correlation Matrix reveals the strength of return relationships between investments. A perfect linear relationship is represented by a correlation of 1, while a perfect negative relationship has a correlation of -1. A correlation of 0 indicates no relationship between the investments. Correlation is a critical component to asset allocation and can be a useful way to measure the diversity of a combined plan portfolio.

Source: CMFC and MPI Stylus

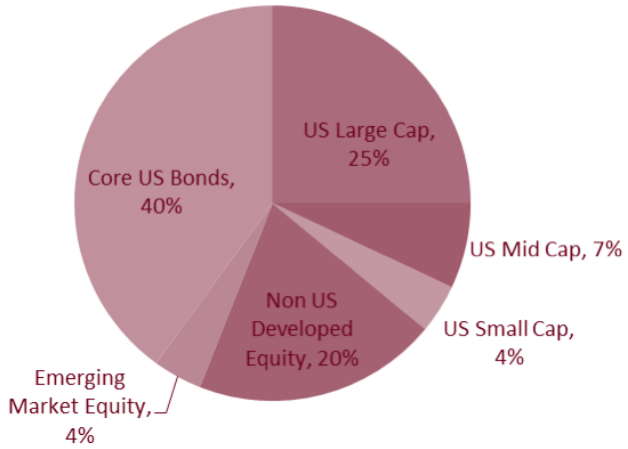
Sample Portfolio Return and Risk Outcomes

With historically low fixed income yields, tepid GDP and inflation expectations, and equity valuations higher than their historic averages, expectations for future portfolio returns should be muted relative to historical returns from similarly allocated portfolios. The following charts show proxy portfolio return and risk outcomes. Given the lower than historical average expected returns, even a portfolio targeting a 6% return could now be a stretch relative to some investors' risk tolerance levels. Investors should reset expectations and plan accordingly. Any allocation to a low-risk, low-return investment, like Cash or a Stable Value product would suppress return and risk expectations even further.

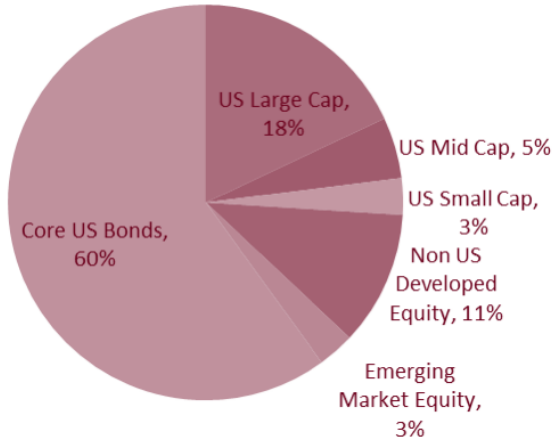
Aggressive



Moderate



Conservative



	Aggressive	Moderate	Conservative
US Large Cap	**35%**	**25%**	**18%**
US Mid Cap	**10%**	**7%**	**5%**
US Small Cap	**5%**	**4%**	**3%**
Non US Developed Equity	**25%**	**20%**	**11%**
Emerging Market Equity	**5%**	**4%**	**3%**
Broad US Bonds	**20%**	**40%**	**60%**
	100%	**100%**	**100%**
Expected Return	**5.7%**	**4.9%**	**4.1%**
Expected Risk	**13.0%**	**9.8%**	**7.0%**

Source: CMFC and MPI Stylus

Appendix

Real GDP and Inflation Development

United States

		CUNA Mutual Forecast		IMF Forecasts								10 Year
Country		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Average
US	Real GDP	2.80	2.80	2.68	2.22	1.96	1.96	1.96	1.96	1.96	1.96	2.23
	CPI	1.40	2.20	2.17	2.28	2.38	2.38	2.38	2.38	2.38	2.38	2.23

Non US Developed Countries

		Bloomberg Consensus		IMF Forecasts								10 Year	Market Cap
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Average	Weights
Japan	Real GDP	1.10	0.65	0.66	0.91	0.72	0.72	0.72	0.72	0.72	0.72	0.76	23.02%
	CPI	0.80	2.00	1.10	1.21	1.45	1.45	1.45	1.45	1.45	1.45	1.38	23.02%
UK	Real GDP	2.30	2.20	2.24	2.15	2.12	2.12	2.12	2.12	2.12	2.12	2.16	18.31%
	CPI	1.20	1.85	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.91	18.31%
France	Real GDP	1.40	1.45	1.74	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.76	9.16%
	CPI	0.90	1.30	1.25	1.45	1.66	1.66	1.66	1.66	1.66	1.66	1.49	9.16%
Canada	Real GDP	1.80	2.10	2.33	2.14	2.01	2.01	2.01	2.01	2.01	2.01	2.04	7.55%
	CPI	1.80	2.00	2.19	2.15	2.08	2.08	2.08	2.08	2.08	2.08	2.06	7.55%
Switzerland	Real GDP	1.20	1.65	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.81	10.40%
	CPI	-0.30	0.40	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	10.40%
Germany	Real GDP	1.80	1.65	1.64	1.78	1.92	1.92	1.92	1.92	1.92	1.92	1.84	9.11%
	CPI	1.20	1.70	2.01	1.90	1.78	1.78	1.78	1.78	1.78	1.78	1.75	9.11%
Australia	Real GDP	2.60	3.00	2.97	2.95	2.84	2.84	2.84	2.84	2.84	2.84	3.00	6.63%
	CPI	2.25	2.50	2.48	2.47	2.49	2.49	2.49	2.49	2.49	2.49	2.60	6.63%
Spain	Real GDP	2.65	2.20	2.01	1.90	1.78	1.78	1.78	1.78	1.78	1.78	3.00	2.91%
	CPI	0.80	1.45	1.18	1.38	1.51	1.51	1.51	1.51	1.51	1.51	2.60	2.91%
Hong Kong	Real GDP	2.30	2.60	2.88	3.12	3.29	3.29	3.29	3.29	3.29	3.29	3.00	4.83%
	CPI	2.60	2.90	3.20	3.40	3.50	3.50	3.50	3.50	3.50	3.50	2.60	4.83%
Sweden	Real GDP	2.80	2.65	2.45	2.26	2.14	2.14	2.14	2.14	2.14	2.14	3.00	2.71%
	CPI	1.15	1.80	2.03	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.60	2.71%
Netherlands	Real GDP	1.80	1.90	1.86	1.96	2.12	2.12	2.12	2.12	2.12	2.12	3.00	3.09%
	CPI	1.10	1.50	1.59	1.81	1.94	1.94	1.94	1.94	1.94	1.94	2.60	3.09%
Italy	Real GDP	1.30	1.20	1.10	1.05	1.00	1.00	1.00	1.00	1.00	1.00	3.00	2.26%
	CPI	0.80	1.30	1.12	1.24	1.34	1.34	1.34	1.34	1.34	1.34	2.60	2.26%
Real GDP												**1.91**	
CPI												**1.78**	

Emerging Market Countries

		Bloomberg Consensus		IMF Forecasts								10 Year	Market Cap
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Average	Weights
China	Real GDP	6.50	6.30	6.10	6.33	6.33	6.33	6.33	6.33	6.33	6.33	6.32	25.17%
	CPI	1.70	2.00	2.50	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.72	25.17%
Korea	Real GDP	2.90	3.05	3.58	3.58	3.57	3.57	3.57	3.57	3.57	3.57	3.45	19.22%
	CPI	1.50	2.10	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.76	19.22%
Taiwan	Real GDP	2.00	2.60	3.06	3.09	3.16	3.16	3.16	3.16	3.16	3.16	2.97	14.70%
	CPI	1.00	1.10	1.50	1.80	2.00	2.00	2.00	2.00	2.00	2.00	1.74	14.70%
South Africa	Real GDP	1.35	2.00	2.51	2.59	2.60	2.60	2.60	2.60	2.60	2.60	2.41	7.50%
	CPI	5.92	5.82	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.57	7.50%
India	Real GDP	7.40	7.70	7.65	7.70	7.74	7.74	7.74	7.74	7.74	7.74	7.69	8.57%
	CPI	5.00	5.40	5.06	4.89	4.94	4.94	4.94	4.94	4.94	4.94	5.00	8.57%
Brazil	Real GDP	-2.50	1.00	2.36	2.45	2.53	2.53	2.53	2.53	2.53	2.53	1.85	6.39%
	CPI	7.00	5.50	5.00	4.82	4.56	4.56	4.56	4.56	4.56	4.56	4.97	6.39%
Mexico	Real GDP	2.80	3.40	3.22	3.31	3.34	3.34	3.34	3.34	3.34	3.34	3.27	5.47%
	CPI	3.30	3.20	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.05	5.47%
Russia	Real GDP	-0.50	1.30	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.28	3.74%
	CPI	8.00	6.45	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.75	3.74%
Malaysia	Real GDP	4.50	4.90	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.94	3.95%
	CPI	3.00	2.60	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.96	3.95%
Indonesia	Real GDP	5.18	5.50	5.80	6.00	6.00	6.00	6.00	6.00	6.00	6.00	5.85	3.41%
	CPI	4.95	5.00	4.50	4.30	4.10	4.10	4.10	4.10	4.10	4.10	4.33	3.41%
Turkey	Real GDP	3.00	3.50	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.44	1.88%
	CPI	7.80	7.00	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.68	1.88%

Real GDP	**4.34**
CPI	**3.37**

Notes and Disclosures: Market Cap weights were derived from the Ishares MSCI ACWI ETF country weights as of 12/31/2015. Country weights for the largest 12 (Non US Developed) and 11 (Emerging Markets) countries were totaled and then prorated to total 100%. In each case, the raw country weights were approximately 90% of the index market cap total. Source: Bloomberg Consensus and the IMF October 2015 World Economic Outlook report.

Valuation Adjustment

	S&P 500	R1000G	R1000V	MidCap	Small Cap	EAFE	Emerging	US Real Estate	Global Infrastructure
12/31/2015	18.25	21.84	16.62	21.76	39.06	19.05	12.18	32.49	20.73
Weighted Average P/E	17.16	20.73	15.30	20.58	38.50	19.32	12.88	34.16	18.05
Valuation Adjustment	-0.62%	-0.52%	-0.82%	-0.56%	-0.15%	0.14%	0.56%	0.50%	-1.37%

Dividend Yield

	S&P 500	R1000G	R1000V	MidCap	Small Cap	EAFE	Emerging	US Real Estate	Global Infrastructure
12/31/2015	2.15	1.58	2.64	1.88	1.61	3.46	2.92	4.06	4.12
Historical Median	1.94	1.14	2.39	1.59	1.35	2.54	2.32	3.98	4.24
Average of 10 Yr Regression	2.03	1.38	2.53	1.75	1.49	3.05	2.65	4.02	4.17

Source: CMFC and Bloomberg. Weighted average of P/E weights post GFC period at 2/3 and longer time period at 1/3. Due to data availability, US Real Estate and Global Infrastructure only use average of available history. Indices are represented by the "Benchmarks Used for Risk and Correlation Historical Data" table. Outsized PE ratios were capped at 60.

Shannon Eidson, FSA, CFA, is principal-investment consulting for CUNA Mutual Fiduciary Consultants. In this role, he is responsible for consulting directly with key clients to develop and implement customized investment strategies and is a primary architect for the design of sophisticated multi-asset class model portfolios. Additionally, he serves as a member of the Investment Committee that performs research and due diligence on the potential investments offered. Eidson joined CUNA Mutual Group in 2014. Prior to this, he was a senior vice president and senior pension risk strategist in the Outsourced Chief Investment Officer practice of Northern Trust in Chicago. In this role, Eidson consulted with hundreds of plan sponsors to define and mitigate the investment risk in their defined benefit pension plans. He also writes white papers, presents webinars and speaks at conferences. Prior to Northern Trust, Eidson spent 11 years with Hewitt Associates as a pension consulting actuary. Eidson earned his bachelor's degree in Mathematics from Washington University in St. Louis, Missouri. He earned his master's degree in Actuarial Science from Ball State University in Muncie, Indiana. He is a Fellow in the Society of Actuaries, an enrolled actuary and a CFA charterholder, a member of the CFA Institute and the CFA Society of Madison.

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