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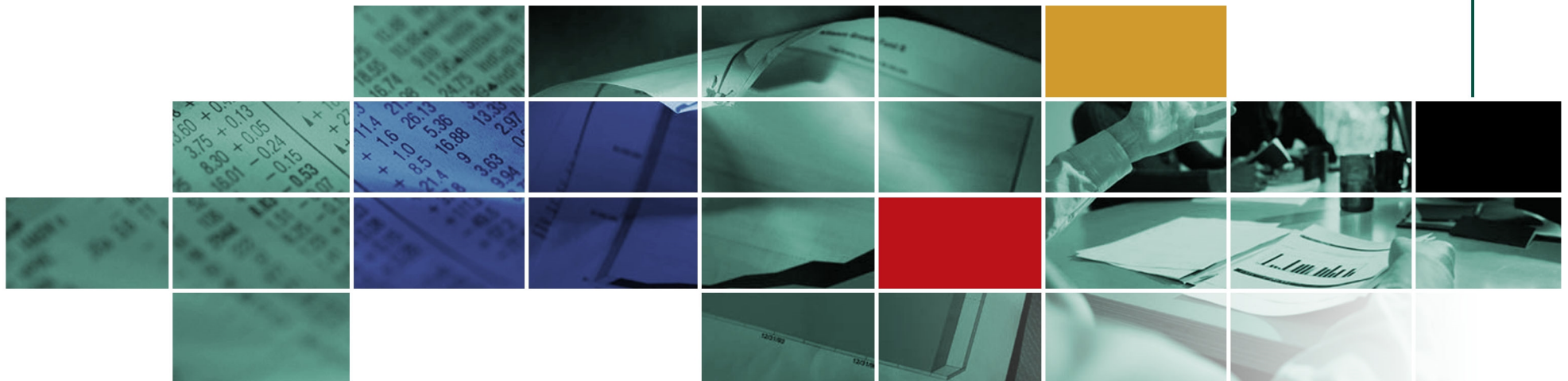
▶▶▶ & ASSOCIATES, INC.

Milwaukee Employes' Retirement System

Public Fund Universe Analysis

Period Ending December 31, 2012

Fund Number: 105



Report and Firm Summary

The following report is a compilation of data provided to R.V. Kuhns & Associates, Inc. by 81 public funds throughout the United States. R.V. Kuhns & Associates, Inc. is a registered investment advisor with the Securities Exchange Commission under the Investment Advisors Act of 1940. Our firm provides investment consulting services to 193 clients across 455 plans with total assets in excess of \$1.11 trillion. The confidentiality of participants is maintained by revealing the fund name only to each individual fund. For more information about services provided by R.V. Kuhns & Associates, Inc. please visit our website at www.RVKuhns.com.

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Participants

As of December 31, 2012

Fund Number: 105

Alameda County Employees' Retirement Association

Big Spring Firemen's Relief & Retirement Fund

California State Teachers' Retirement System

City of Fresno Retirement Systems

City of Grand Rapids Police & Fire Retirement System

Civilian Employees' Retirement System of the Police Department of Kansas
City, Missouri

Contra Costa County Employees' Retirement Association

District of Columbia Retirement Board

Employees Retirement System of Texas

Fire and Police Pension Association of Colorado

Fort Worth Employees' Retirement Fund

Georgia Division of Investment Services

Illinois Municipal Retirement Fund

Imperial County Employees' Retirement System

Kansas Public Employees' Retirement System

Kentucky Teachers' Retirement System

Los Angeles City Employees' Retirement System

Los Angeles Fire and Police Pension System

Marin County Employees' Retirement Association

Merced County Employees' Retirement Association

Milwaukee Employes' Retirement System (105)

Montana Teachers' Retirement System

Navajo Nation Retirement Plan

Arlington County Employees' Retirement System

California Public Employees' Retirement System

Chicago Teachers' Pension Fund

City of Grand Rapids General Retirement System

City of Phoenix Employees' Retirement System

Colorado Public Employees' Retirement Association

County Employees' Annuity & Benefit Fund of Cook County

Educational Employees' Supplementary Retirement System of Fairfax
County

Fire & Police Employees' Retirement System of Baltimore

Florida State Board of Administration

Fresno County Employees' Retirement Association

Gila River Indian Community Retirement Plan

Illinois State Board of Investment

Iowa Public Employees' Retirement System

Kentucky Retirement Systems

Kern County Employees' Retirement Association

Los Angeles County Employees Retirement Association

Los Angeles Water & Power Employees Retirement Plan

Mendocino County Employees' Retirement Association

Metro Water Reclamation District Retirement Fund

Montana Public Employees' Retirement System

Municipal Employees' Annuity and Benefit Fund of Chicago

Nevada Public Employees' Retirement System

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Participants

As of December 31, 2012

Fund Number: 105

New York State Common Retirement Fund
Orange County Employees' Retirement System
Pennsylvania Public School Employees' Retirement System
Police Retirement System of Kansas City, Missouri
Public Employees Retirement Association of New Mexico
San Bernardino County Employees' Retirement Association
San Diego County Employees Retirement Association
San Jose Federated City Employees' Retirement System
San Mateo County Employees' Retirement Association
Sonoma County Employees' Retirement Association
Stanislaus County Employees' Retirement Association
State of New Jersey Pension Fund
State Universities Retirement System of Illinois
Teachers' Retirement System of the State of Illinois
The Public School Retirement System of Missouri
Utah Retirement Systems
Virginia Retirement System
Wyoming Retirement System

Ohio Public Employees' Retirement System
Pennsylvania Municipal Retirement System
Pennsylvania State Employees' Retirement System
Public Education Employee Retirement System of Missouri
Sacramento County Employees' Retirement System
San Diego City Employees' Retirement System
San Joaquin County Employees' Retirement Association
San Jose Police and Fire Department Retirement Plan
Santa Barbara County Employees' Retirement System
South Dakota Retirement System
State of Michigan Retirement Systems
State Retirement and Pension System of Maryland
Teachers' Retirement System of Louisiana
Texas Municipal Retirement System
Tulare County Employees' Retirement Association
Ventura County Employees' Retirement Association
West Virginia Investment Management Board

Research Analysis Results

1) Actuarial Rates of Return ("ARR")

A. Has your investment committee discussed lowering the ARR in the last year?

60% Yes

40% No

B. How has your ARR compared to the 3 year return, gross of fees, generated by your total fund portfolio as of 12/31/12? Was it:

29% Higher

2% Matched

69% Lower

2) Active vs. Passive Management

A. Has your plan increased the use of passive management?

41% Yes

59% No

If yes, in which of the following asset classes?

52% Domestic Equities

33% Int'l or Global Equities

15% Fixed Income

B. If your plan has increased the use of passive management, on which of the following was this decision based?

34% Lack of confidence in active management

36% A desire or need to reduce fees

30% Other

3) Rebalancing

A. Has your investment committee changed its rebalancing methodology or frequency in the last year?

2% Yes

98% No

B. Has your investment committee ever suspended its rebalancing methodology for a period of time?

8% Yes

92% No

If yes, did total fund portfolio returns increase during that same period of time?

40% Yes

60% No

4) Fees and Expenses

A. How are fees and expenses reported by your fund?

69% Accrued

31% Expensed

B. How are fees and expenses tracked internally by your fund?

63% Accrued

37% Expensed

Capital Markets Review As of December 31, 2012

Fourth Quarter Economic Environment

Equity markets closed the year with another positive quarter in spite of continued concerns about the health of the global economy. Domestically, the Bureau of Economic Analysis revised estimate of real GDP growth for the third quarter was 3.1% annualized, up from the second quarter rate of 1.3%. The Bureau of Labor Statistics reported modest fourth quarter job growth, as an average of 151,000 jobs were added monthly and the unemployment rate remained at 7.8%. The “fiscal cliff”, a group of tax increases and spending cuts scheduled to take effect at the beginning of 2013, dominated headlines as the fourth quarter came to a close. At the start of 2013, lawmakers reached a deal on tax issues, however, no action was taken on the debt ceiling, which is expected to be reached in late February. The automatic spending cuts known as the sequester were postponed until March. Consumer sentiment, as measured by the University of Michigan survey, declined 11.9% in December in response to the fiscal cliff impasse after reaching its highest level since 2007 in November. There was moderate improvement in the manufacturing sector in December, as the Institute for Supply Management index was reported at 50.7%, indicating expansion in the sector.

Internationally, the International Monetary Fund (IMF), European Central Bank (ECB), and Euro zone finance ministers reached agreement with Greece over the next stage of their rescue package. Spanish, Italian, and Greek debt spreads declined significantly in response to the package. Elsewhere, the Bank of Japan continued to step up its bond buying programs while incoming Prime Minister Shinzo Abe called for significant fiscal stimulus. Japanese stock markets rallied in December, gaining over 10% in local currency terms and reaching their highest levels since April. Chinese GDP grew at a 7.4% annualized rate in the third quarter, the slowest rate since 2009.

Domestic Equities

- Equities lost ground in October, but rebounded later in the quarter to post gains for the second consecutive quarter.
- Continuing the trend since the second quarter, value significantly outperformed growth, as the Russell 3000 Value returned 1.65% while the Russell 3000 Growth returned -1.19%.
- Mid-cap stocks outperformed small cap and large cap stocks, as the Russell Mid Cap returned 2.88% compared with 1.85% and 0.12% for the Russell 2000 and Russell 1000, respectively.
- Sector returns were mixed this quarter. Financials posted a 5.92% return on the quarter, and were the highest performing sector. Telecommunications returned -6.02%, and was the lowest performing sector.

International Equities

- International markets produced their second consecutive quarter of strong returns. Gains were experienced broadly by both developed and emerging markets.
- As with domestic equities, value outperformed growth as the MSCI EAFE Value returned 7.44% compared with 5.79% for the MSCI EAFE Growth.

Fixed Income

- U.S. bonds outperformed their global counterparts, as the Barclays US Aggregate Bond Index returned 0.21% versus -0.48% for the Barclays Global Aggregate Bond Index.
- As in the third quarter, appetite for risk remained high, as emerging markets debt outperformed developed markets debt, and high yield outperformed investment grade.

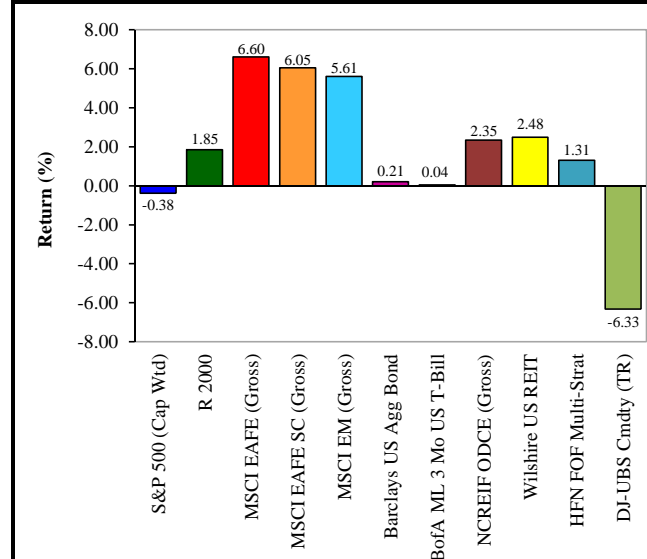
Trailing-Period Performance

	Mth End Oct-2012	Mth End Nov-2012	MTD	QTD	FYTD	1 Year	2 Years	3 Years	5 Years	10 Years
S&P 500 (Cap Wtd)	-1.85	0.58	0.91	-0.38	16.00	16.00	8.84	10.87	1.66	7.10
R 2000	-2.17	0.53	3.56	1.85	16.34	16.34	5.58	12.25	3.55	9.72
MSCI EAFE (Gross)	0.84	2.43	3.21	6.60	17.90	17.90	2.01	4.04	-3.21	8.70
MSCI EAFE SC (Gross)	0.86	0.96	4.15	6.05	20.42	20.42	0.78	7.52	-0.51	12.34
MSCI EM (Gross)	-0.60	1.28	4.90	5.61	18.64	18.64	-1.47	4.99	-0.61	16.89
Barclays US Agg Bond	0.20	0.16	-0.14	0.21	4.21	4.21	6.01	6.19	5.95	5.18
BofA ML 3 Mo US T-Bill	0.01	0.02	0.02	0.04	0.11	0.11	0.11	0.11	0.52	1.78
NCREIF ODCE (Gross)	N/A	N/A	N/A	2.35	10.94	10.94	13.43	14.40	-1.10	6.71
Wilshire US REIT	-0.90	-0.39	3.82	2.48	17.59	17.59	13.34	18.21	5.25	11.57
HFN FOF Multi-Strat	-0.15	0.43	1.03	1.31	4.80	4.80	-0.51	1.22	-1.98	3.38
DJ-UBS Cmdty (TR)	-3.87	0.05	-2.61	-6.33	-1.06	-1.06	-7.39	0.07	-5.17	4.09

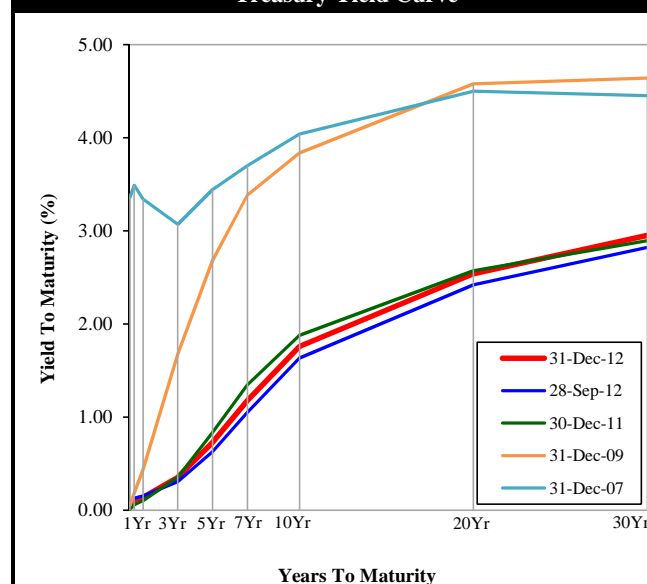
Performance is annualized for periods greater than one year.

Treasury data courtesy of the U.S. Department of the Treasury.

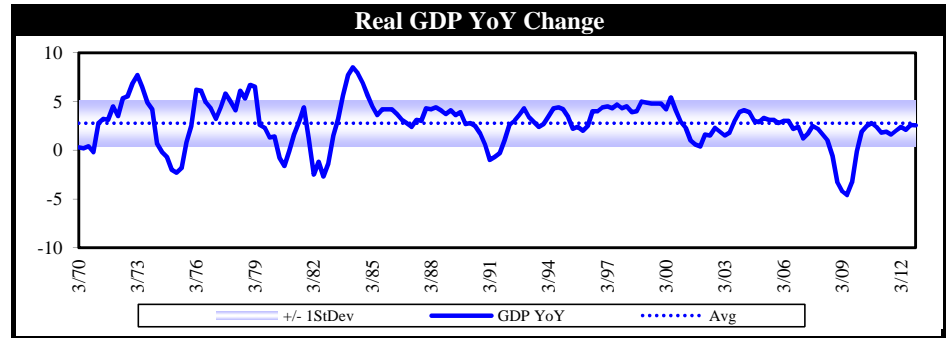
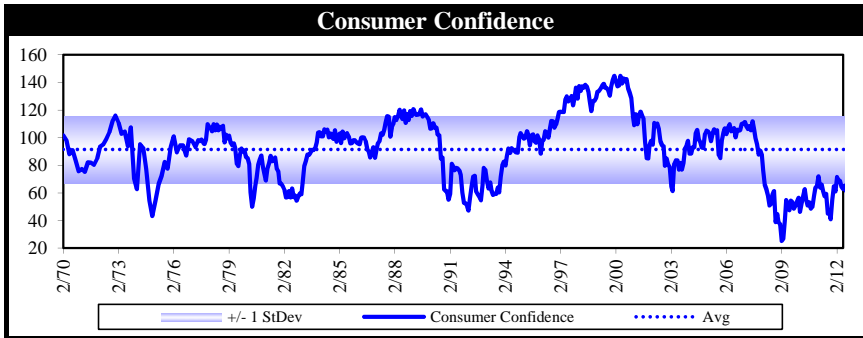
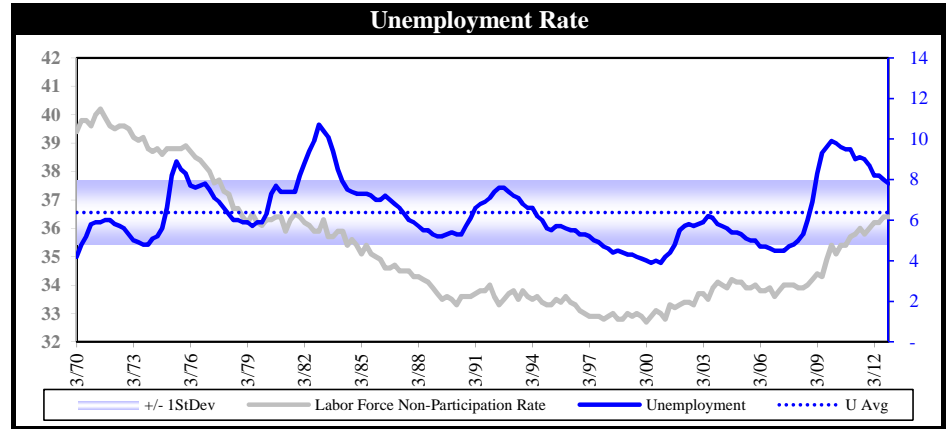
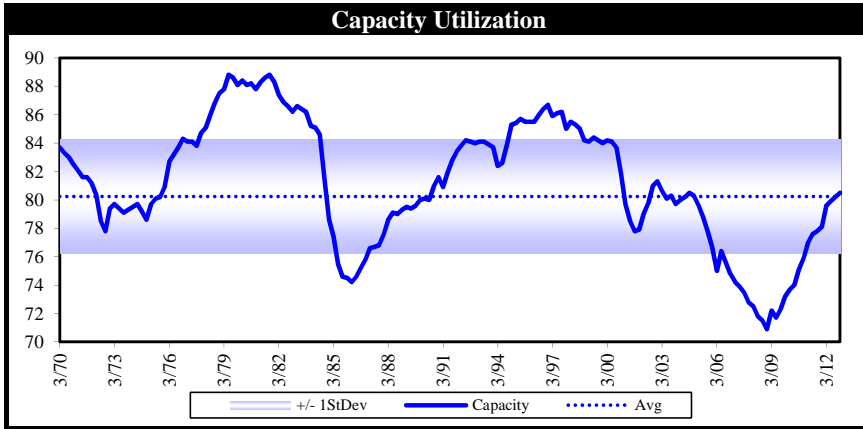
QTD



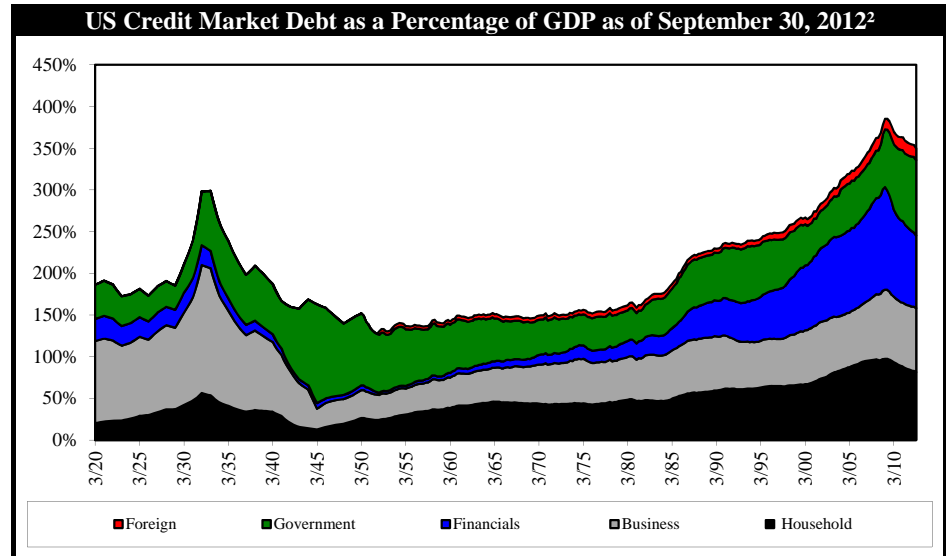
Treasury Yield Curve



Economic Measures ¹
As of December 31, 2012



	12/31/2012		9/30/2012	20 Year	40 Year
Capacity Utilization	78.80	▲	78.40	79.20	80.20
Unemployment Rate	7.80%	—	7.80%	6.00%	6.40%
Shiller 20 City YoY - Housing	N/A		2.97%	2.89%	N/A
PMI - Manufacturing	50.70	▼	51.50	52.10	52.20
Baltic Dry Index - Shipping	N/A		766	2,427	2,087
Real GDP YoY	N/A		2.60%	2.60%	2.80%
Consumer Confidence (Conf. Bd.)	65.10	▼	68.40	92.99	91.72
Breakeven Inflation - 10 Year	2.45	▲	2.42	N/A	N/A
CPI YoY (Headline) ⁴	1.70%	▼	2.00%	2.50%	4.40%
CPI YoY (Core) ⁴	1.90%	▼	2.00%	2.30%	4.30%
PPI YoY	1.30%	▼	2.10%	2.30%	4.00%
M2 YoY	8.20%	▲	6.80%	5.70%	6.80%
Personal Savings	N/A		3.30%	4.00%	6.40%
Disposable Personal Income	N/A		0.40%	0.40%	0.50%
Prsnl Consumption Expenditures	N/A		1.60%	2.10%	3.90%
US Dollar Total Weighted Index	72.72	—	72.72	87.62	95.36
WTI Crude Oil per Barrel	\$92	▼	\$92	\$43	\$38
Gold Spot per Oz ⁵	\$1,675	▼	\$1,772	\$303	\$329

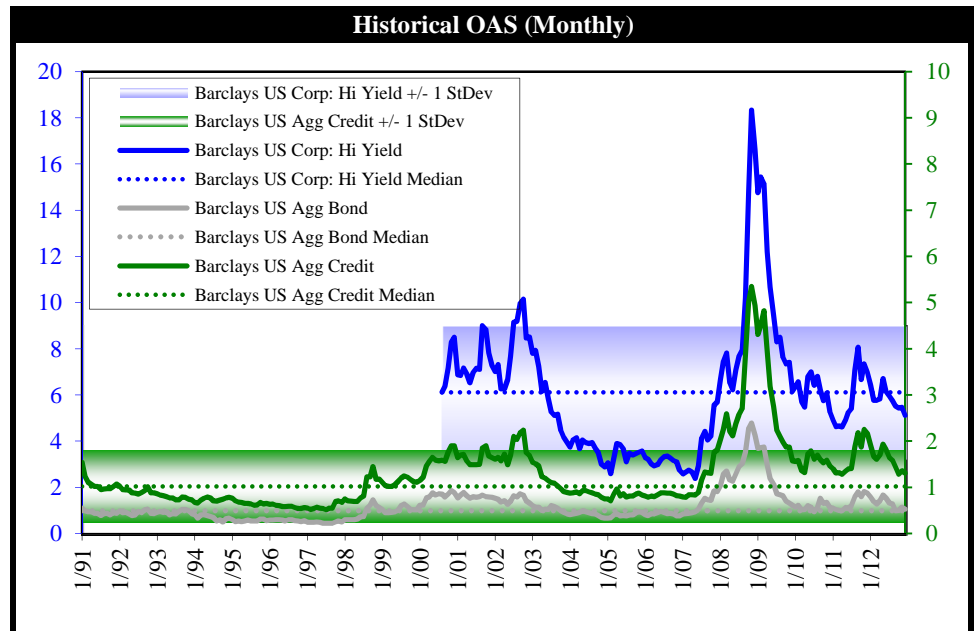
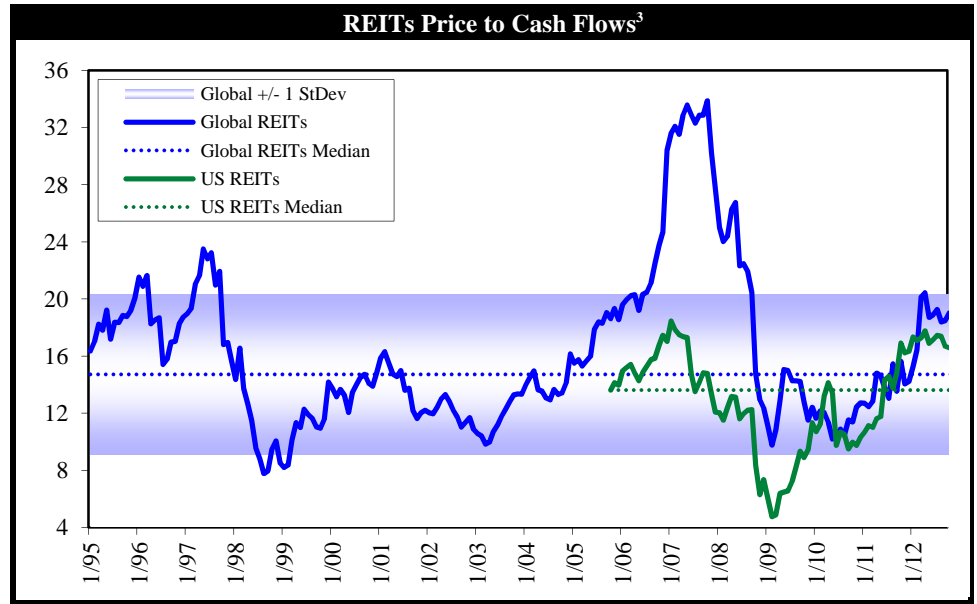
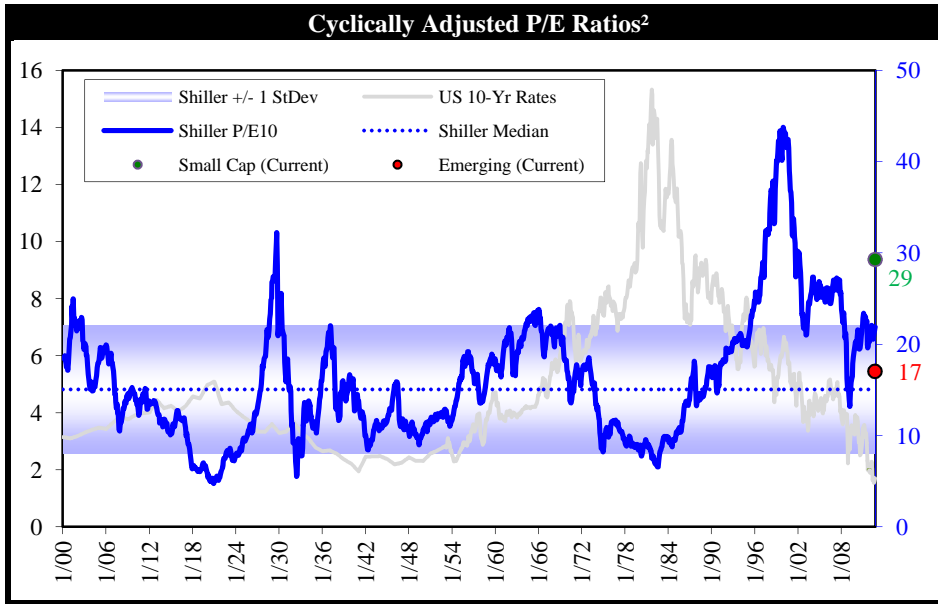


¹ All data courtesy of Bloomberg Professional Service, except as noted below.

² Data prior to 1952 is from "The Statistical History of the United States, From Colonial Times to the Present", by Ben Wattenberg, Morgan Stanley Research.

³ "N/A" is shown for data that is not yet available. ⁴ CPI figures are cyclically adjusted. ⁵ 20- and 40-year average Gold spot prices are adjusted for inflation.

Valuation Metrics¹ As of December 31, 2012

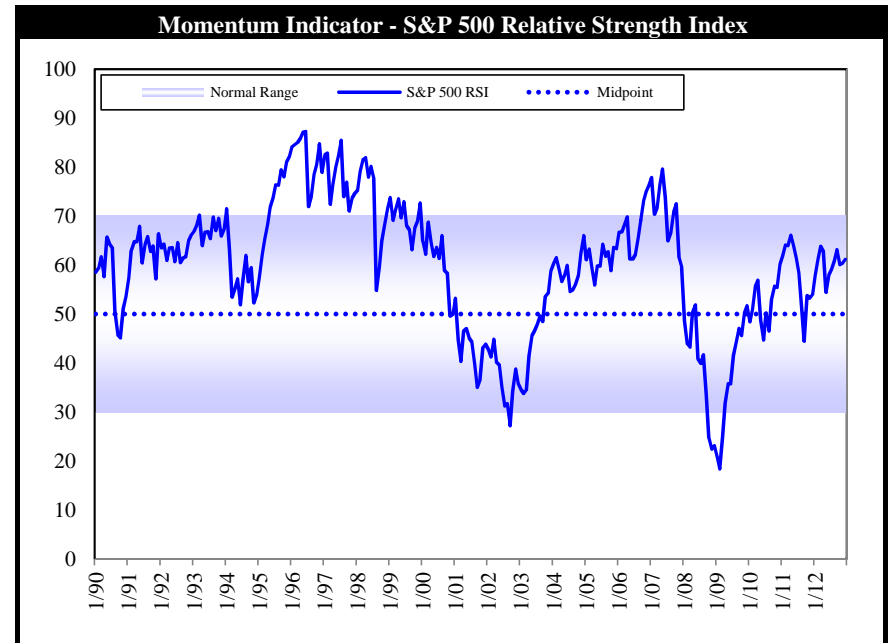
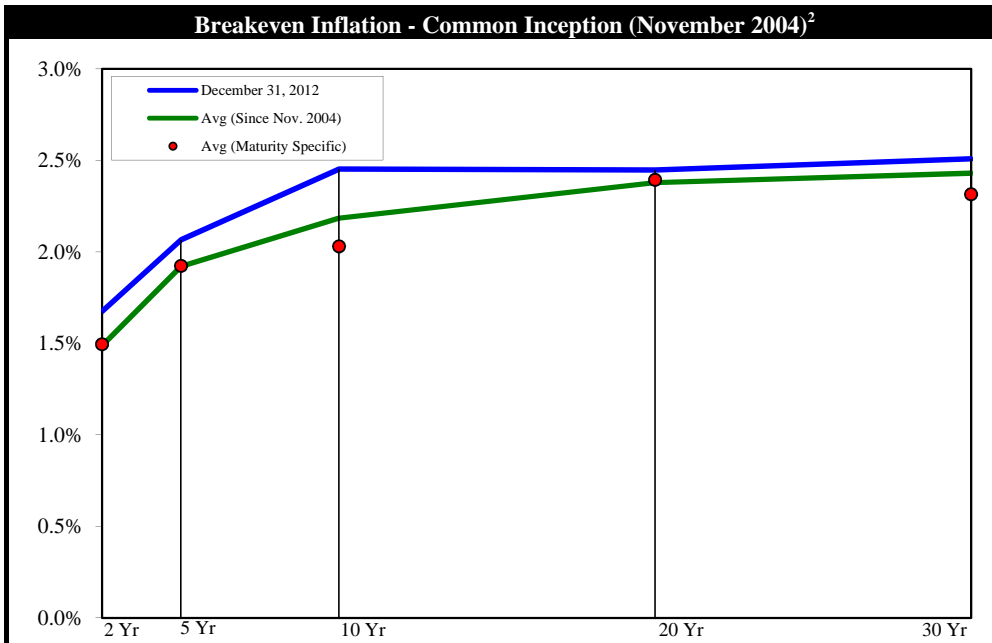
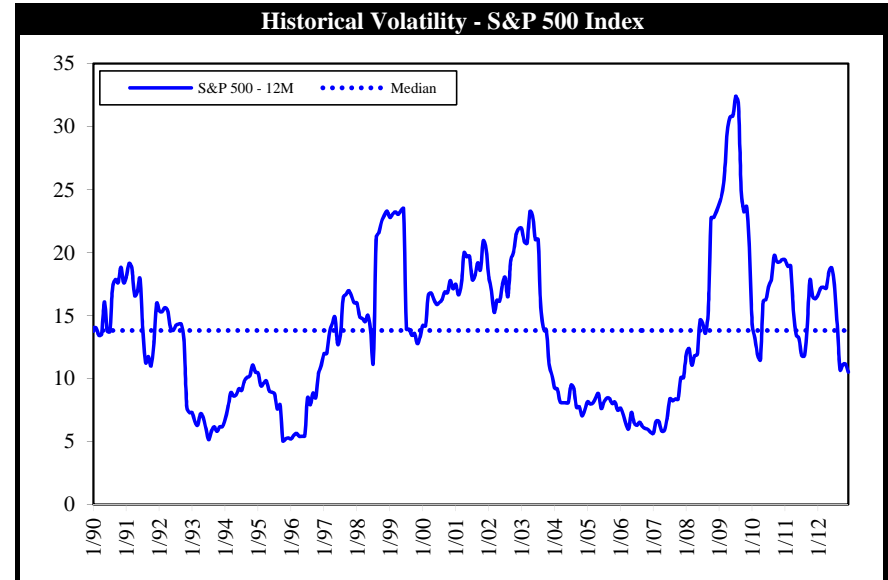
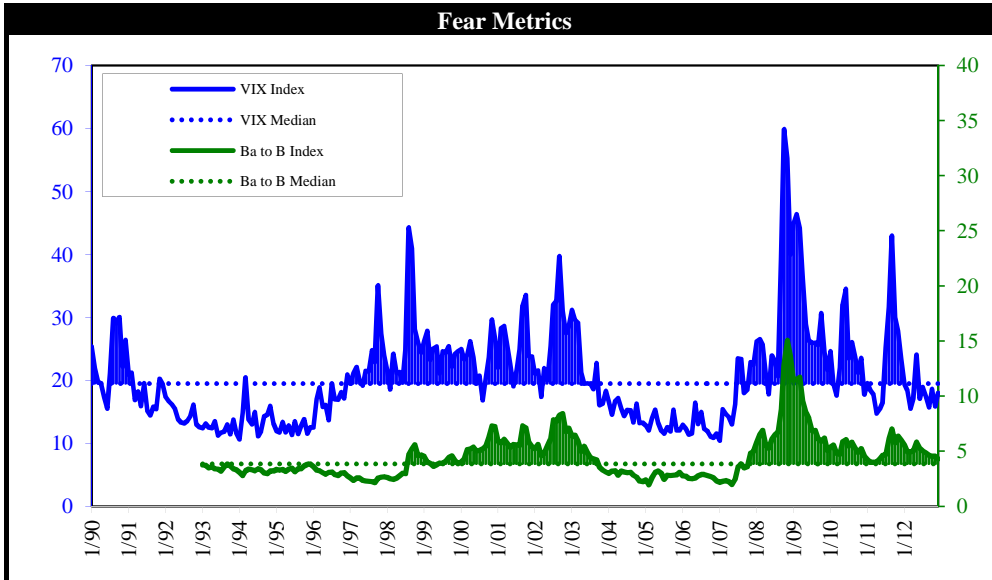


¹ All data courtesy of Bloomberg Professional Service.

² Source: Bloomberg and Robert J. Shiller, Irrational Exuberance, Second Edition. P/E for the S&P 500 Index is based on 10-year trailing real earnings. Small Cap is represented by the S&P 600 Small Cap Index, and Emerging is represented by the MSCI Emerging Markets Index. Due to limited history, only the current 10-year P/E is shown for Small Cap and Emerging.

³ US REITs is represented by the MSCI US REITs Index and Global REITs is represented by the MSCI World Real Estate Index.

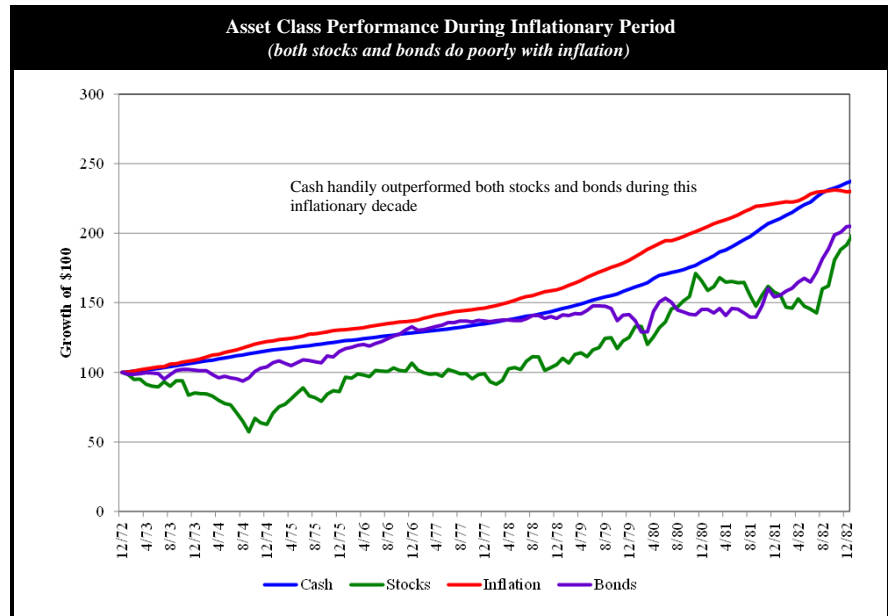
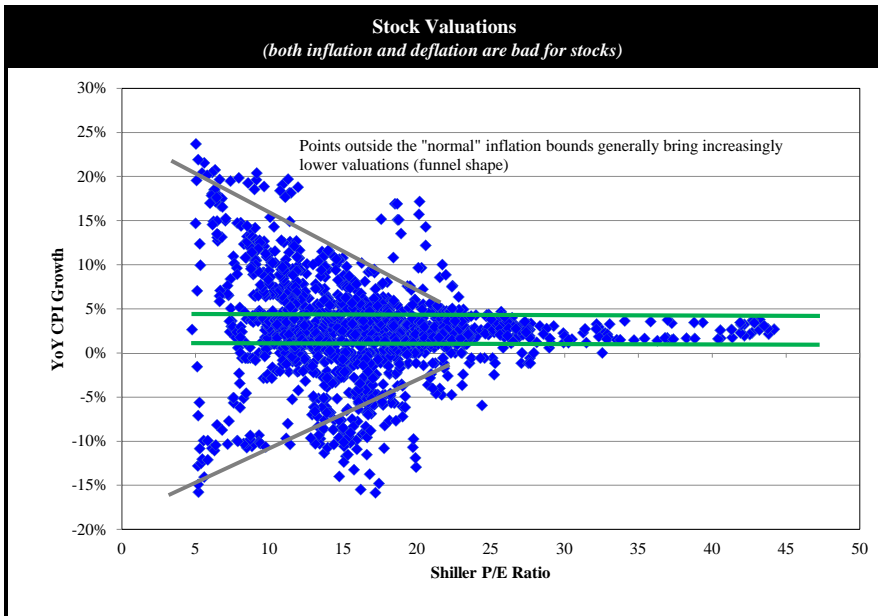
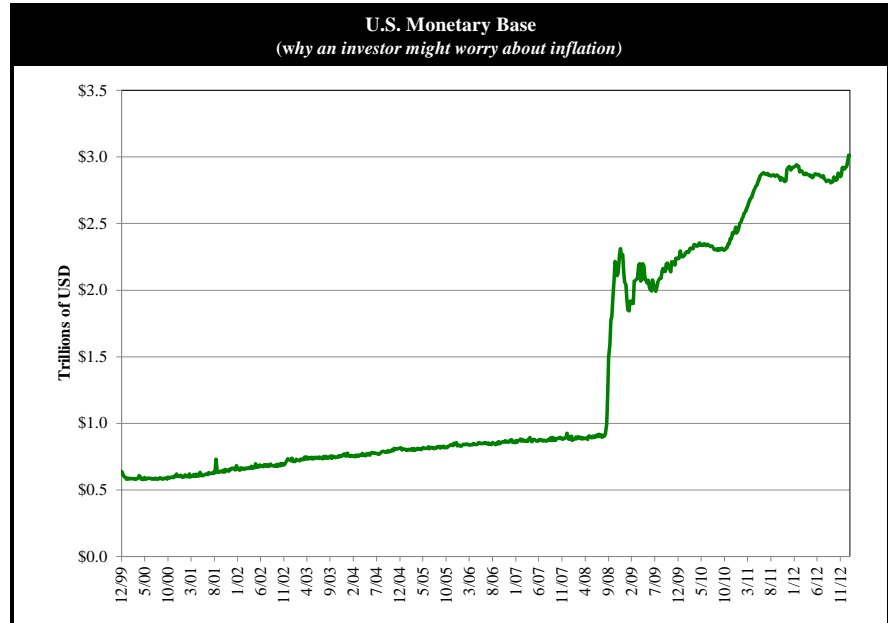
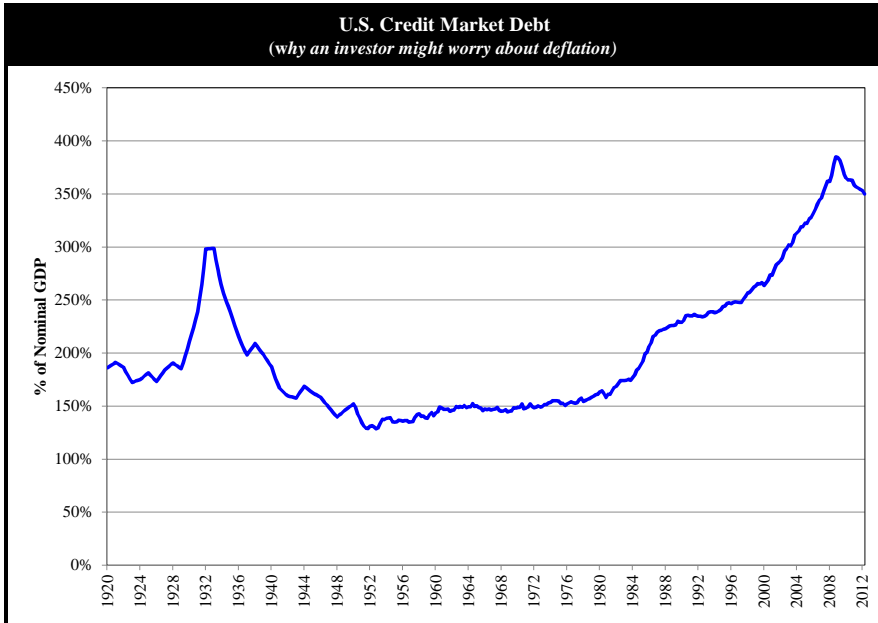
Risk Metrics ¹
As of December 31, 2012



¹ All data courtesy of Bloomberg Professional Service.

² Common inception of November 2004 is based on historical data availability. Specific inception dates are as follows: 2- and 20-year (2004), 5-year (2002), 10- and 30-year (1998).

Inflation Considerations
As of December 31, 2012



Data courtesy of Federal Reserve Bank of St. Louis, Bloomberg Professional Service, J.P. Morgan and Morningstar.

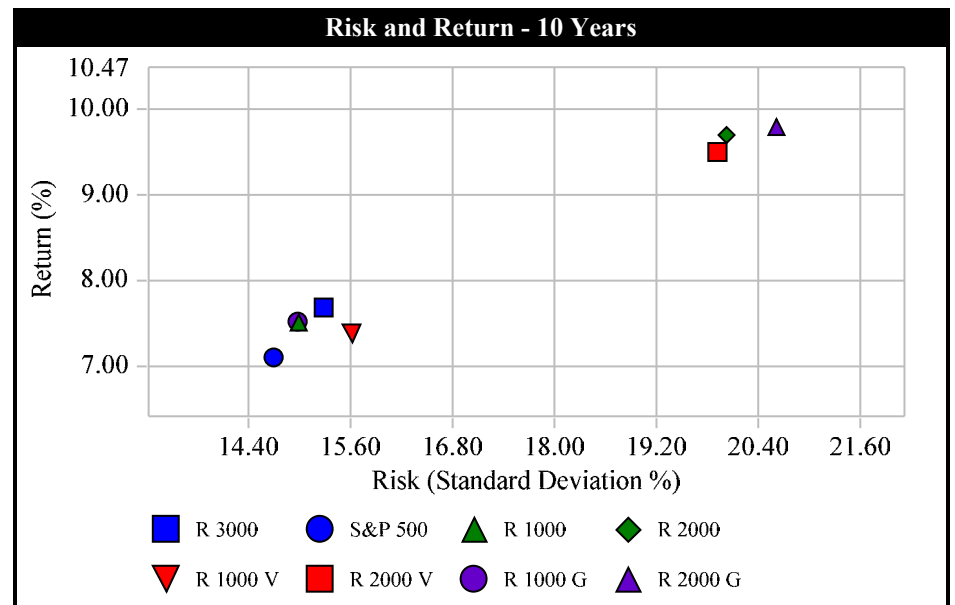
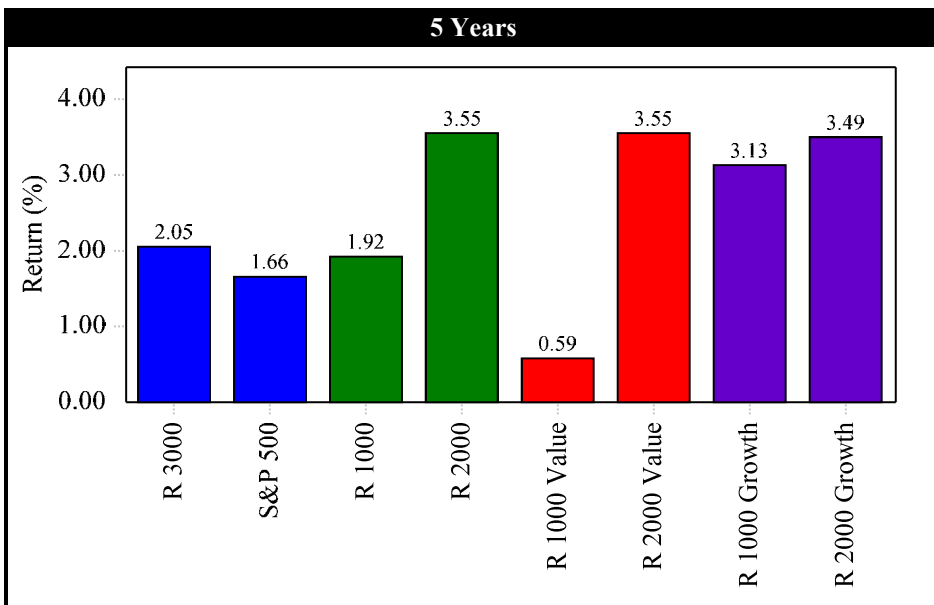
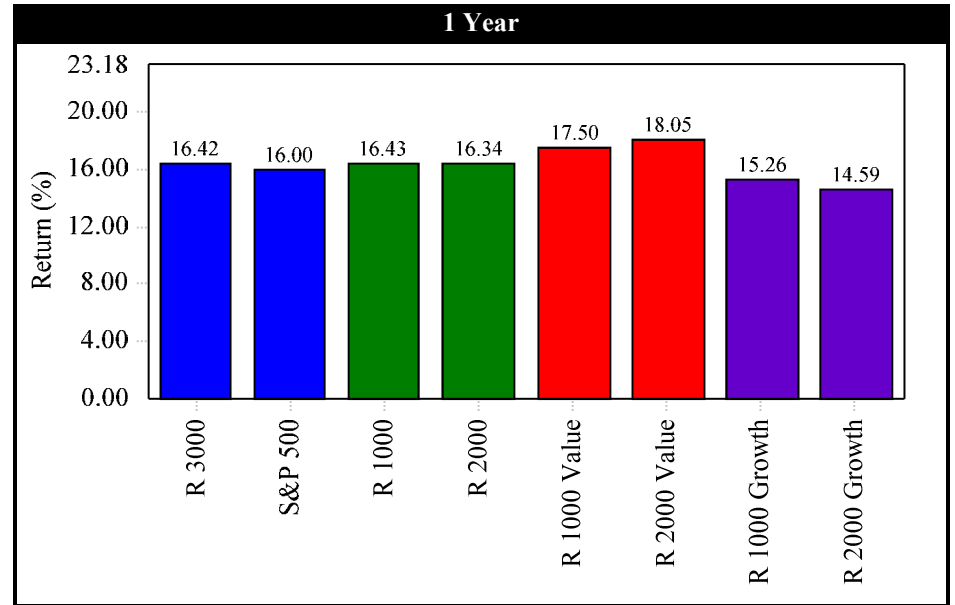
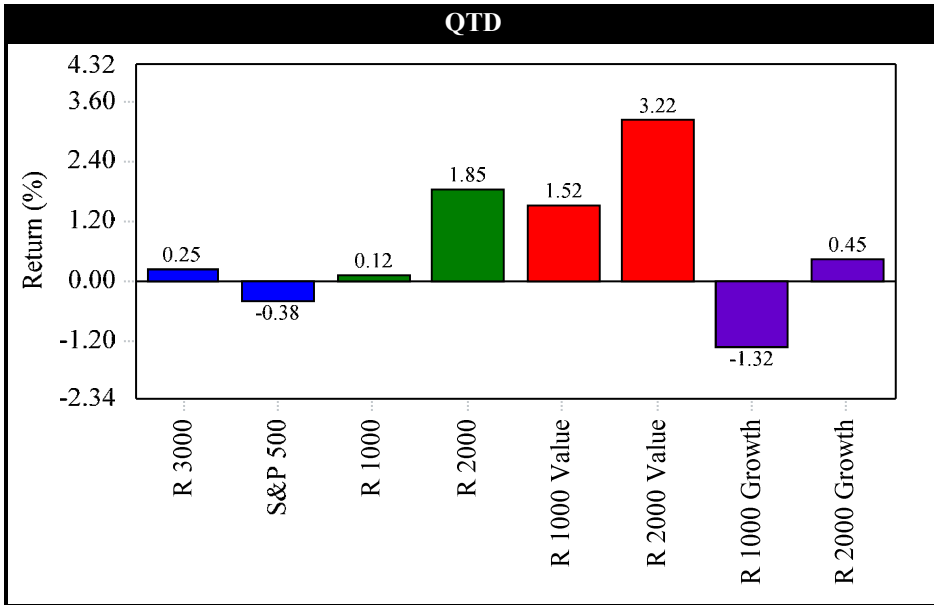
Asset class performance shown is represented by the BofA ML 3 Mo T-Bill TR Index (Cash), S&P 500 Index (Stocks), Consumer Price Index (Inflation), and Barclays U.S. Aggregate Bond Index (Bonds).

Annual Asset Class Performance
As of December 31, 2012

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Best	28.58	66.42	31.84	12.35	25.91	62.14	33.16	34.54	35.97	39.78	8.44	79.02	28.60	22.49	20.42
	20.34	27.31	31.04	8.44	16.56	56.28	31.27	26.65	32.59	16.23	5.24	58.21	26.86	15.99	18.64
	16.42	24.69	16.16	7.89	14.81	47.25	25.95	21.39	26.86	15.97	2.06	47.32	22.40	13.56	17.90
	11.77	24.34	14.28	7.28	10.25	39.17	20.70	21.36	19.67	11.63	-2.35	32.46	19.20	9.24	17.59
	8.69	21.26	13.15	6.61	5.54	36.18	18.33	14.02	18.37	11.63	-10.01	28.60	16.83	7.84	16.34
	5.23	21.04	12.40	5.64	3.58	28.97	13.06	13.82	16.32	9.91	-20.47	27.18	16.36	4.98	16.00
	3.94	20.19	11.63	5.28	3.12	28.68	11.13	6.75	15.79	6.97	-26.16	26.46	15.12	2.11	15.81
	3.75	13.17	6.18	4.42	1.78	23.93	10.88	5.33	11.85	6.60	-33.79	18.91	15.06	0.10	10.94
	1.87	4.85	-3.02	2.49	-1.41	11.93	9.15	4.91	9.85	5.49	-35.65	11.41	10.16	-4.18	8.82
	-2.55	2.40	-5.86	-2.37	-6.00	9.28	8.56	4.55	4.85	5.00	-37.00	9.72	8.21	-5.55	6.98
	-17.01	2.39	-7.22	-11.89	-7.44	8.39	8.46	3.07	4.33	1.87	-39.20	5.93	6.54	-11.73	4.80
	-25.33	-0.82	-9.10	-12.11	-15.66	5.87	6.79	2.84	2.71	1.79	-43.06	1.92	6.31	-13.32	4.21
	-27.03	-2.58	-13.96	-19.51	-20.48	4.10	4.34	2.74	2.07	-1.57	-46.78	0.21	4.77	-15.66	0.11
Worst	N/A	-7.65	-30.61	-21.21	-22.10	1.15	1.33	2.43	0.41	-17.55	-53.18	-29.76	0.13	-18.17	-1.06

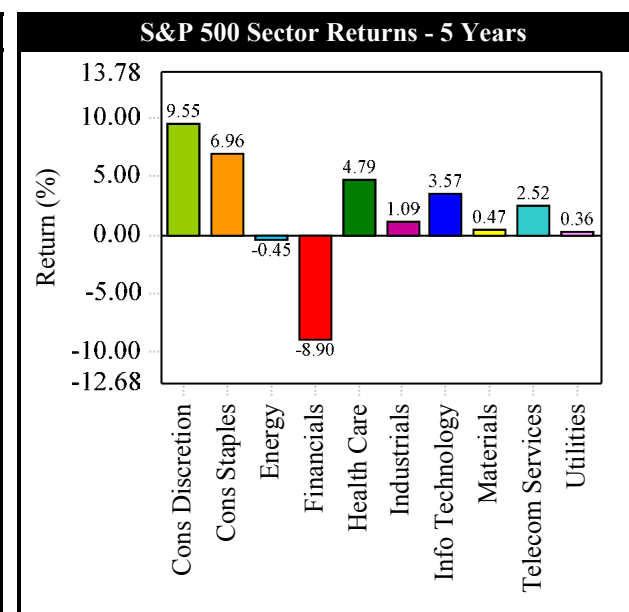
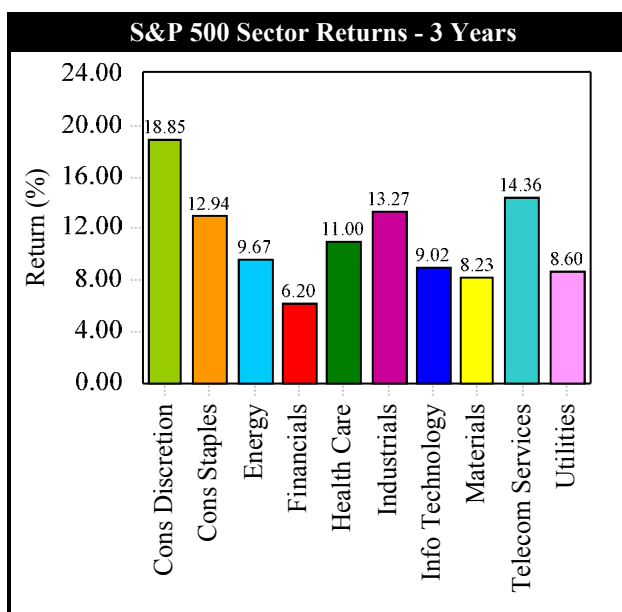
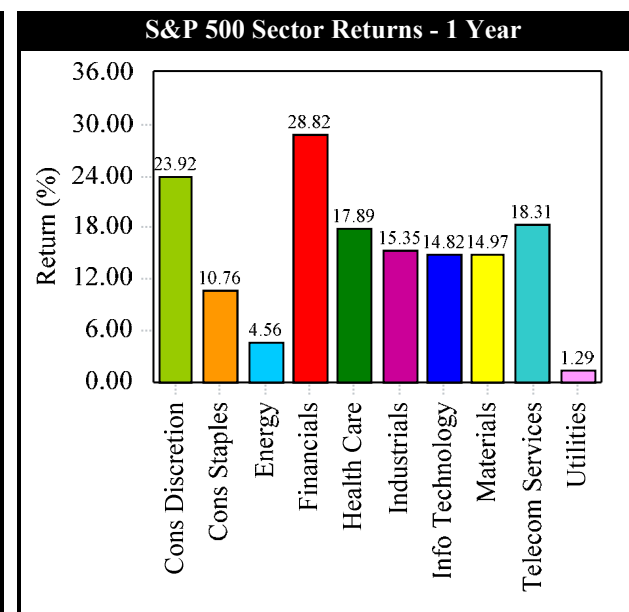
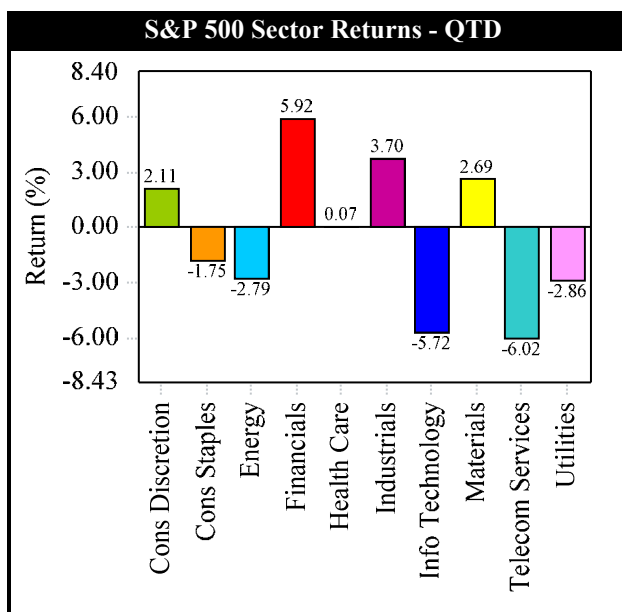
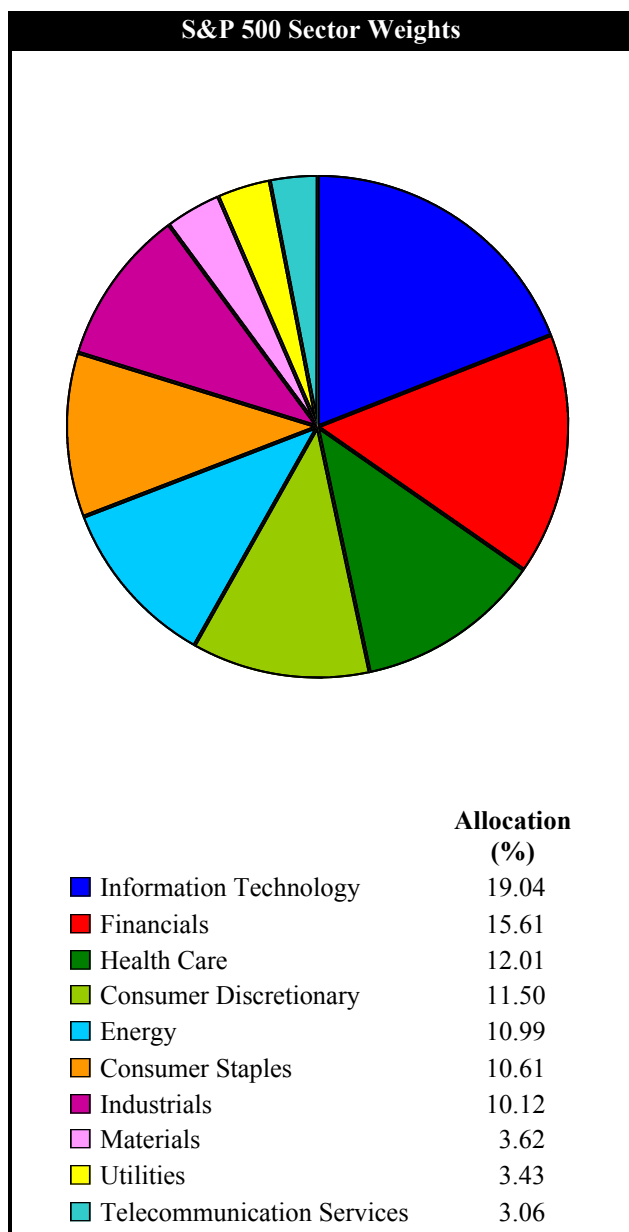
S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Gross) - Int'l Dev.	MSCI EAFE SC (Gross) - Int'l SC	MSCI EM (Gross) - Int'l Emg Mkts	Barclays US Agg Bond - FI	Barclays US Corp: Hi Yield - FI	Barclays US Trsy: US TIPS - FI	Barclays US Gov/Credit: Lng - FI	NCREIF ODCE (Gross) - Real Estate	Wilshire US REIT - REITs	HFN FOF Multi-Strat (Net) - ARS	DJ-UBS Cmdty (TR) - Commod.	BofA ML 3 Mo T-Bill - Cash Equiv
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Domestic Equity Market Performance and Risk
As of December 31, 2012



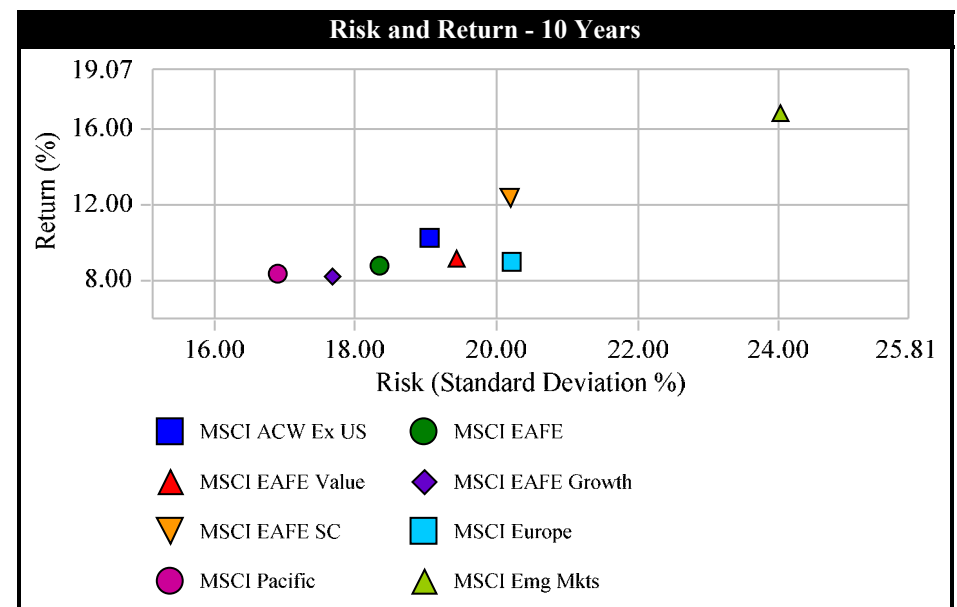
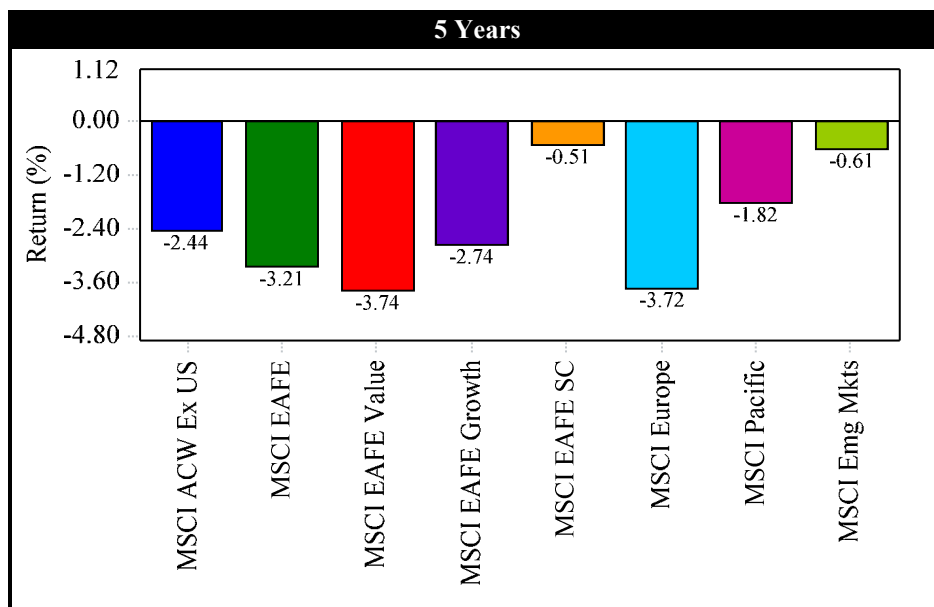
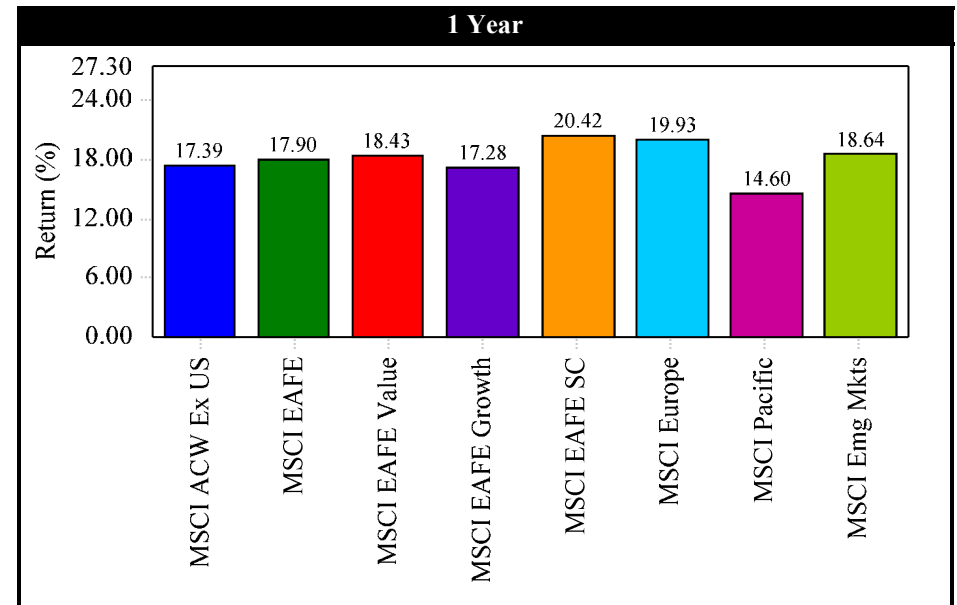
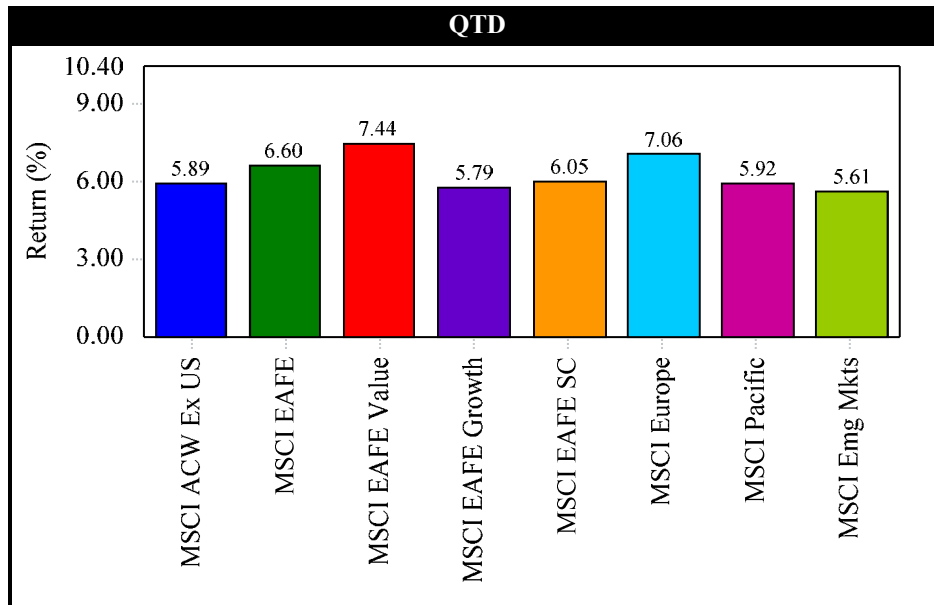
Performance is annualized for periods greater than one year. Calculation is based on monthly periodicity.

Domestic Equity Sector Weights and Returns
As of December 31, 2012



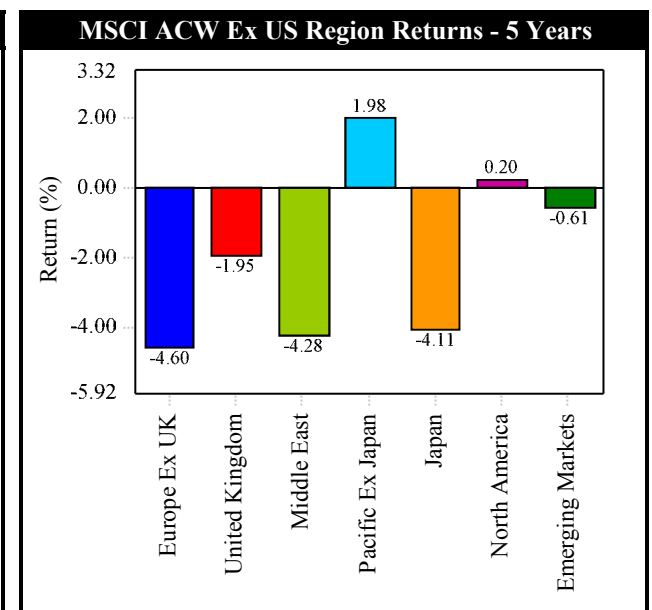
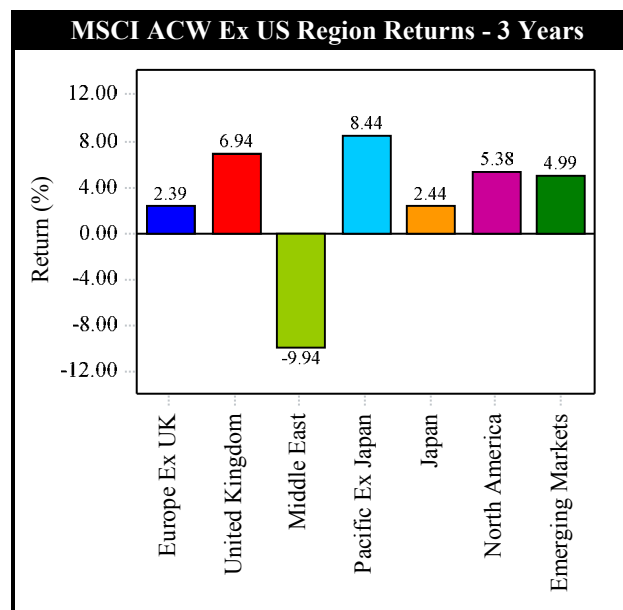
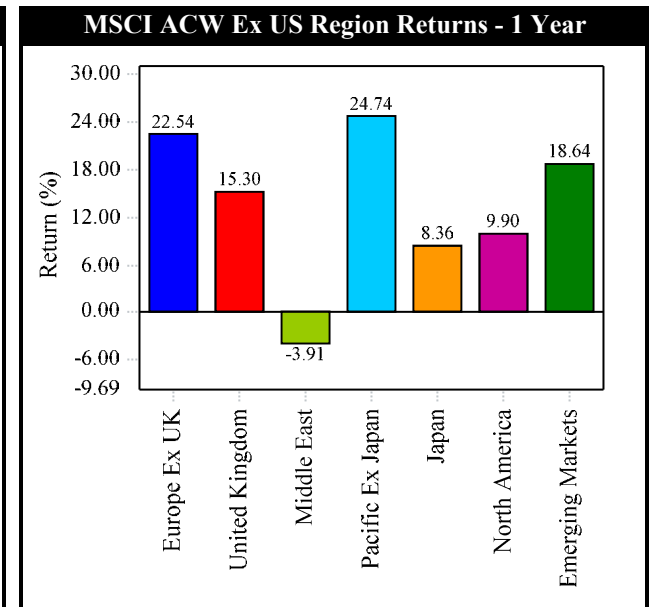
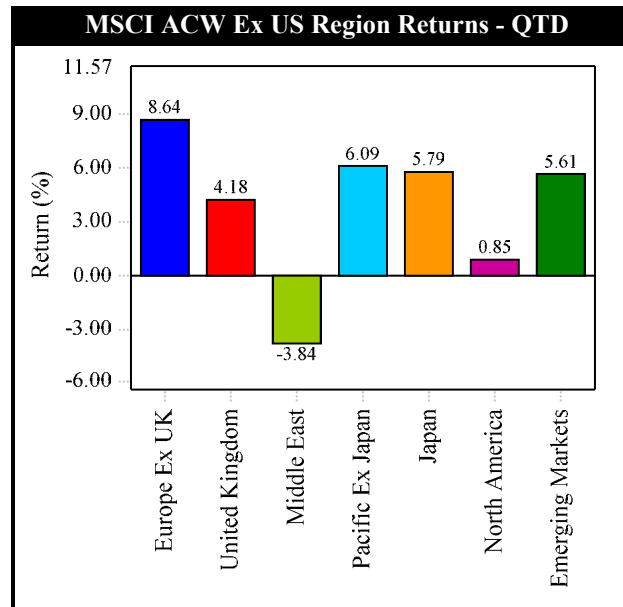
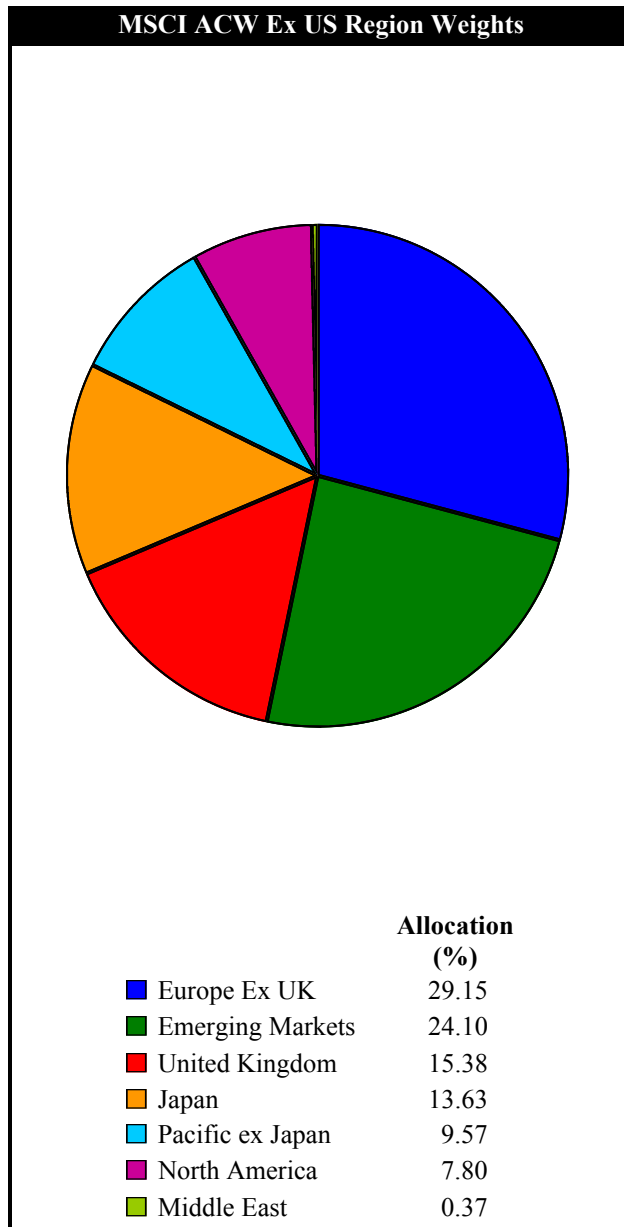
Allocations shown may not sum up to 100% exactly due to rounding. Performance is annualized for periods greater than one year. Returns provided by MPI Stylus, allocations provided by Standard & Poor's.

International Equity Market Performance and Risk
As of December 31, 2012



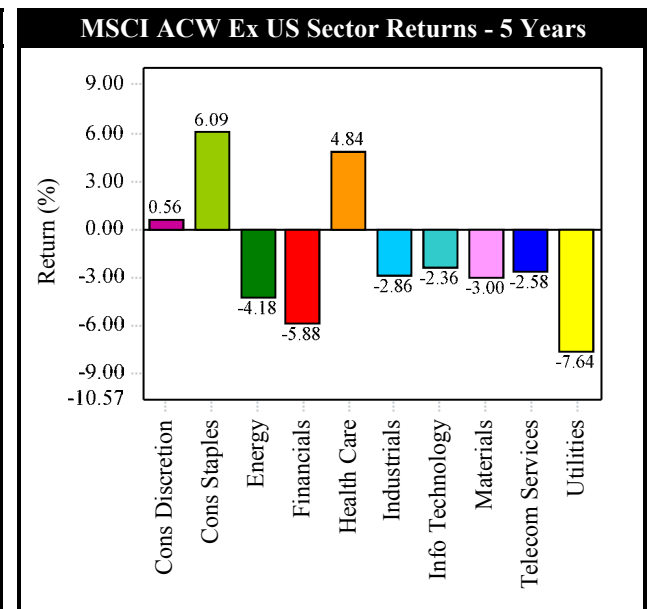
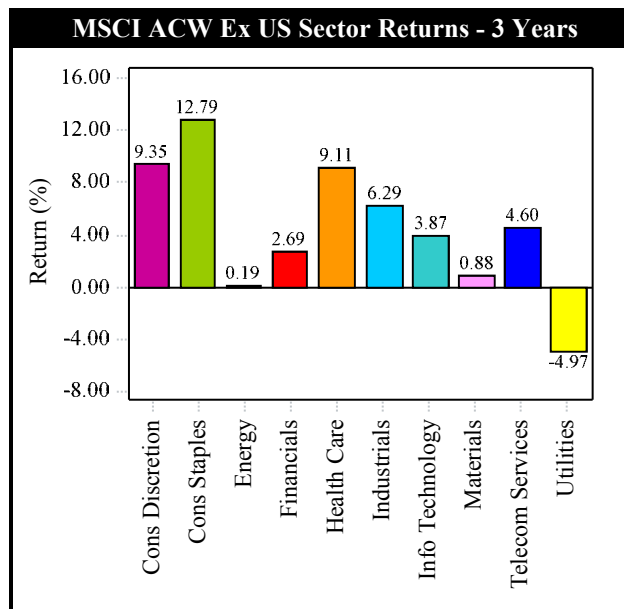
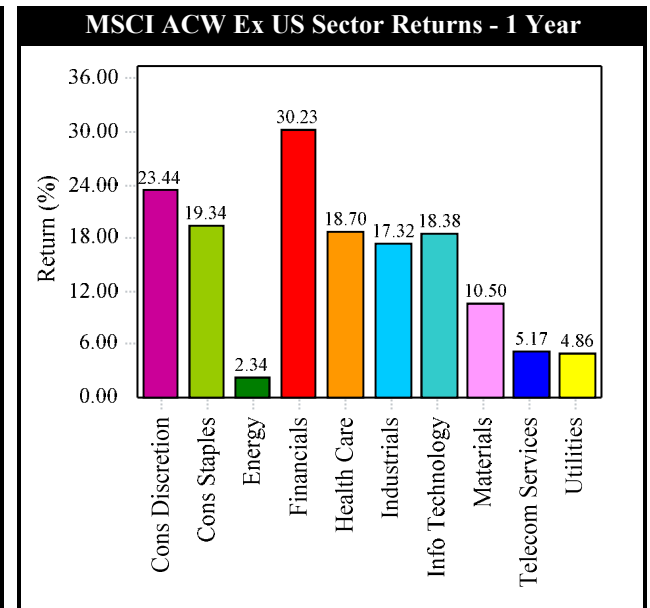
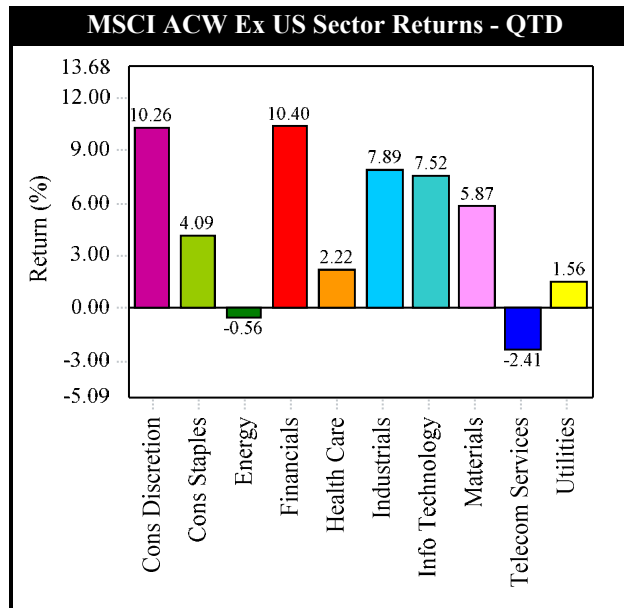
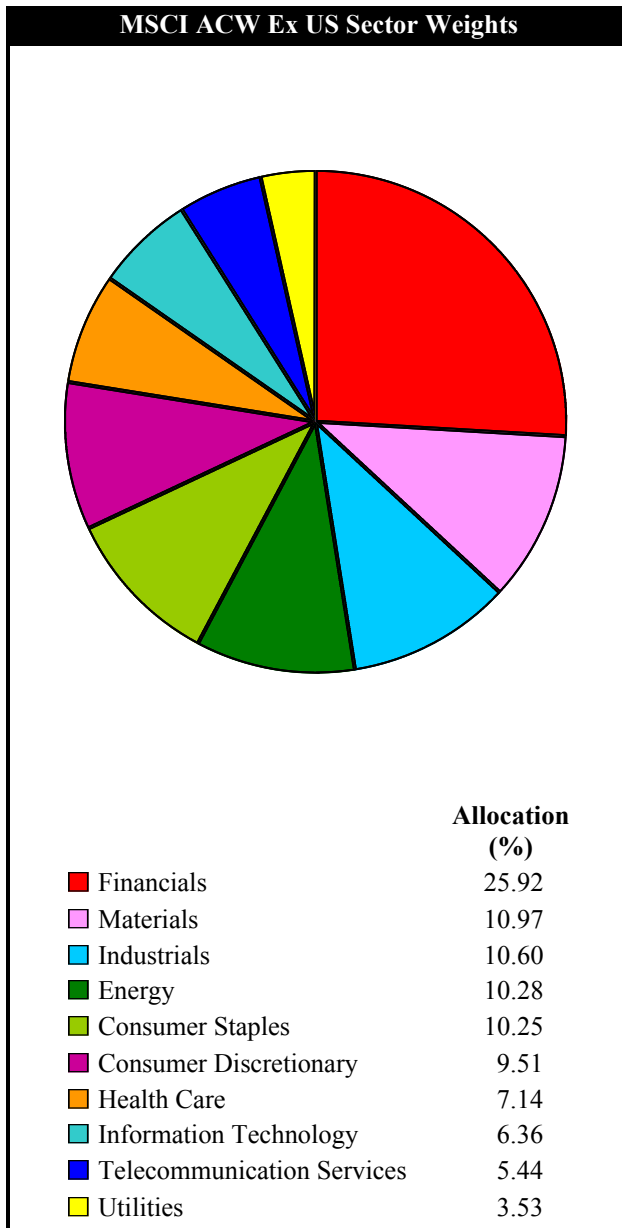
Performance is annualized for periods greater than one year. Calculation is based on monthly periodicity. All returns are shown gross of foreign taxes on dividends.

International Equity Region Weights and Returns
As of December 31, 2012



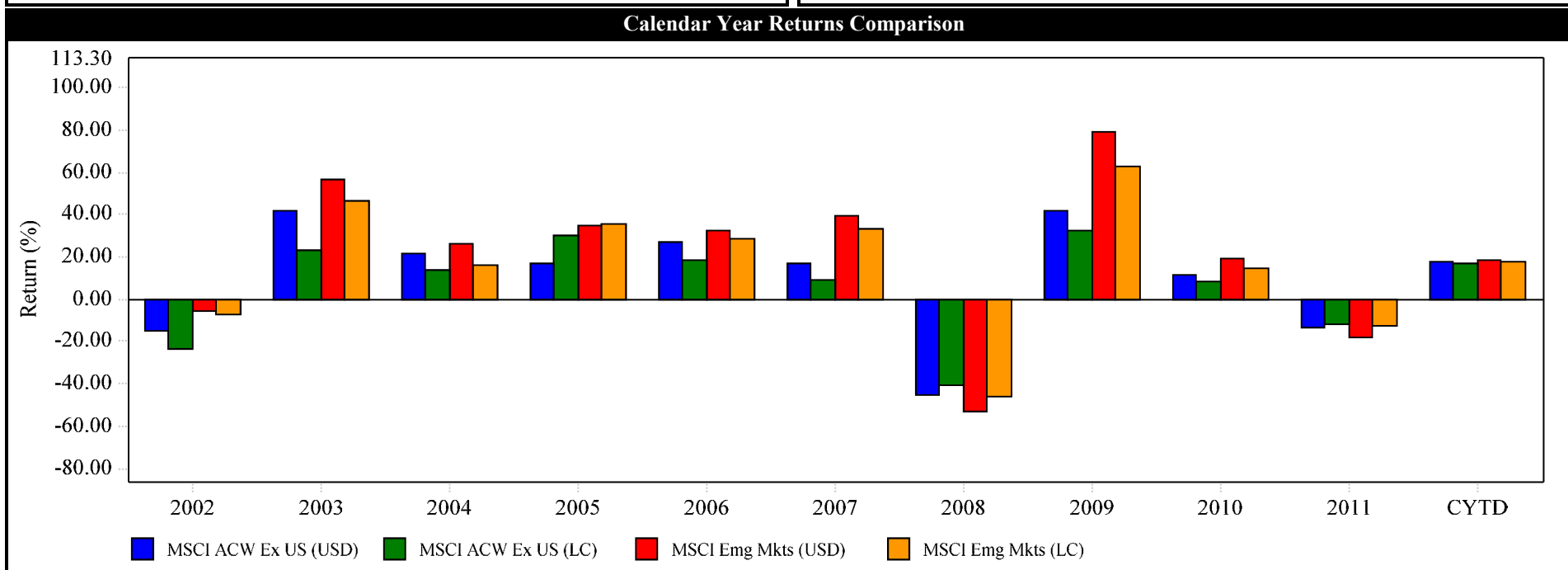
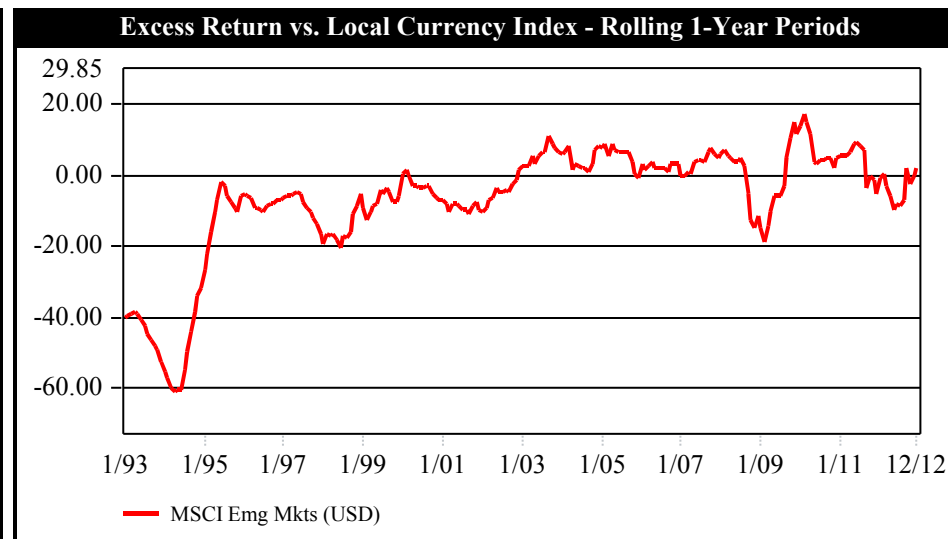
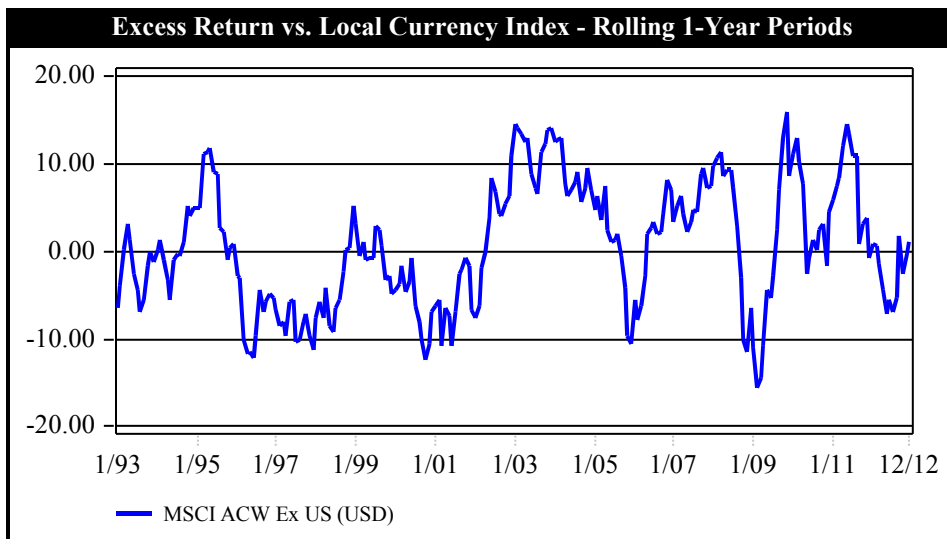
Allocations shown may not sum up to 100% exactly due to rounding. Performance is annualized for periods greater than one year. Returns and allocations provided by MSCI Barra. All returns are shown gross of foreign taxes on dividends.

International Equity Sector Weights and Returns
As of December 31, 2012



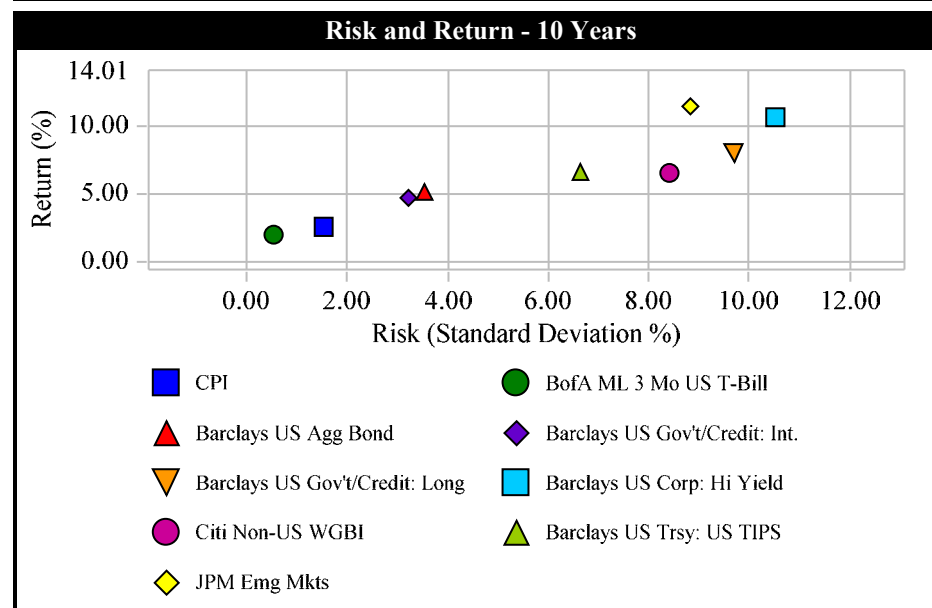
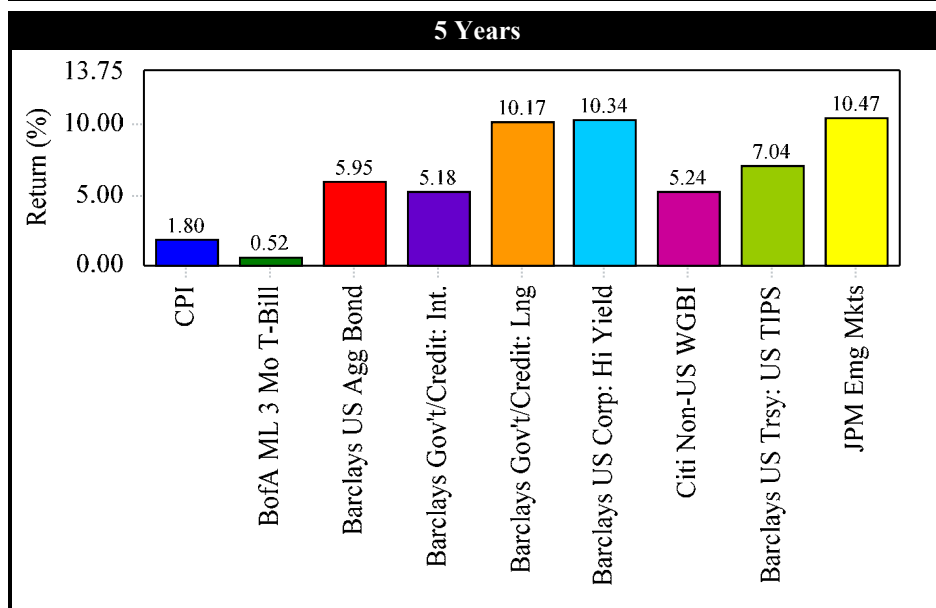
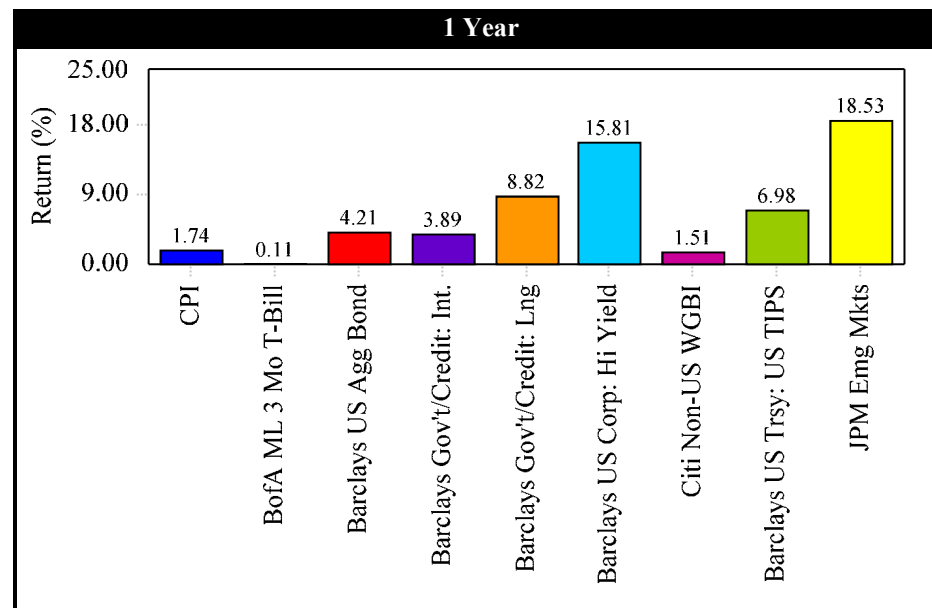
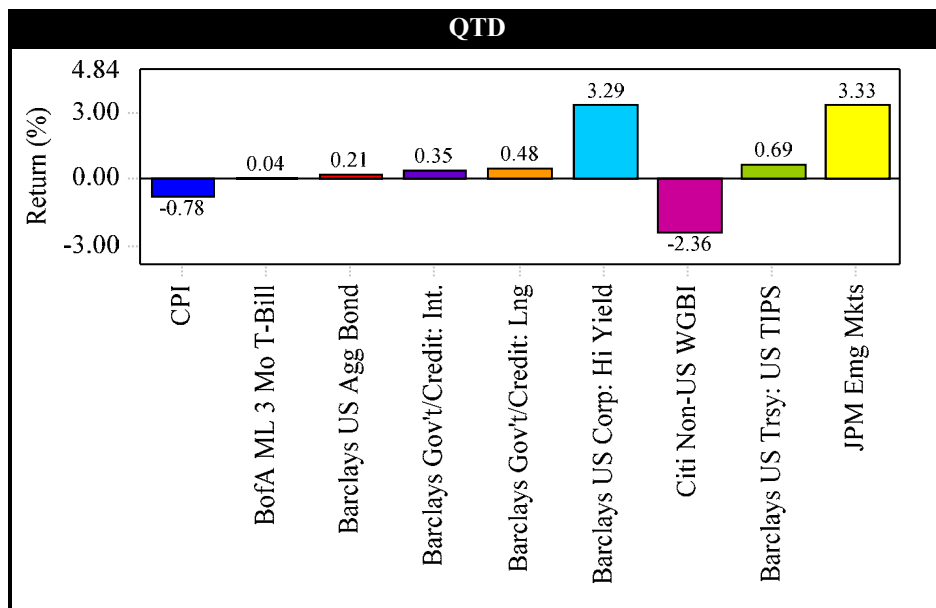
Allocations shown may not sum up to 100% exactly due to rounding. Performance is annualized for periods greater than one year. Returns and allocations provided by MSCI Barra. All returns are shown gross of foreign taxes on dividends.

Effect of Currency on International Equity Performance
As of December 31, 2012



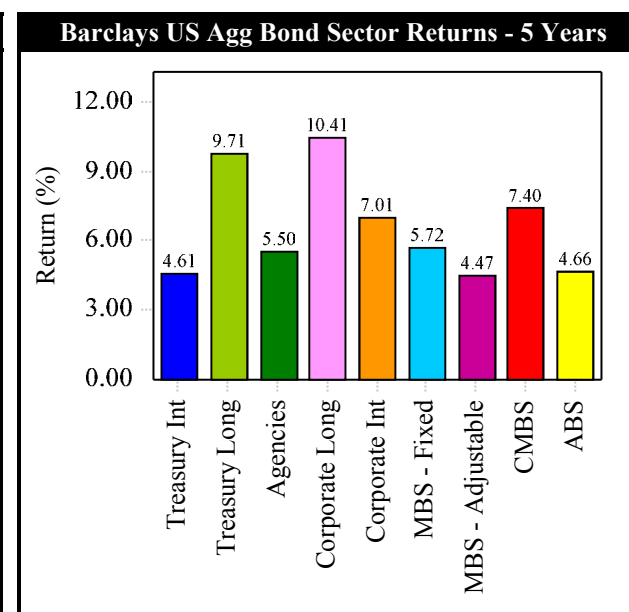
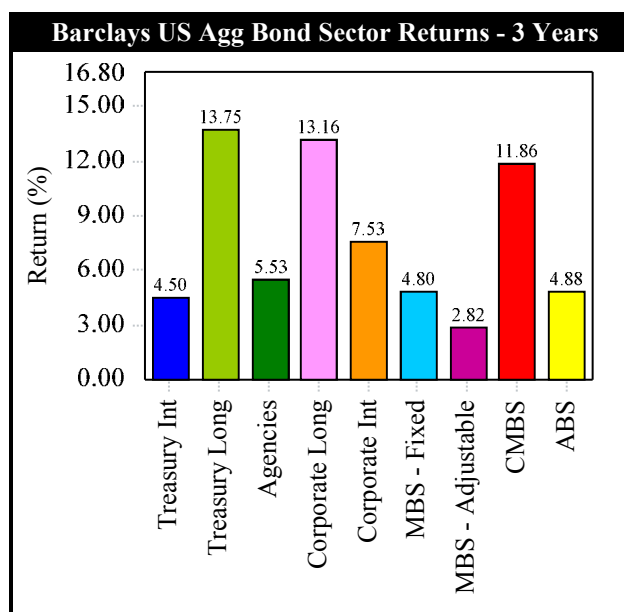
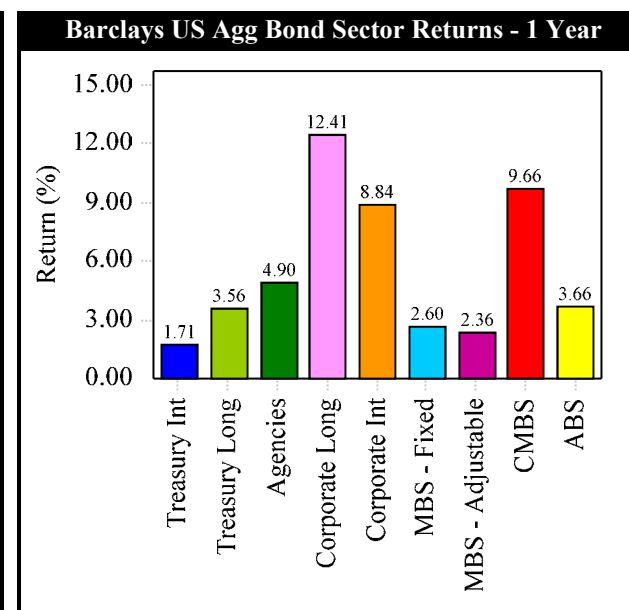
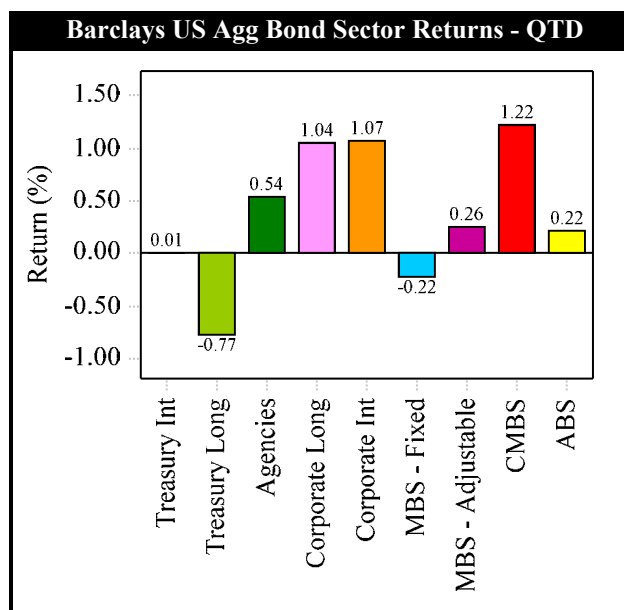
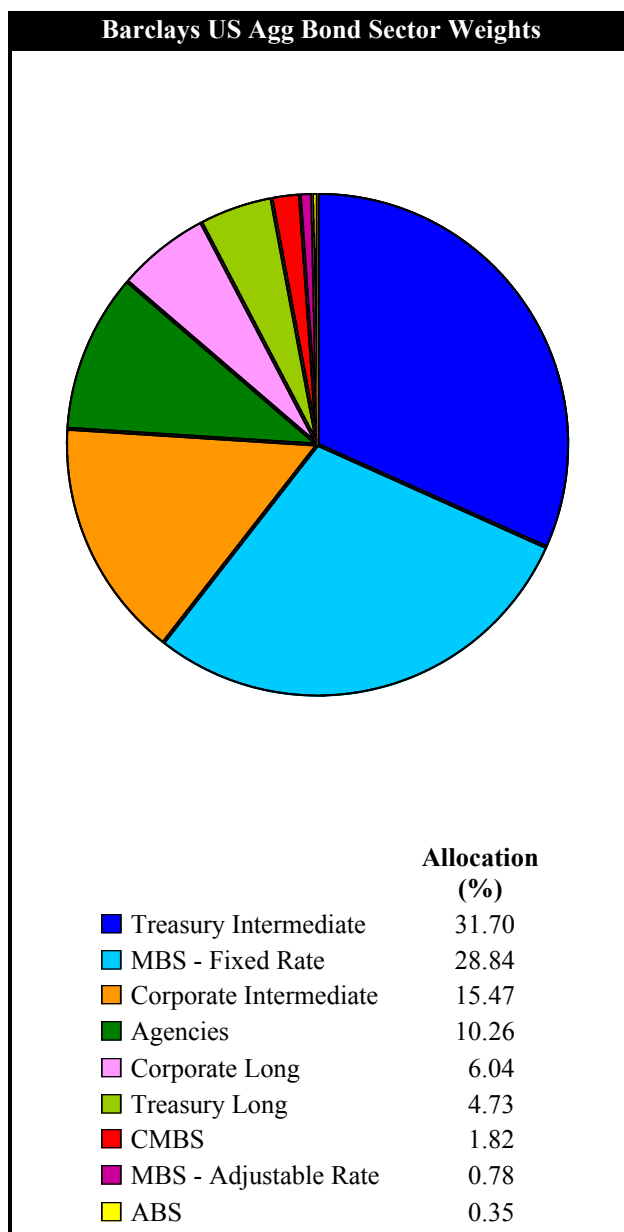
Performance is annualized for periods greater than one year. Calculation is based on monthly periodicity. All returns are shown gross of foreign taxes on dividends.

Fixed Income Market Performance and Risk
As of December 31, 2012



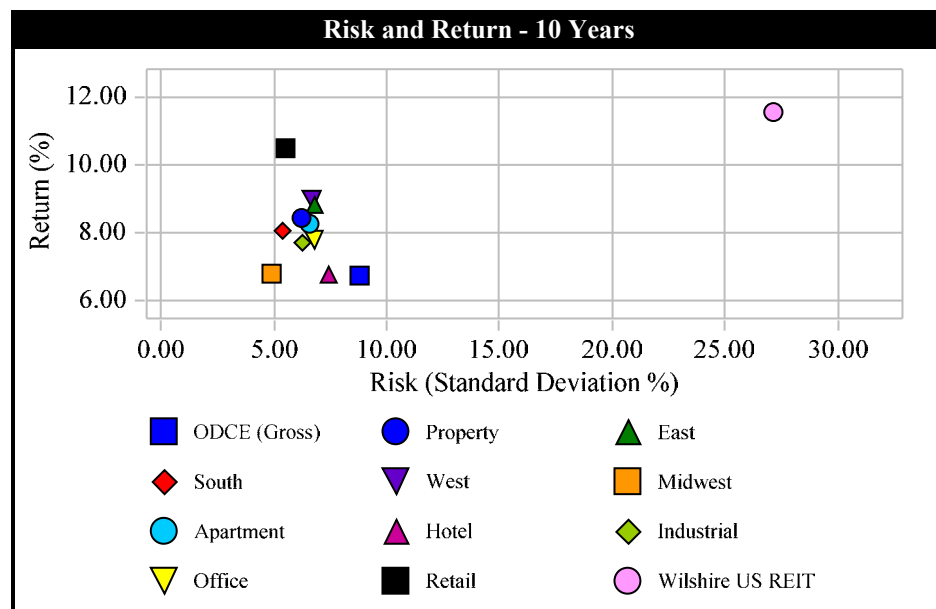
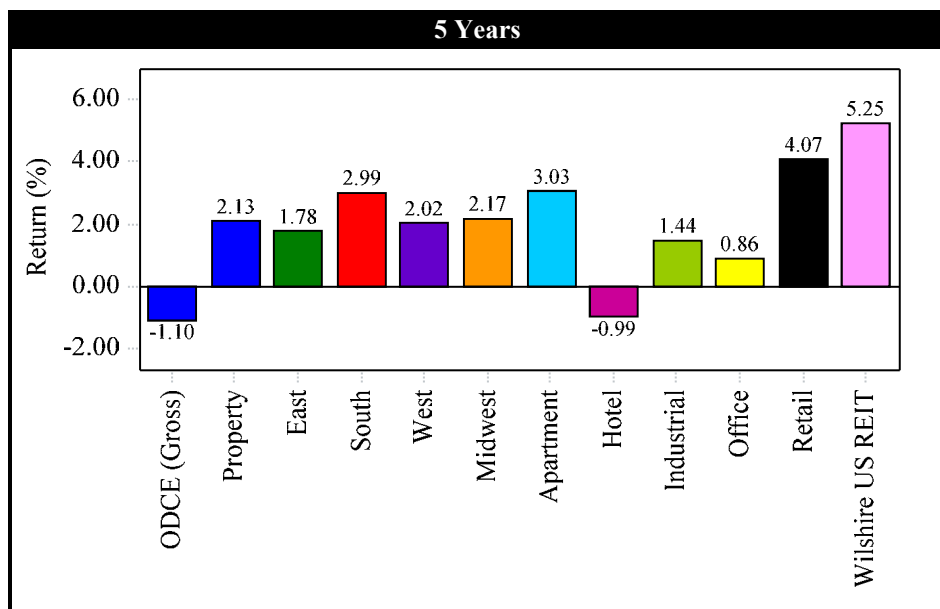
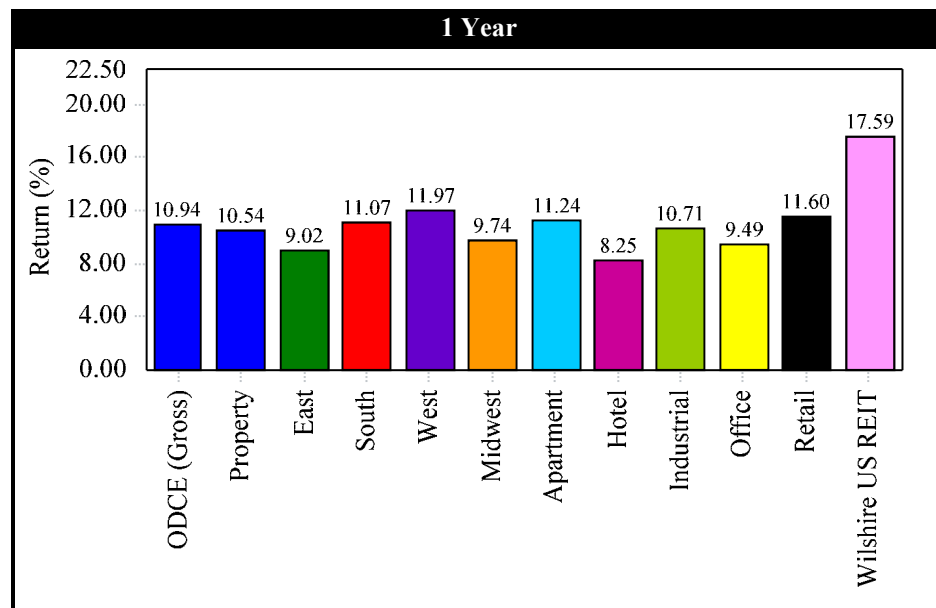
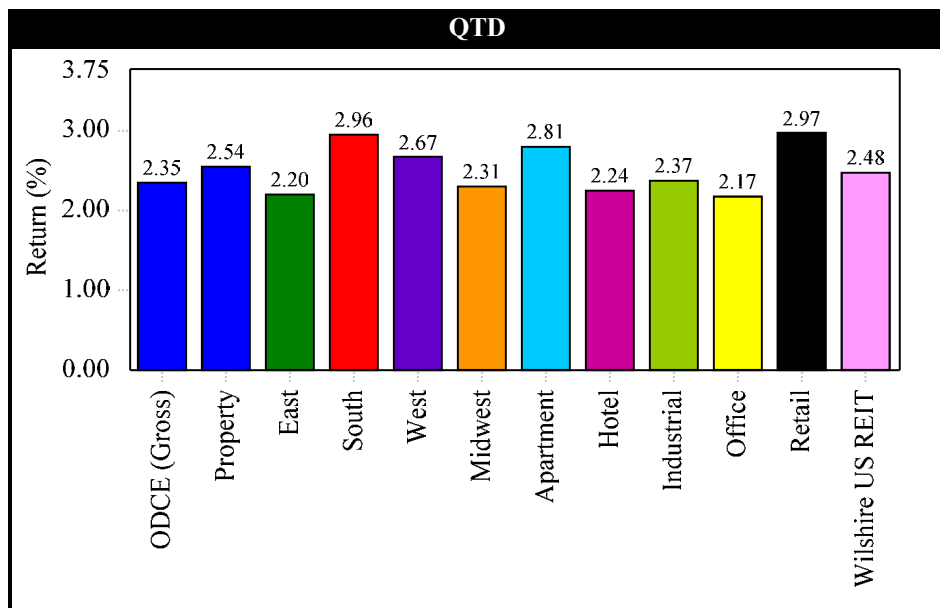
Performance is annualized for periods greater than one year. Calculation is based on monthly periodicity.

Domestic Fixed Income Sector Weights and Returns
As of December 31, 2012



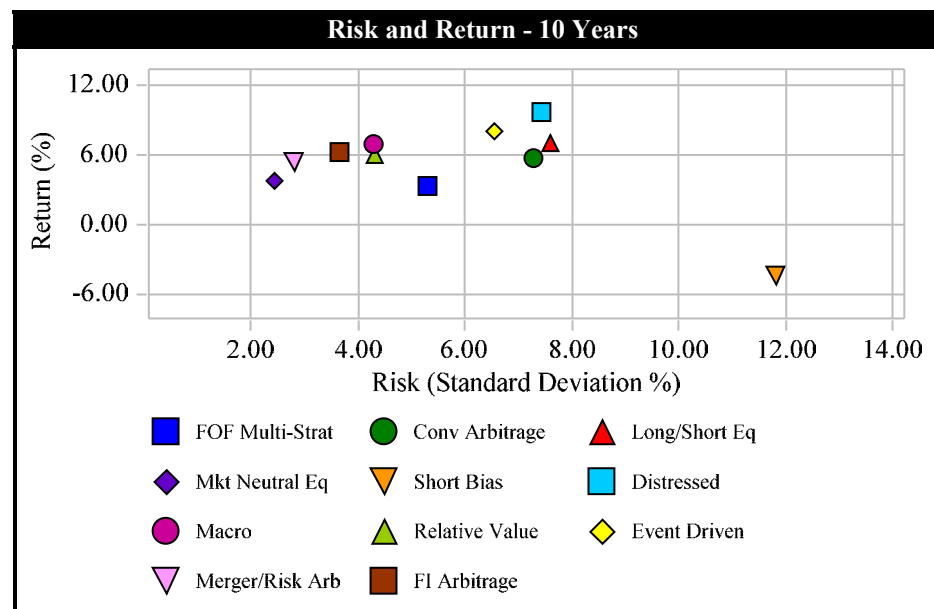
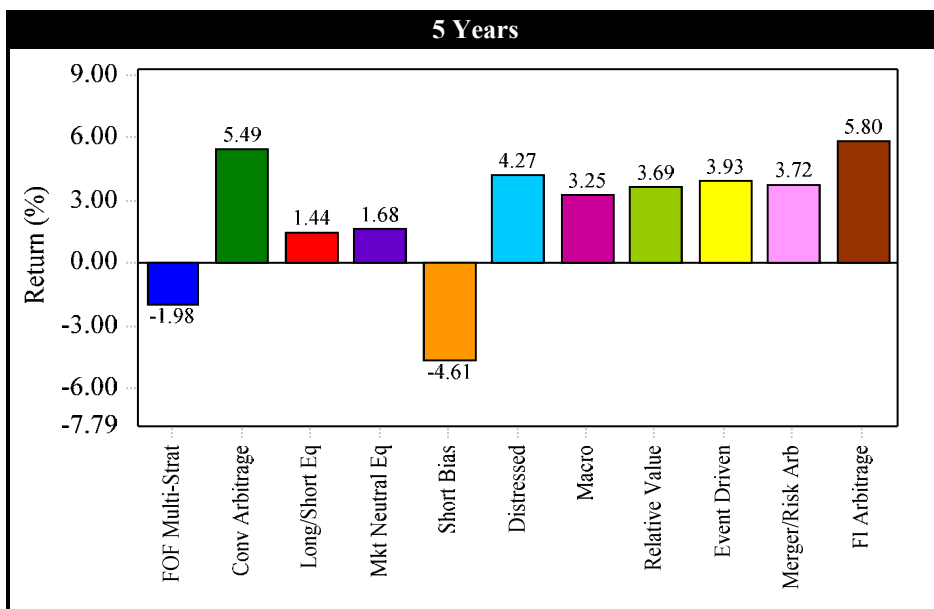
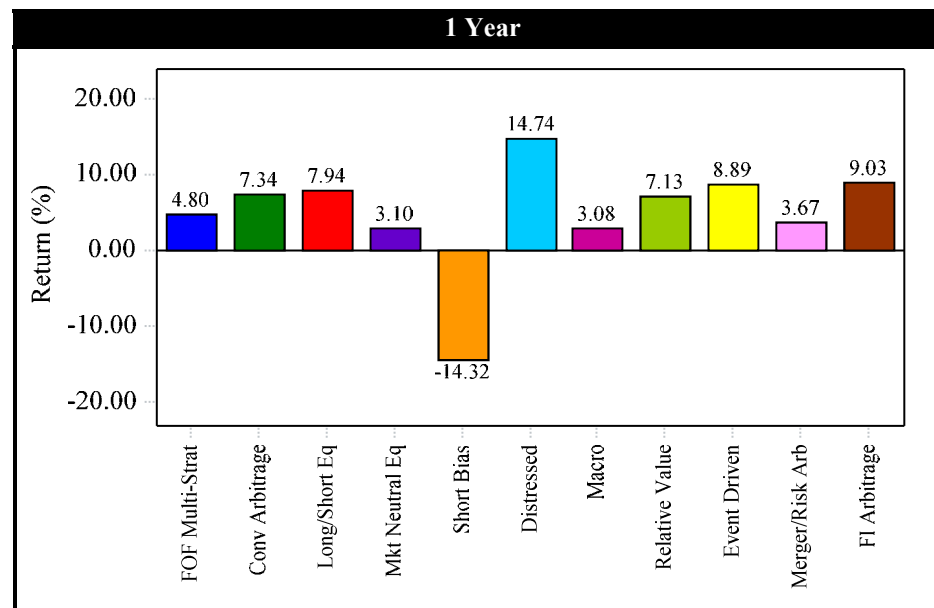
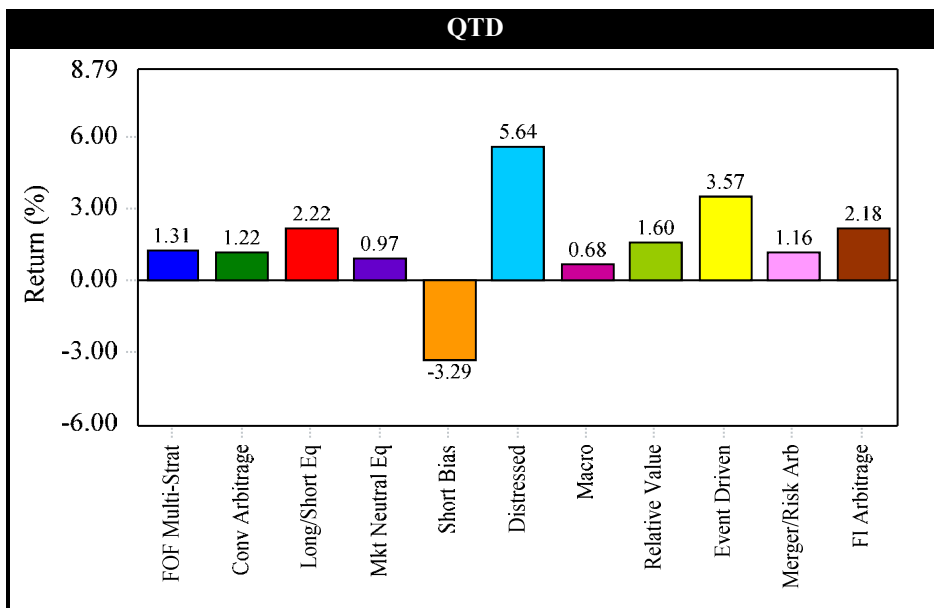
Allocations shown may not sum up to 100% exactly due to rounding. Performance is annualized for periods greater than one year. Returns and allocations provided by Barclays Indices.

Real Estate Market Performance and Risk
As of December 31, 2012



Performance is annualized for periods greater than one year. Calculation is based on quarterly periodicity. All data shown represent NCREIF indices unless otherwise noted. Region and sector data represent the Property Index.

Hedge Fund Market Performance and Risk As of December 31, 2012



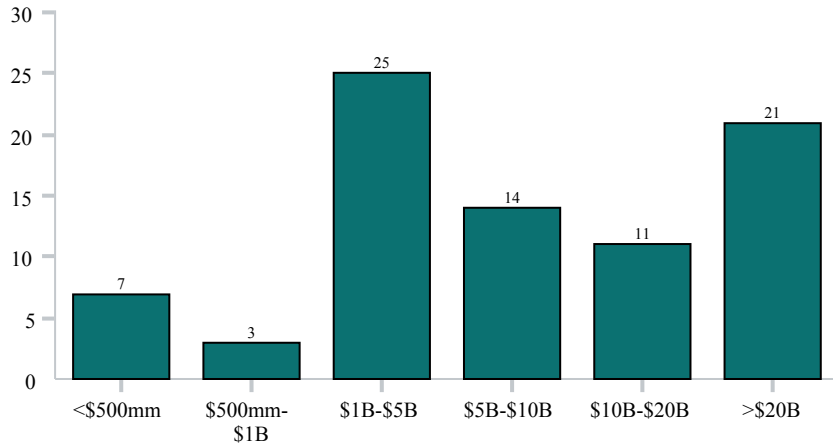
Performance is annualized for periods greater than one year. Calculation is based on monthly periodicity. All data shown represent HFN indices, net of fees. Values are preliminary and subject to change.

Universe Characteristics

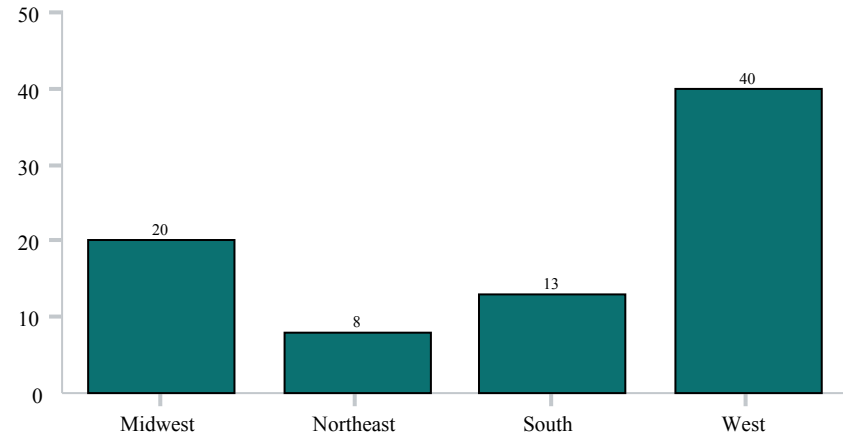
As of December 31, 2012

Fund Number: 105

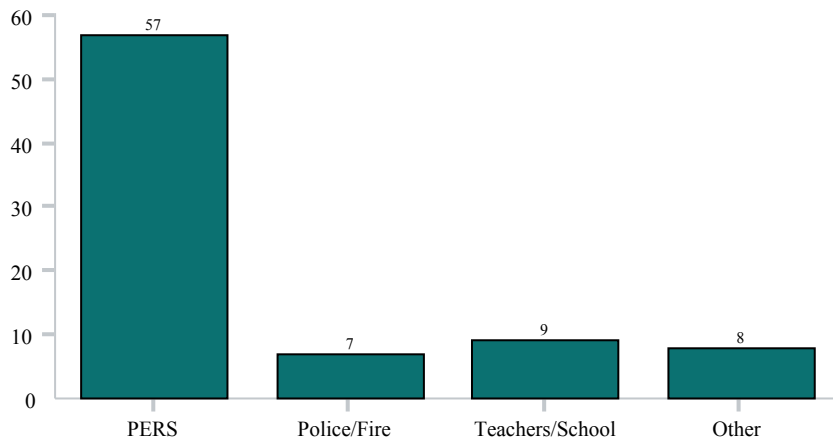
Asset Size



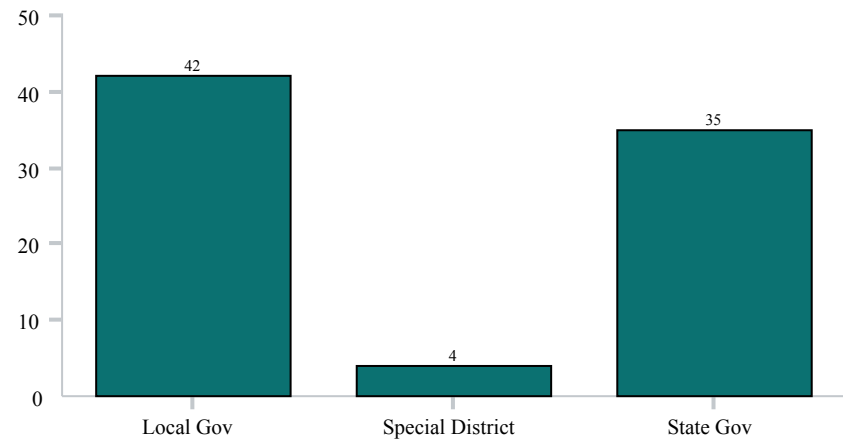
Geographical Distribution



Fund Classification



Fund Type



■ Universe: 81 funds

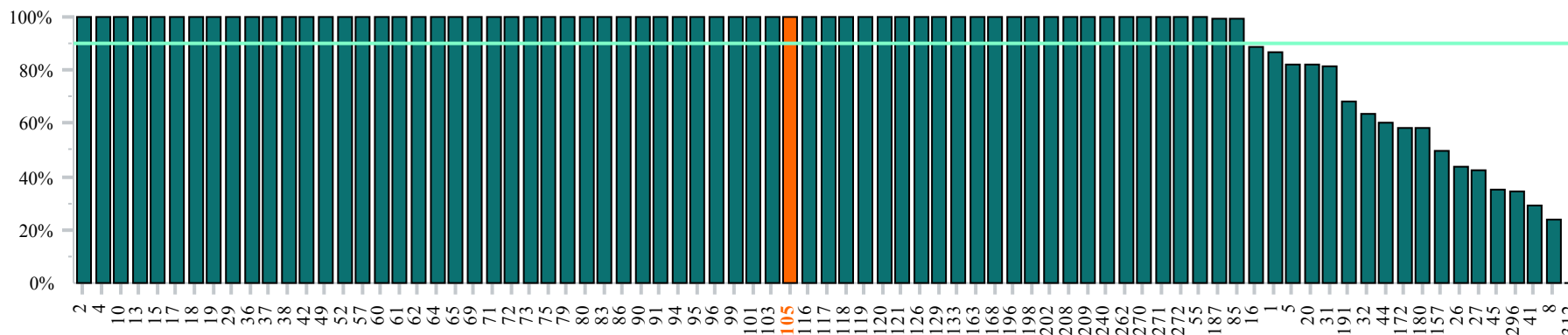
Portfolio Management

Percentage Externally Managed & Percentage Actively Managed

As of December 31, 2012

Fund Number: 105

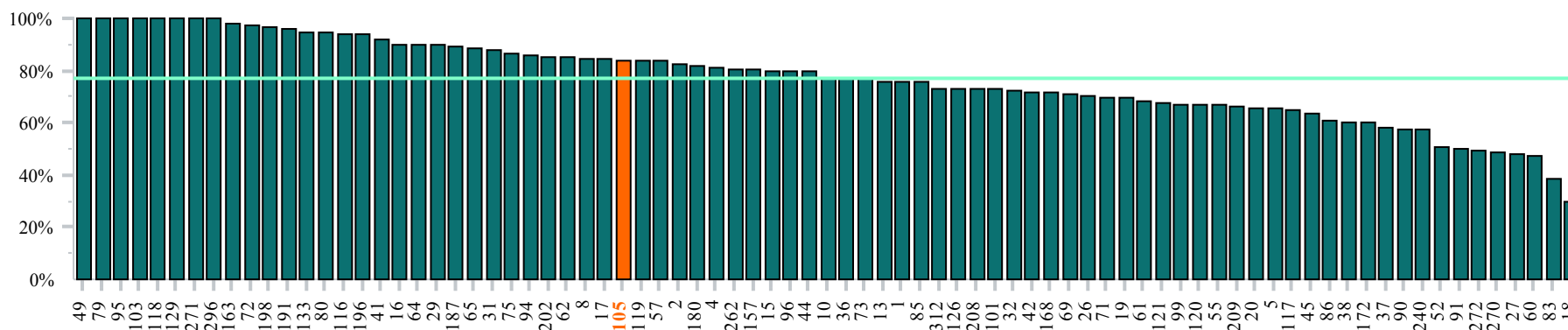
External Management



External Average: 89.95%

Milwaukee ERS

Active Management



Active Average: 76.81%

Portfolio Management Statistics

As of December 31, 2012

Fund Number: 105

Asset Range	Percentage Actively Managed	Percentage Passively Managed	Percentage Externally Managed	Percentage Internally Managed
Over \$20B	74.25%	25.75%	73.41%	26.59%
\$10B-\$20B	74.77%	25.23%	86.00%	14.00%
\$5B-\$10B	77.60%	22.40%	95.34%	4.66%
\$1B-\$5B	76.69%	23.31%	98.56%	1.44%
\$500mm-\$1B	81.40%	18.60%	99.92%	0.08%
Under \$500mm	84.57%	15.43%	100.00%	0.00%
Milwaukee ERS	83.76%	16.24%	100.00%	0.00%

Percentage of Portfolio	Active Management		External Management	
	Public Fund Universe	Milwaukee ERS	Public Fund Universe	Milwaukee ERS
90% to 100%	18	0	63	1
50% to 89%	56	1	10	0
10% to 49%	7	0	7	0
Less than 10%	0	0	1	0
Total Funds Reporting	81	1	81	1

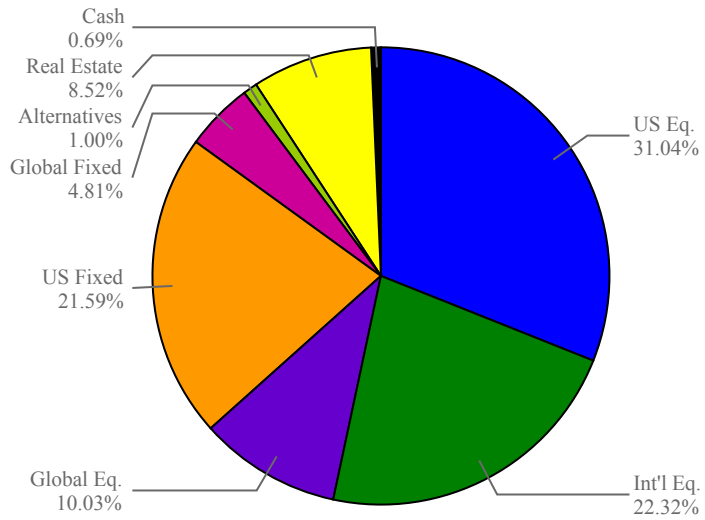
Asset Allocation

Milwaukee ERS vs. Average of All Funds

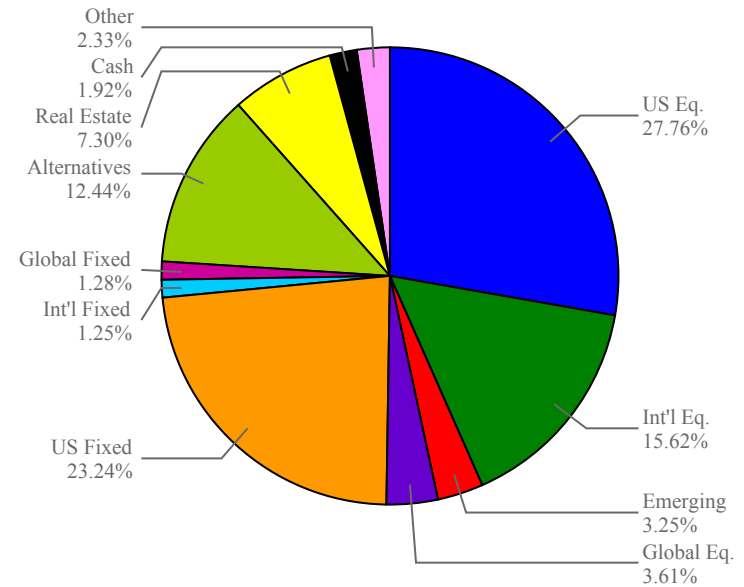
As of December 31, 2012

Fund Number: 105

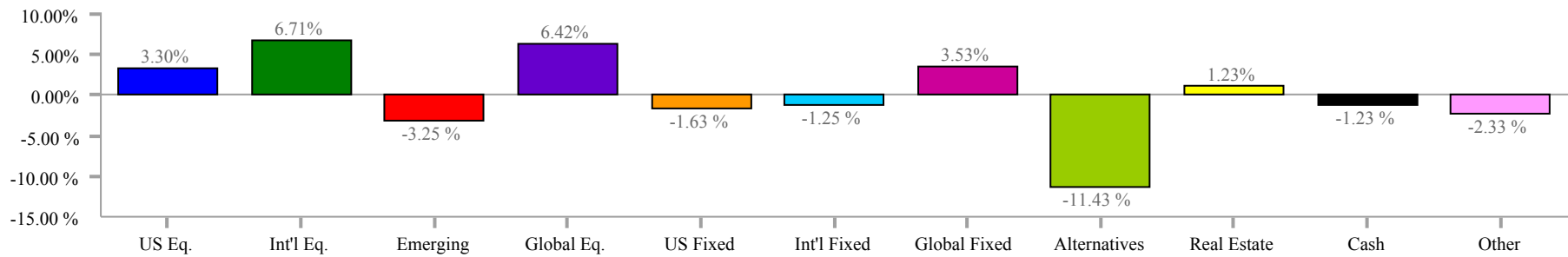
Milwaukee ERS



All Funds



Variance



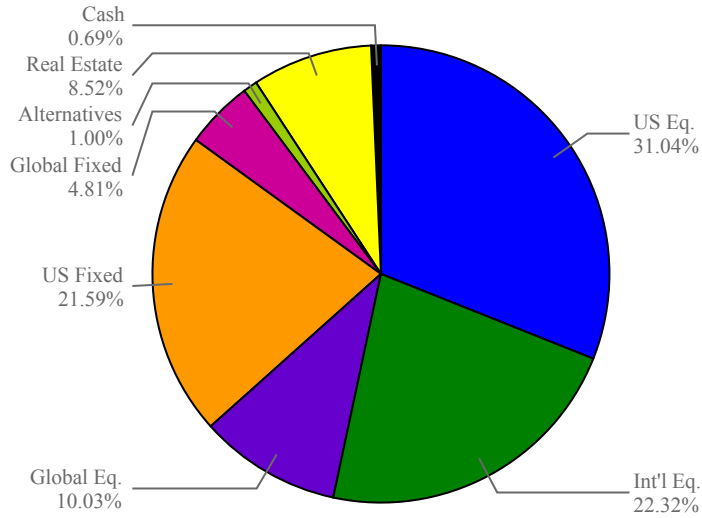
Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation

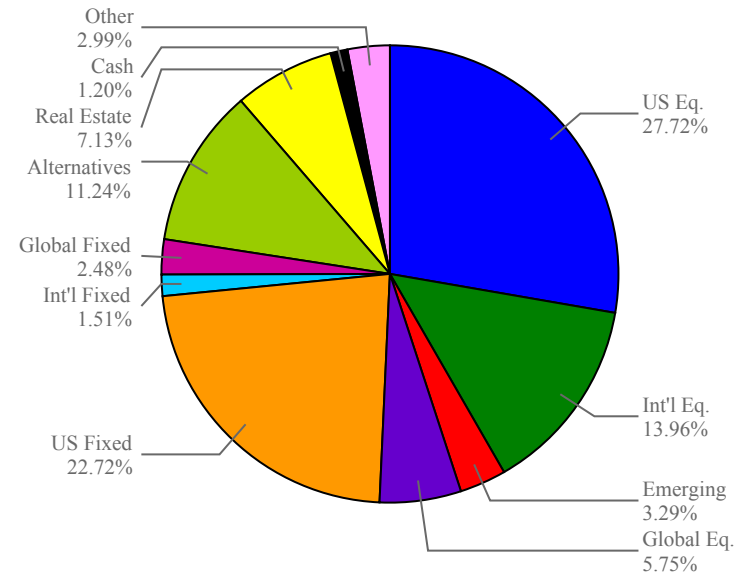
Milwaukee ERS vs. Average of Similar Size Funds
As of December 31, 2012

Fund Number: 105

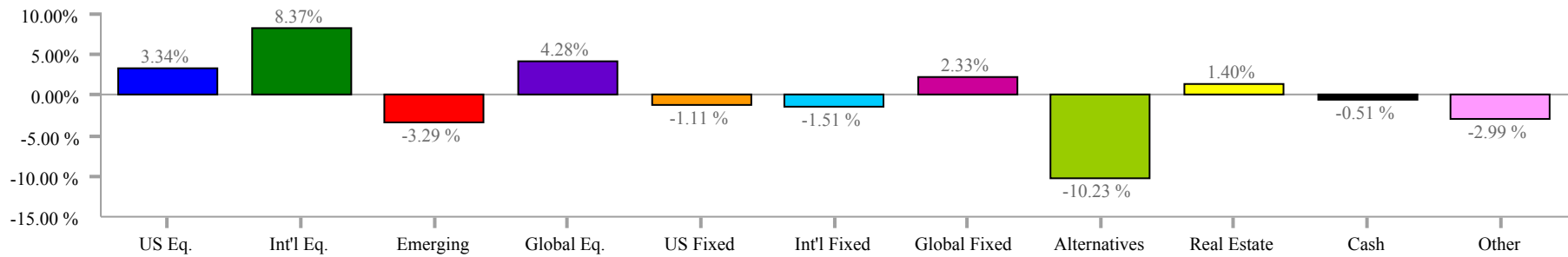
Milwaukee ERS



\$1-\$5 Billion



Variance



Allocations shown may not sum up to 100% exactly due to rounding.

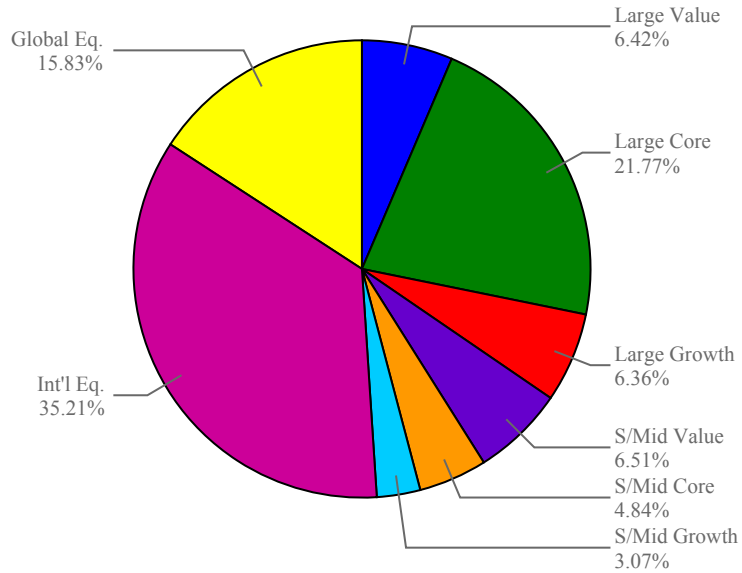
Equity Style Allocation

Milwaukee ERS vs. Average of All Funds

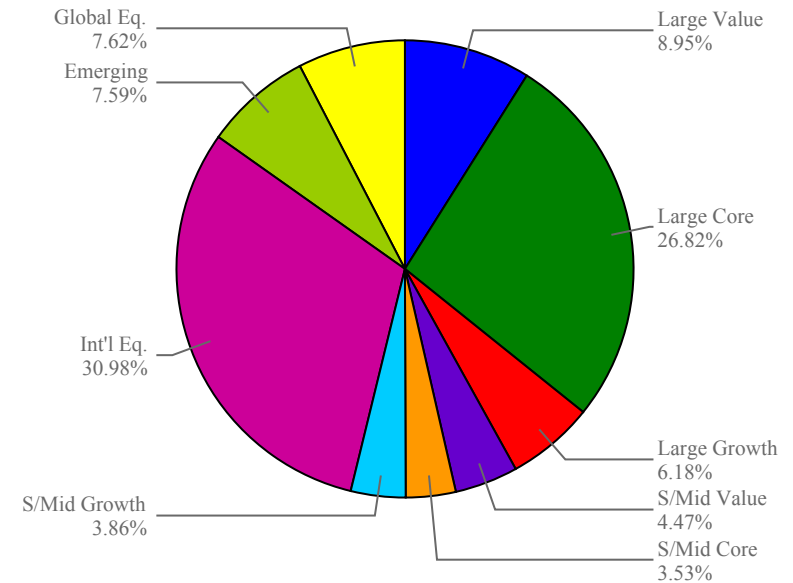
As of December 31, 2012

Fund Number: 105

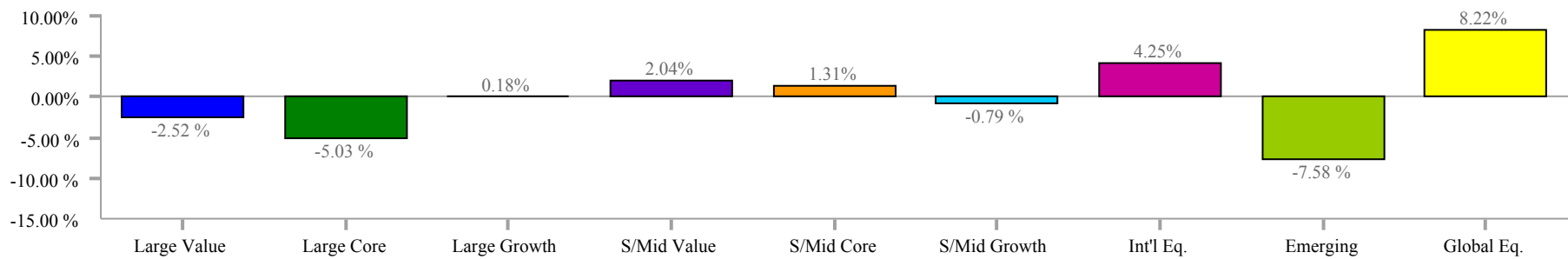
Milwaukee ERS



All Funds



Variance



Allocations shown may not sum up to 100% exactly due to rounding.

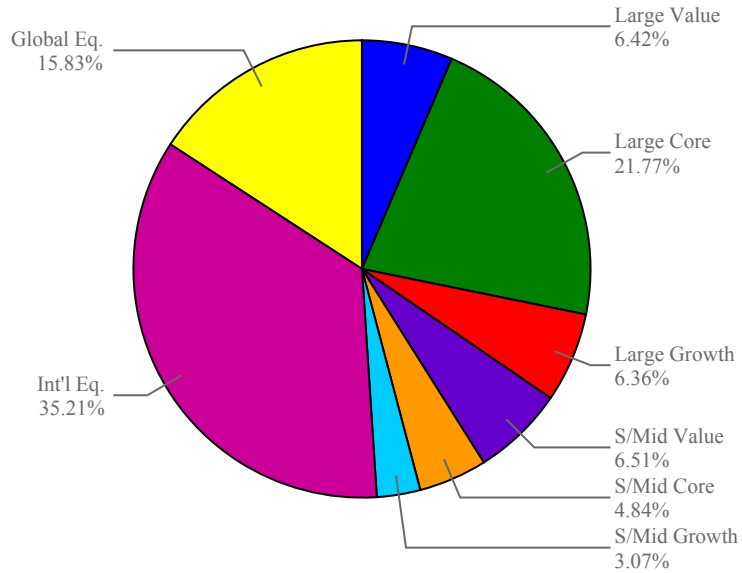
Equity Style Allocation

Milwaukee ERS vs. Average of Similar Size Funds

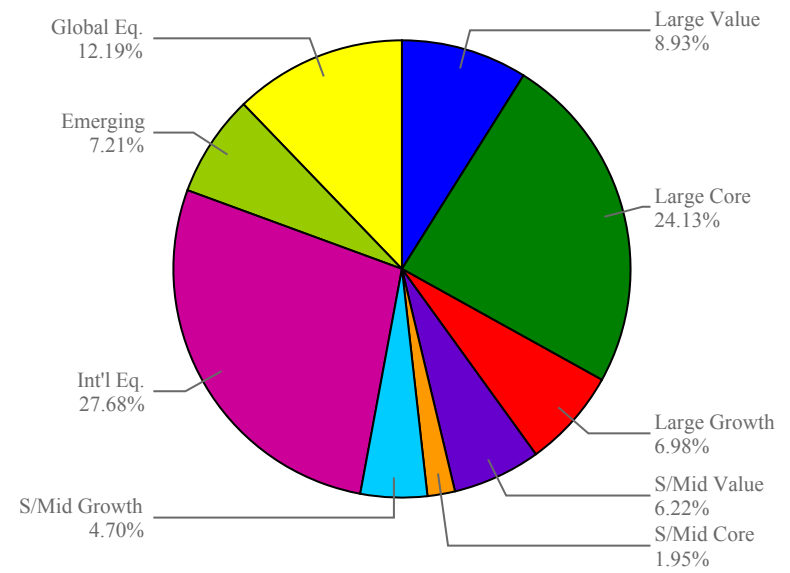
As of December 31, 2012

Fund Number: 105

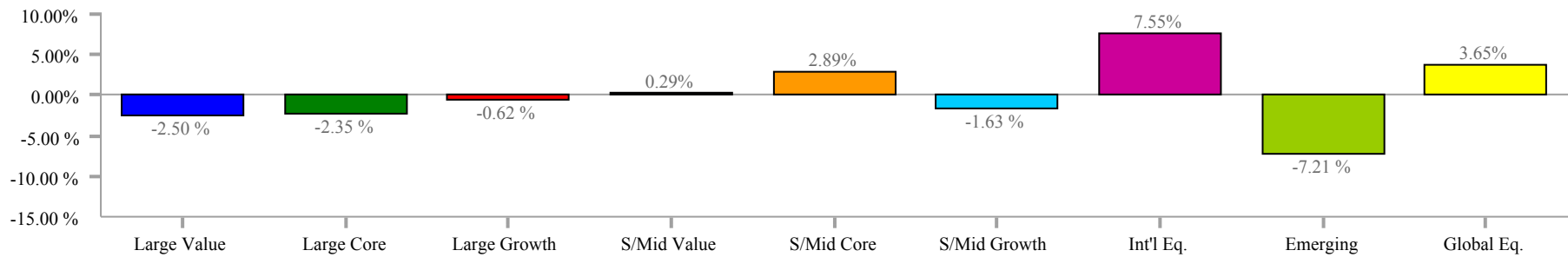
Milwaukee ERS



\$1-\$5 Billion



Variance



Allocations shown may not sum up to 100% exactly due to rounding.

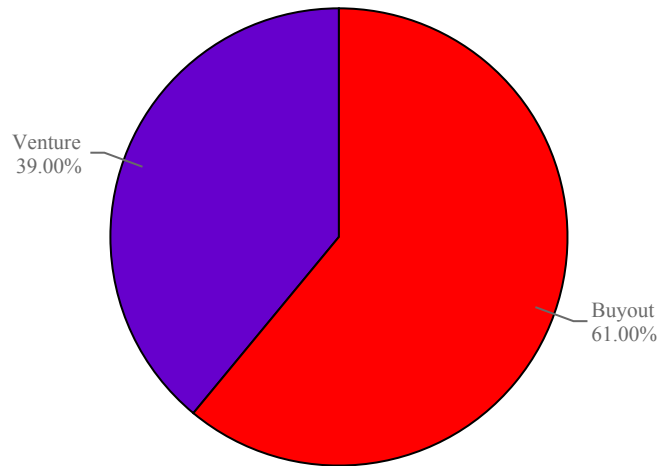
Alternatives Style Allocation

Milwaukee ERS vs. Average of All Funds

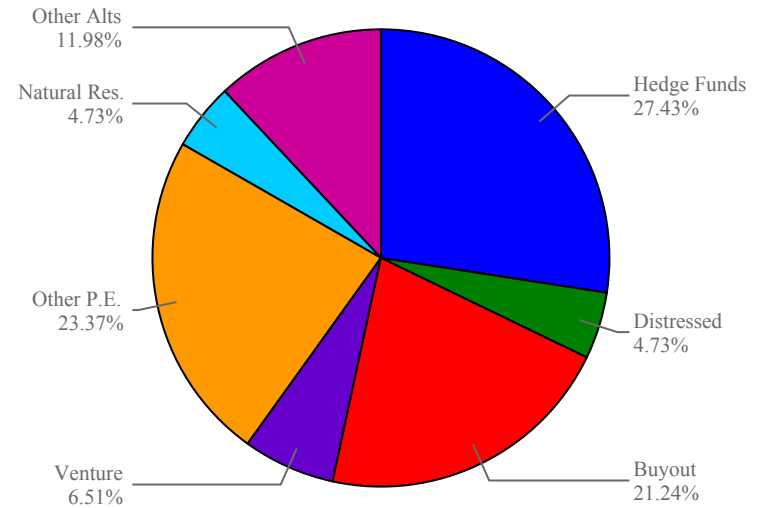
As of December 31, 2012

Fund Number: 105

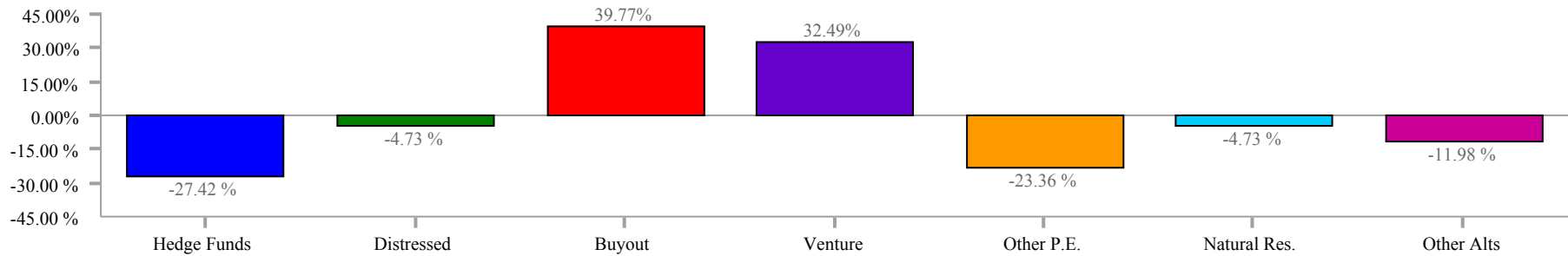
Milwaukee ERS



All Funds



Variance



Allocations shown may not sum up to 100% exactly due to rounding.

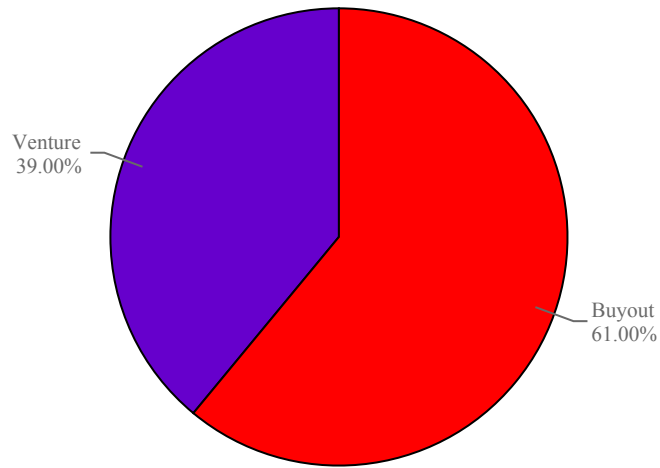
Alternatives Style Allocation

Milwaukee ERS vs. Average of Similar Size Funds

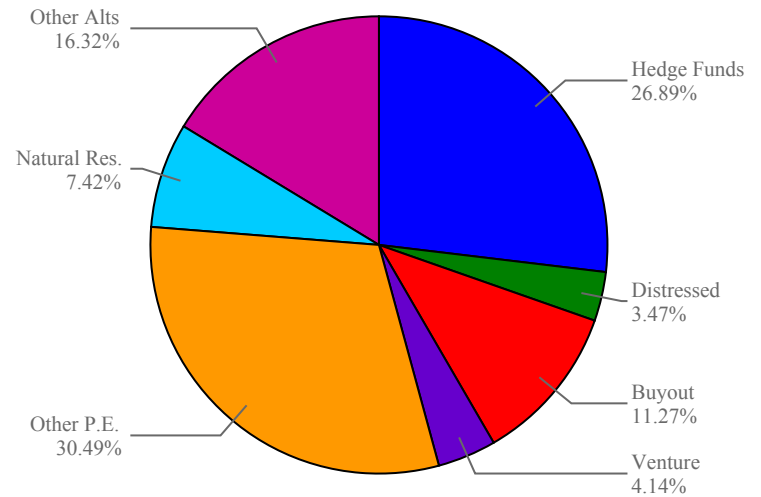
As of December 31, 2012

Fund Number: 105

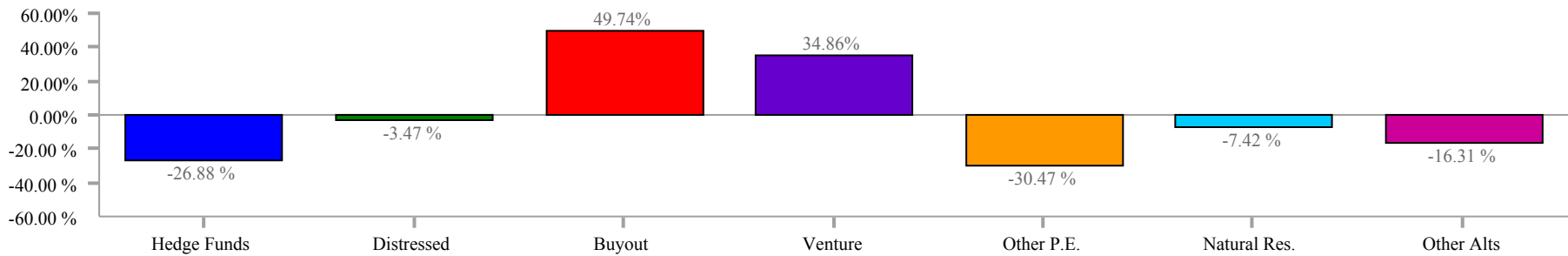
Milwaukee ERS



\$1-\$5 Billion



Variance



Allocations shown may not sum up to 100% exactly due to rounding.

Equity Style Allocation

As of December 31, 2012

Fund Number: 105

81 of 81 funds invest in Equity

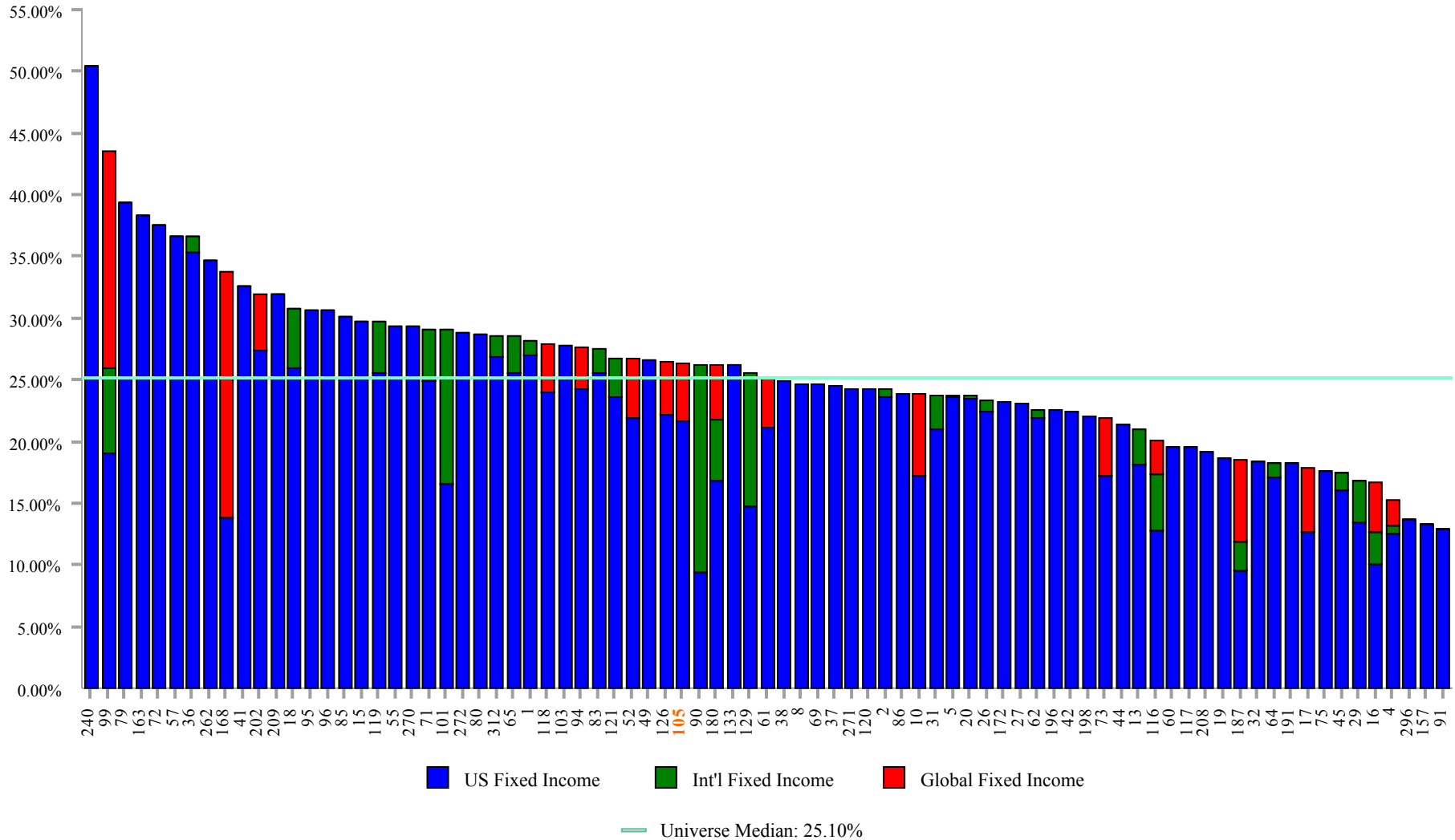


Fixed Income Style Allocation

As of December 31, 2012

Fund Number: 105

81 of 81 funds invest in Fixed Income

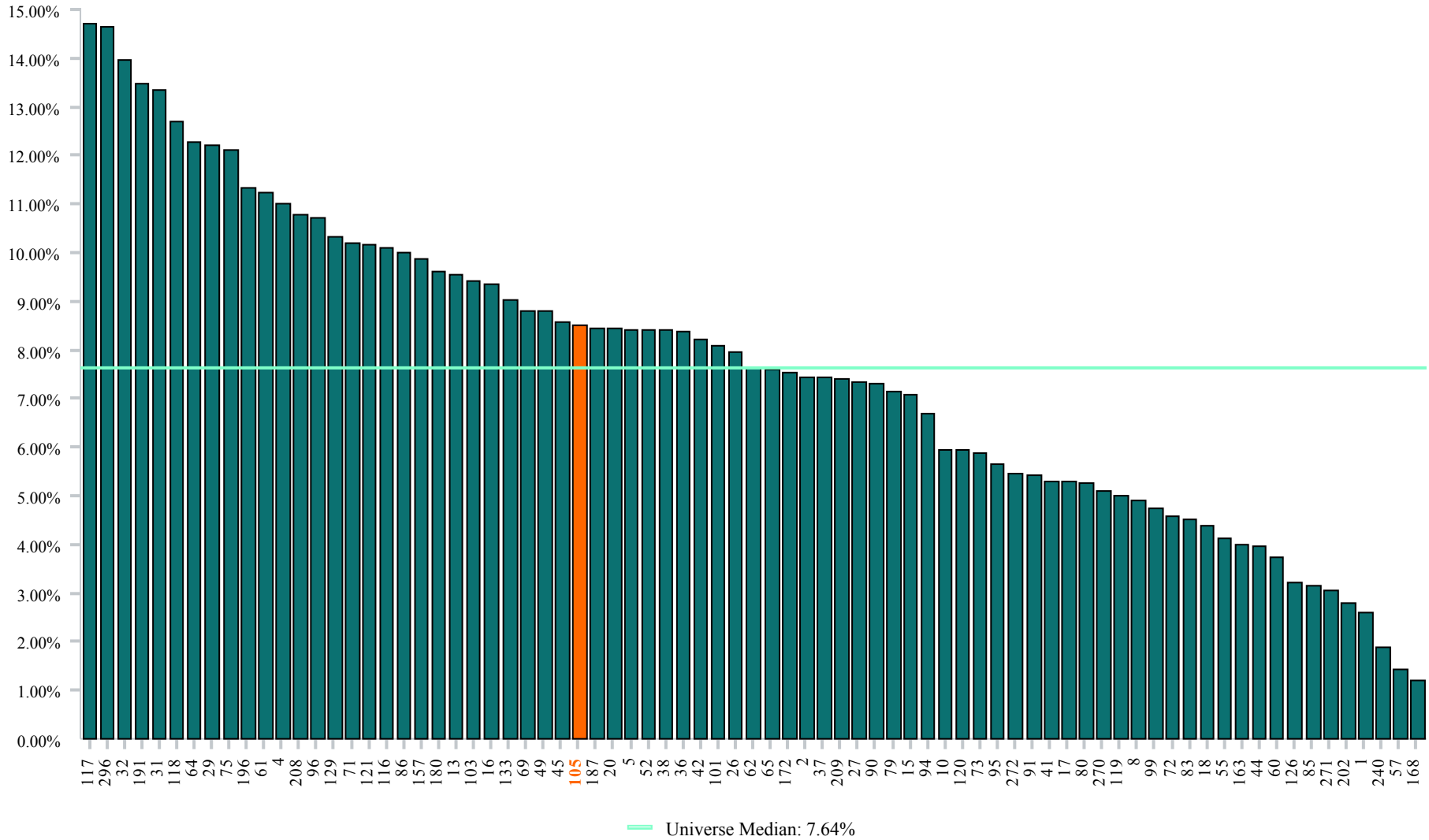


Real Estate Allocation

As of December 31, 2012

Fund Number: 105

77 of 81 funds invest in Real Estate

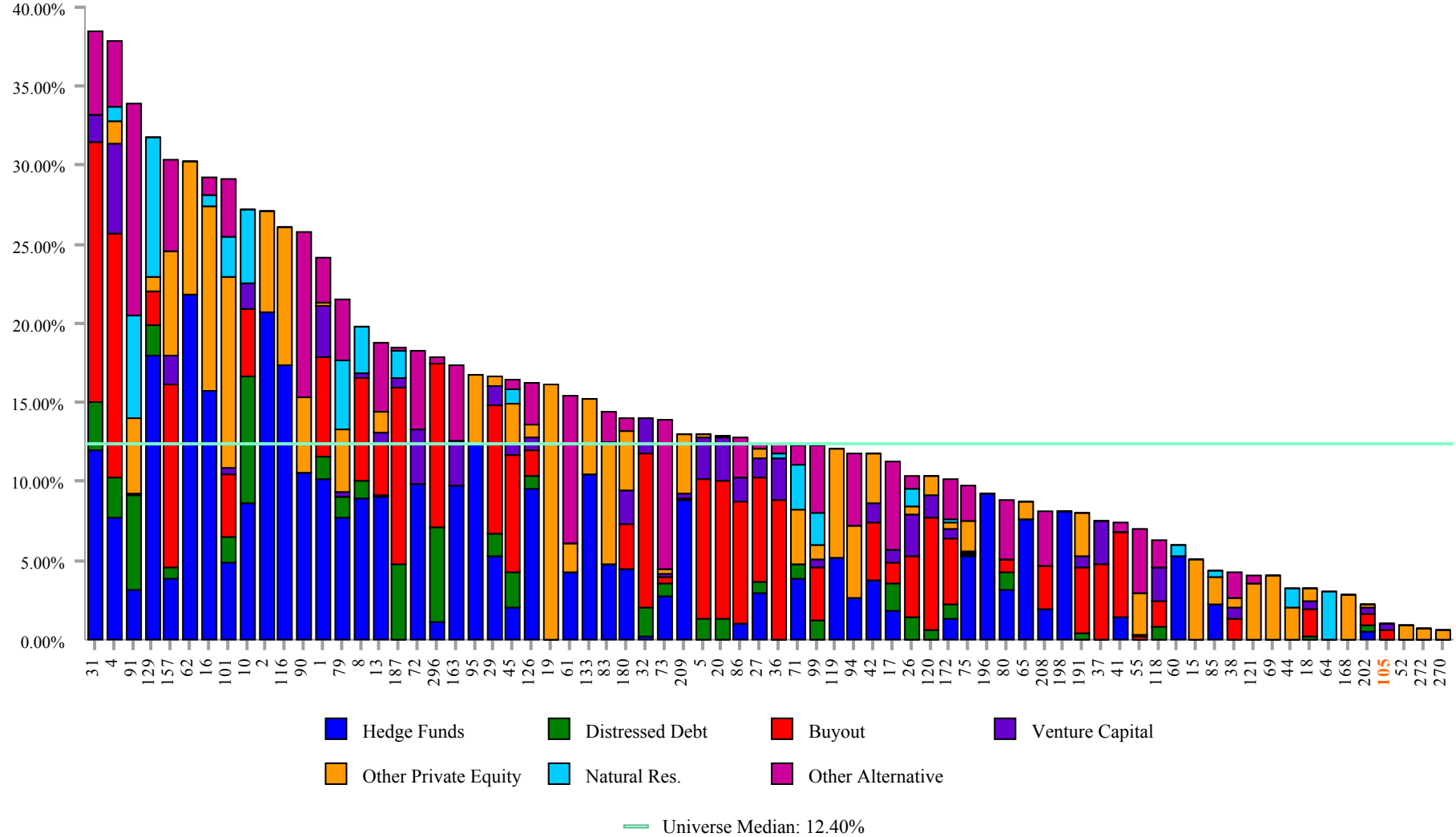


Alternatives Style Allocation

As of December 31, 2012

Fund Number: 105

72 of 81 funds invest in Alternatives

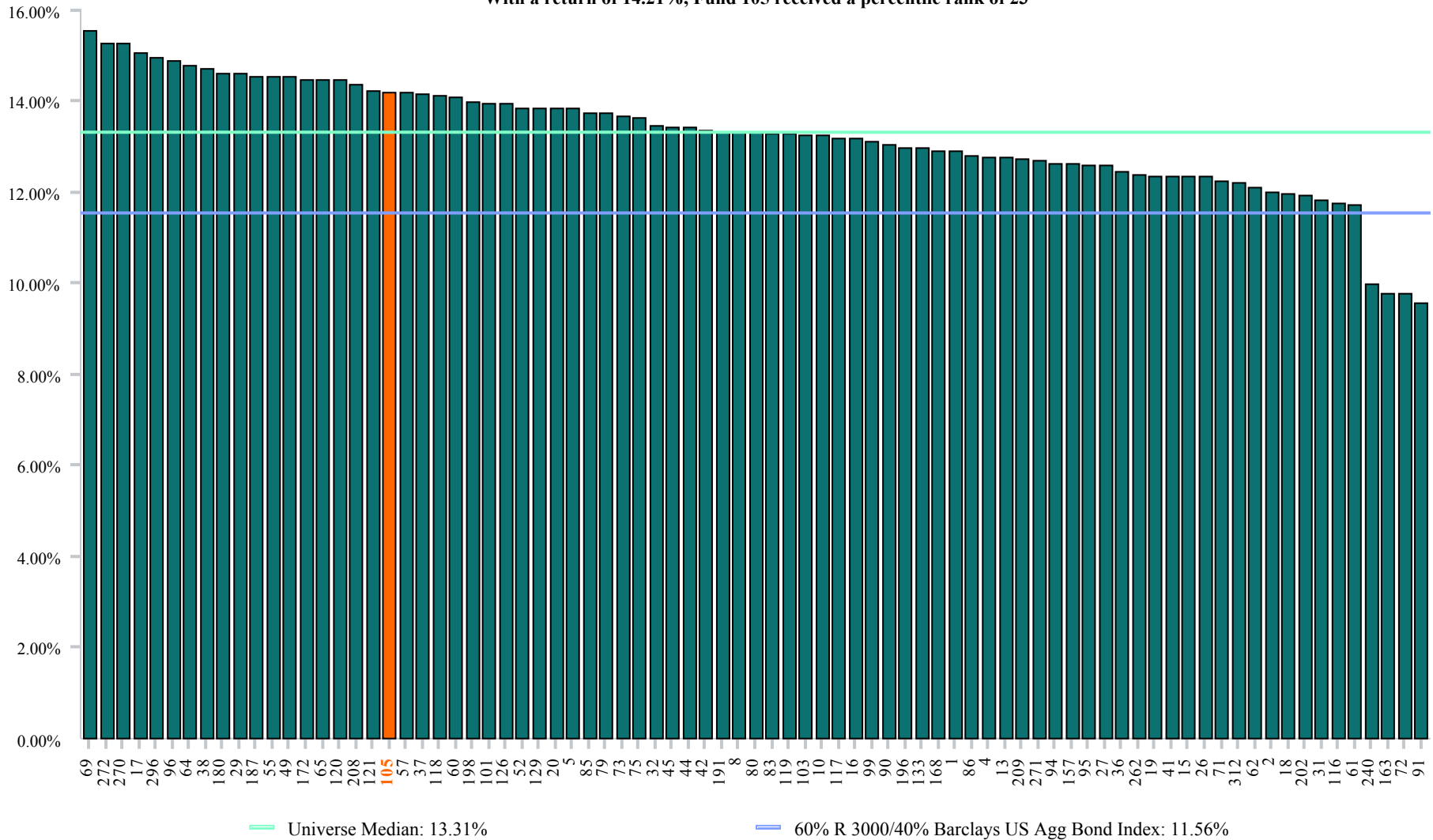


1 Year Annualized Total Fund Returns

As of December 31, 2012

Fund Number: 105

81 of 81 funds provided Total Fund returns for this time period
 With a return of 14.21%, Fund 105 received a percentile rank of 23



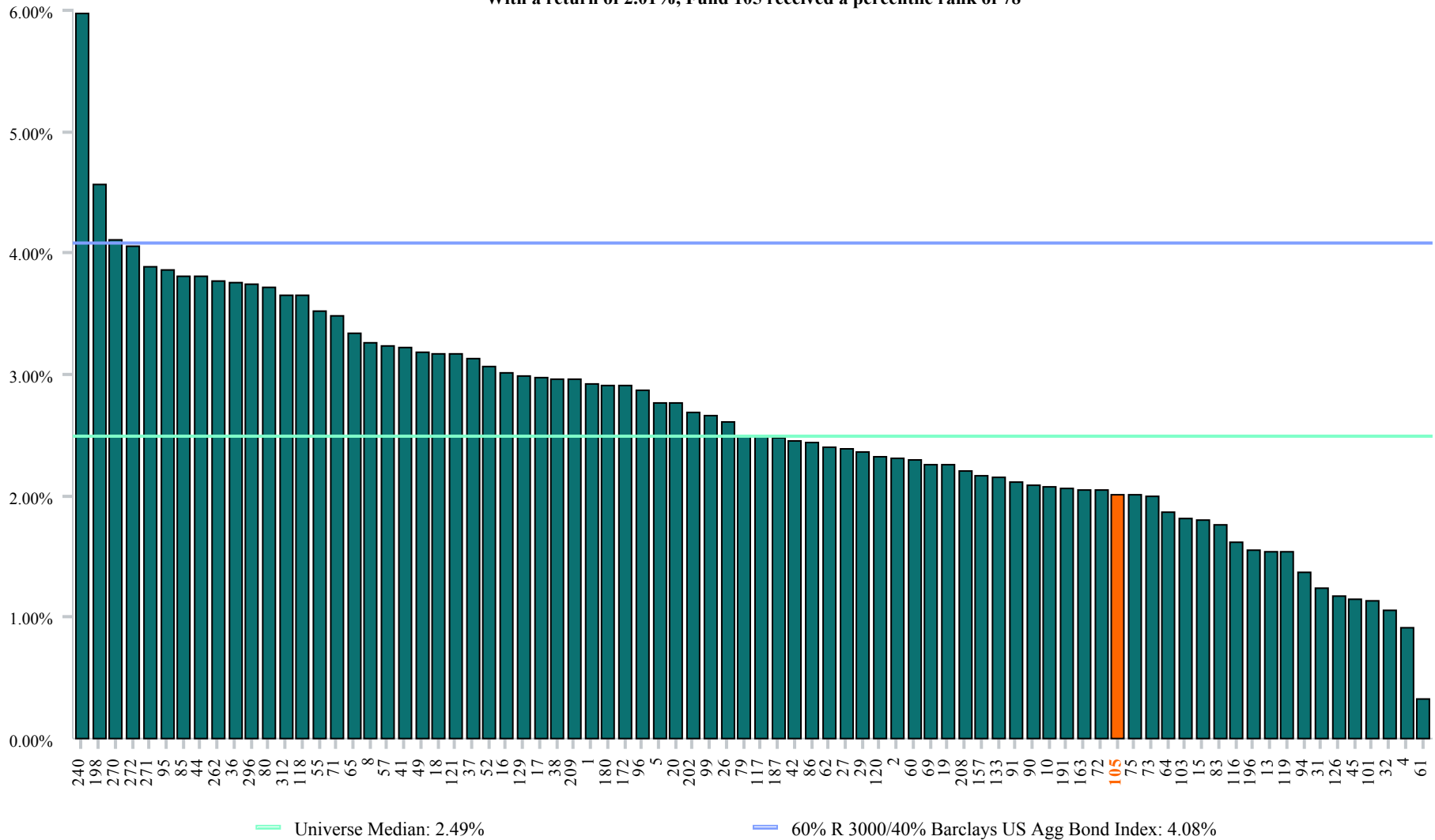
Funds with less history than the specified time period will not appear in the chart.

5 Year Annualized Total Fund Returns

As of December 31, 2012

Fund Number: 105

80 of 81 funds provided Total Fund returns for this time period
With a return of 2.01%, Fund 105 received a percentile rank of 78



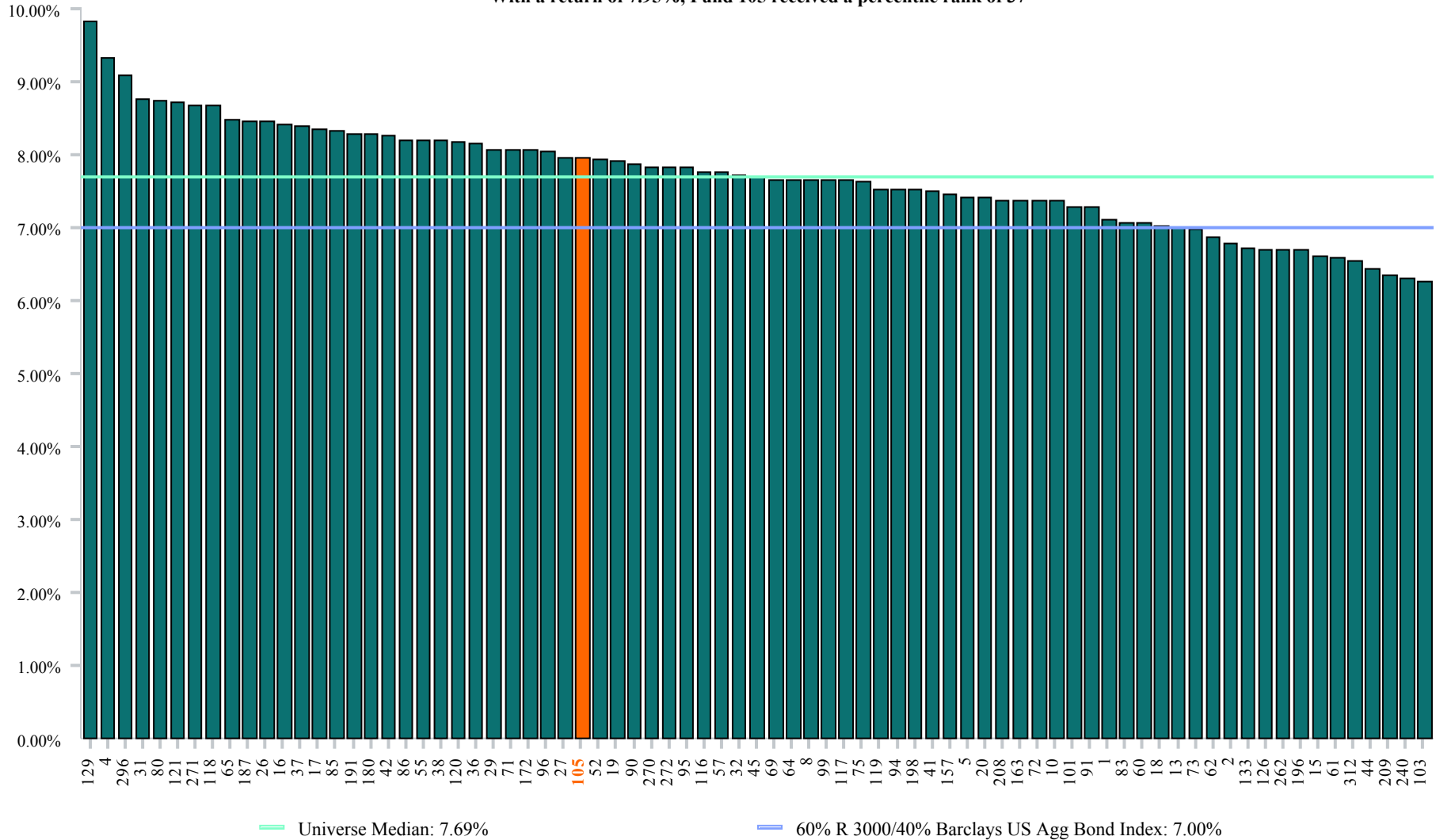
Funds with less history than the specified time period will not appear in the chart.

10 Year Annualized Total Fund Returns

As of December 31, 2012

Fund Number: 105

77 of 81 funds provided Total Fund returns for this time period
 With a return of 7.95%, Fund 105 received a percentile rank of 37



Funds with less history than the specified time period will not appear in the chart.

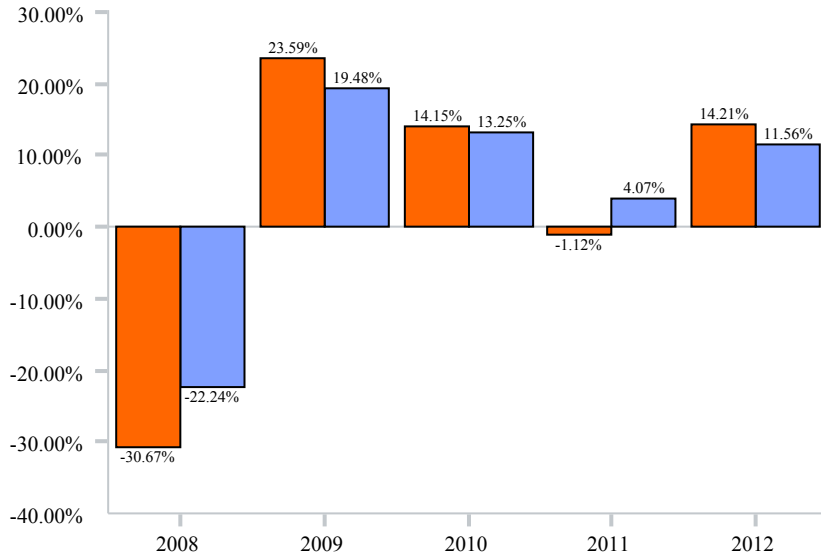
Total Return - Total Fund

Milwaukee ERS vs. 60% R 3000/40% Barclays US Agg Bond Index

As of December 31, 2012

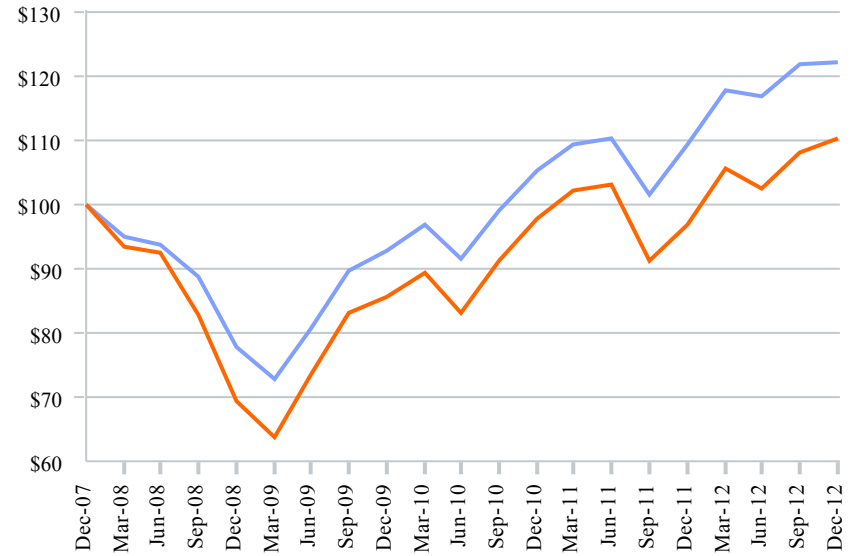
Fund Number: 105

Calendar Year Rates of Return



■ Milwaukee ERS
■ 60% R 3000/40% Barclays US Agg Bond Index

Cumulative Performance (Growth of \$100)



— Milwaukee ERS: \$110
— 60% R 3000/40% Barclays US Agg Bond Index: \$122

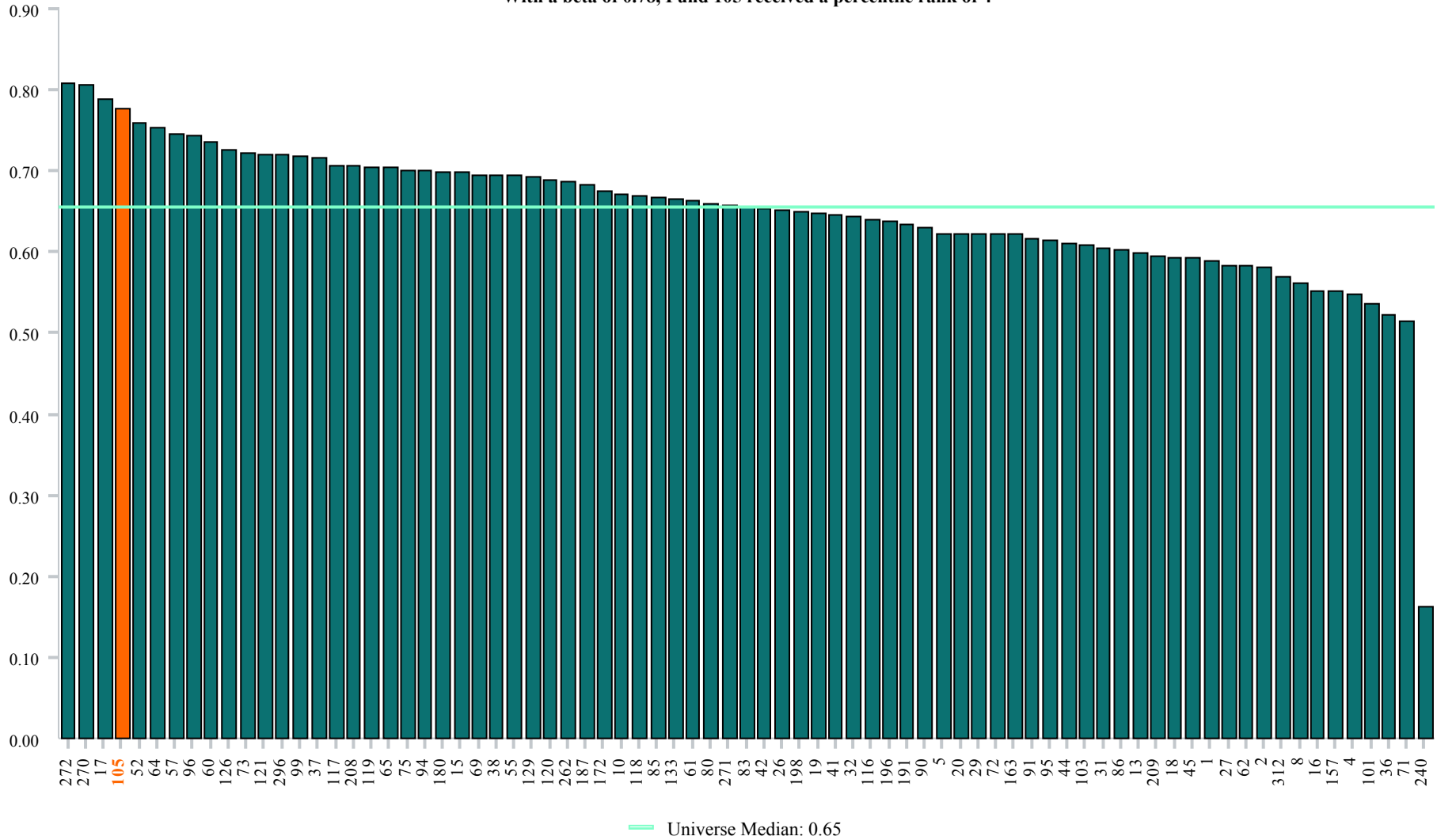
<u>Annualized Returns:</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>
Milwaukee ERS	14.21%	8.83%	2.01%
60% R 3000/40% Barclays US Agg Bond Index	11.56%	9.55%	4.08%
<i>Variance</i>	2.65%	-0.72%	-2.07%

10 Year Total Fund Beta

As of December 31, 2012

Fund Number: 105

77 of 81 funds provided Total Fund returns for this time period
 With a beta of 0.78, Fund 105 received a percentile rank of 4



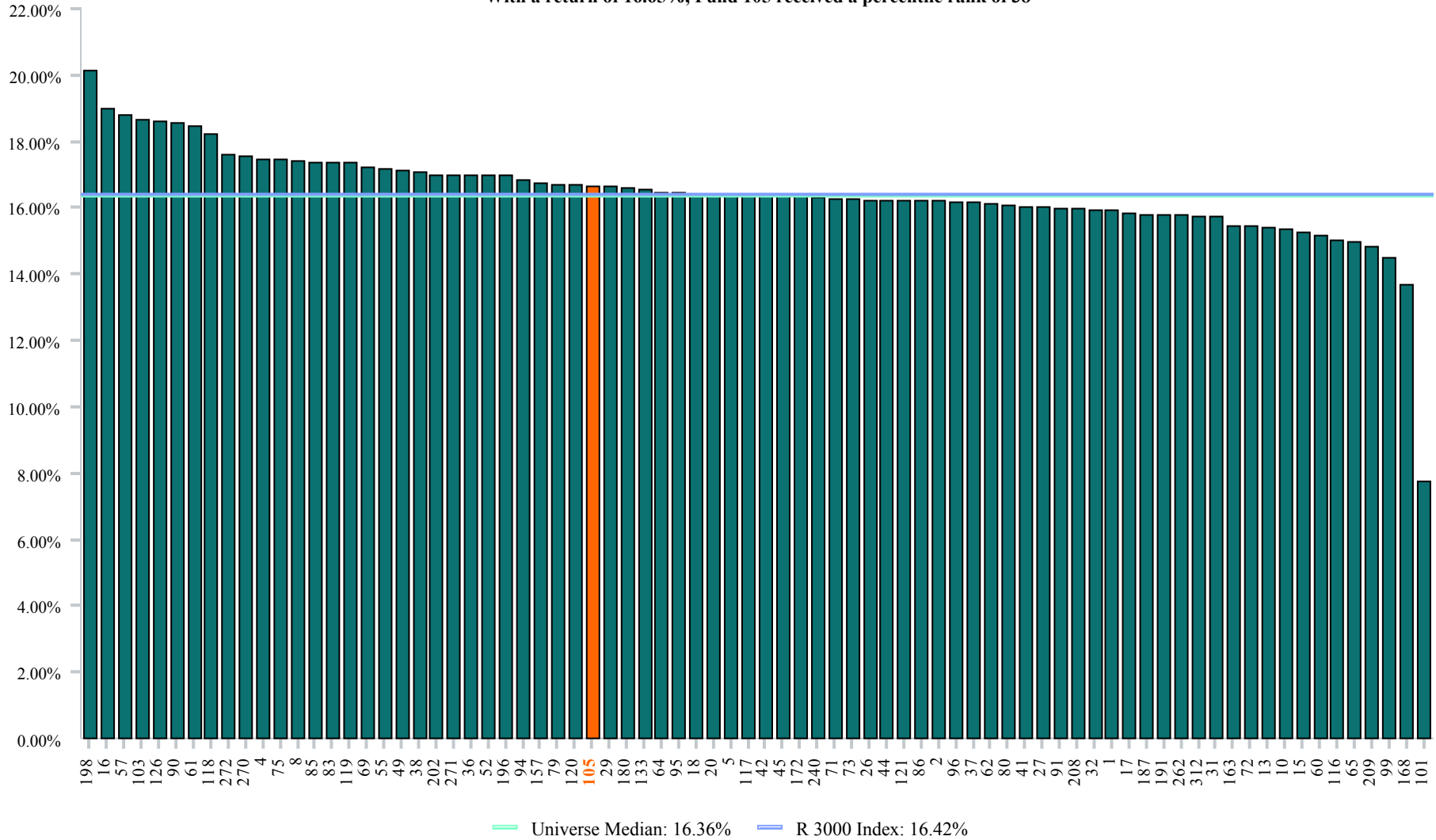
Funds with less history than the specified time period will not appear in the chart. Benchmark used is the S&P 500 Index (Cap Wtd).

1 Year Annualized US Equity Returns

As of December 31, 2012

Fund Number: 105

78 of 81 funds provided US Equity returns for this time period
 With a return of 16.65%, Fund 105 received a percentile rank of 38



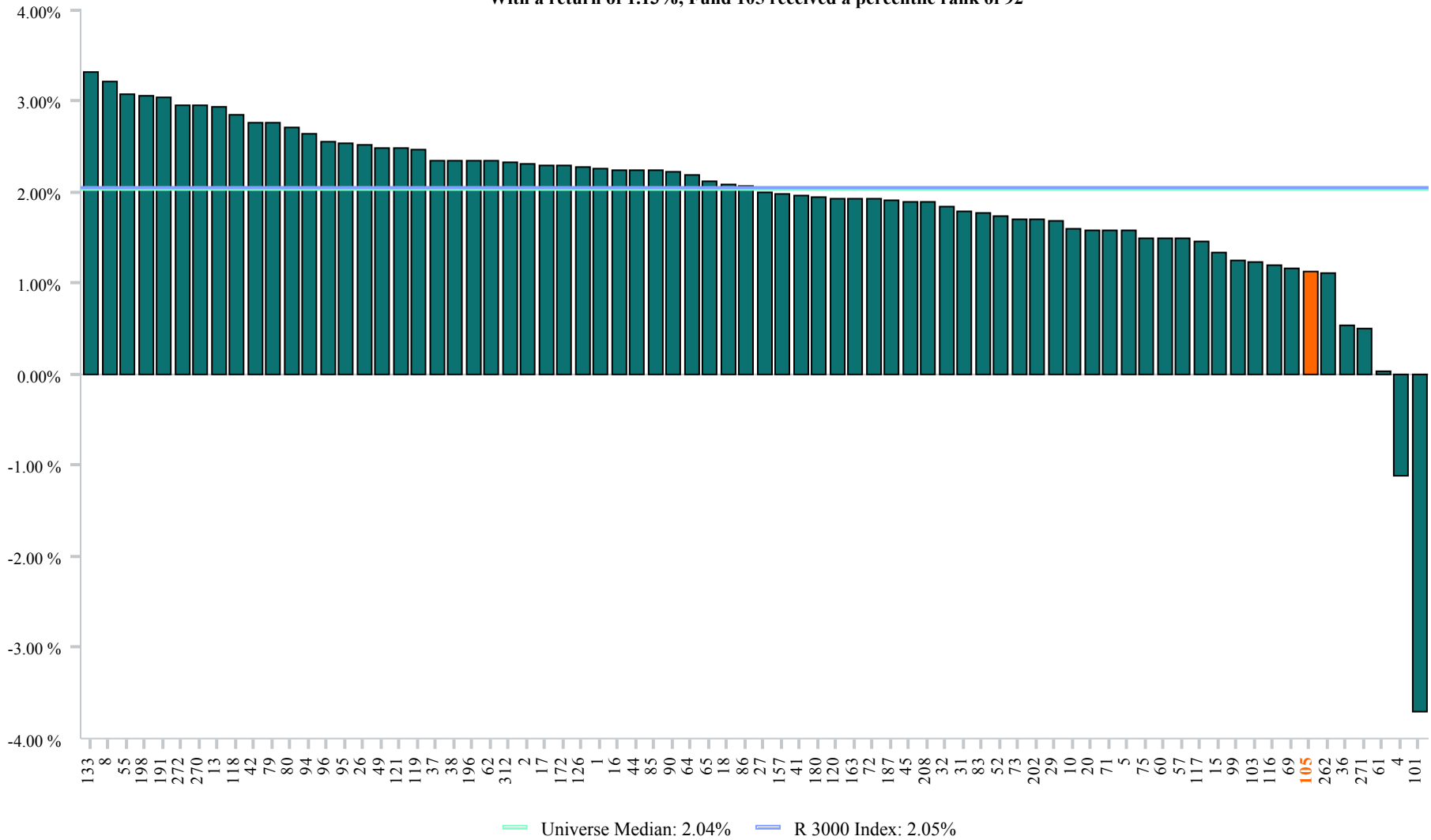
Funds with less history than the specified time period will not appear in the chart.

5 Year Annualized US Equity Returns

As of December 31, 2012

Fund Number: 105

74 of 81 funds provided US Equity returns for this time period
 With a return of 1.13%, Fund 105 received a percentile rank of 92



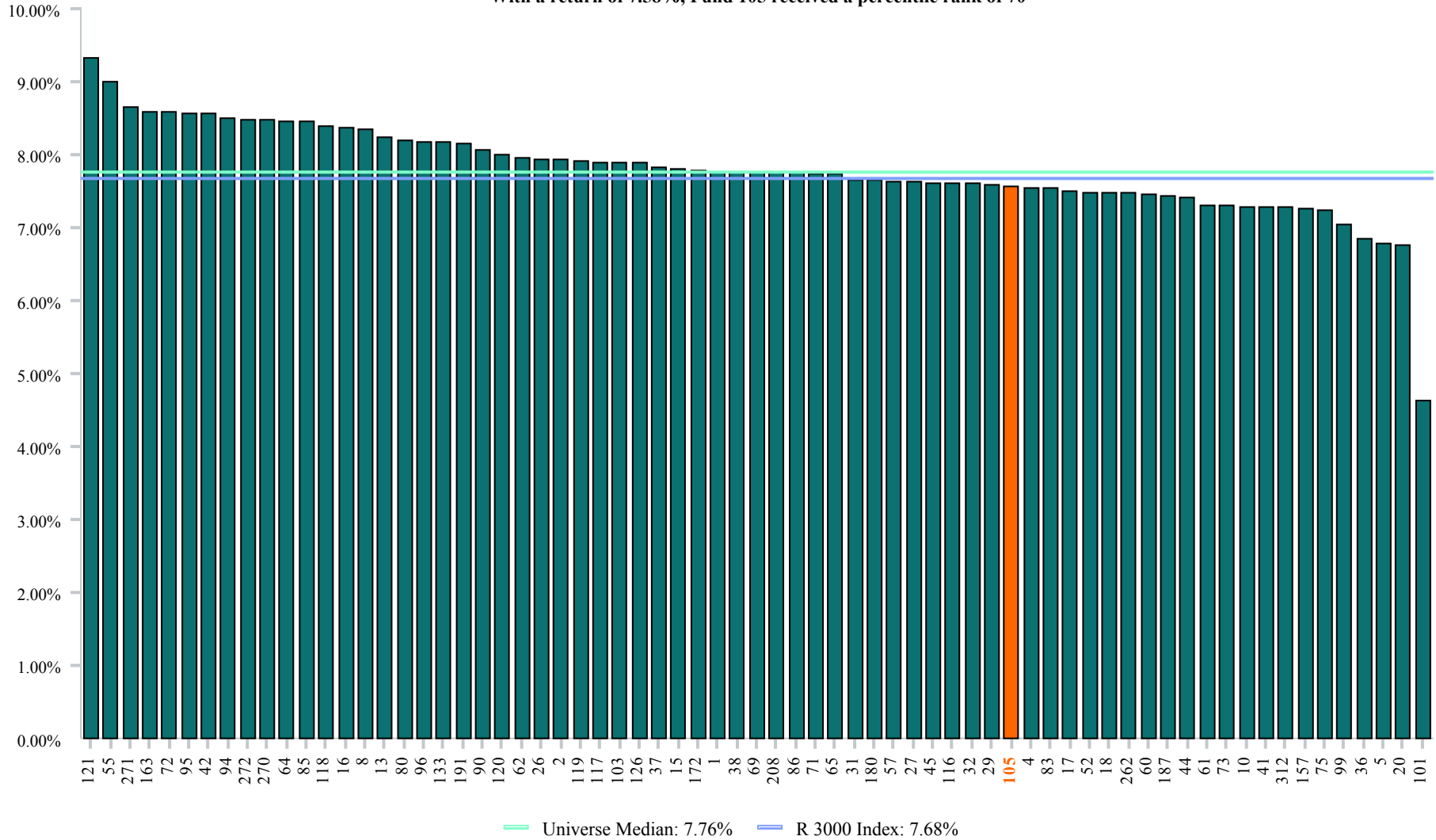
Funds with less history than the specified time period will not appear in the chart.

10 Year Annualized US Equity Returns

As of December 31, 2012

Fund Number: 105

69 of 81 funds provided US Equity returns for this time period
 With a return of 7.58%, Fund 105 received a percentile rank of 70



Funds with less history than the specified time period will not appear in the chart.

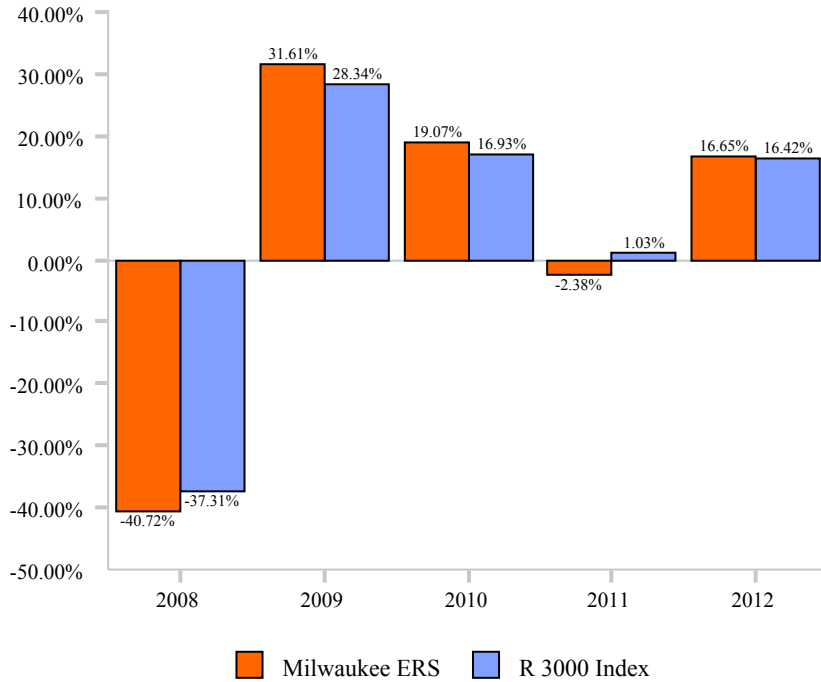
Total Return - US Equity

Milwaukee ERS vs. R 3000 Index

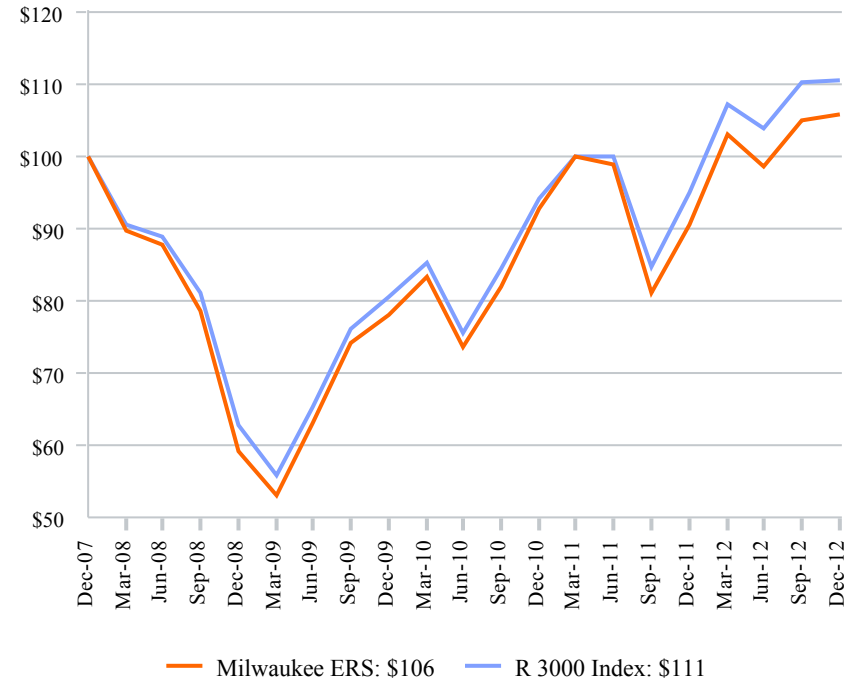
As of December 31, 2012

Fund Number: 105

Calendar Year Rates of Return



Cumulative Performance (Growth of \$100)



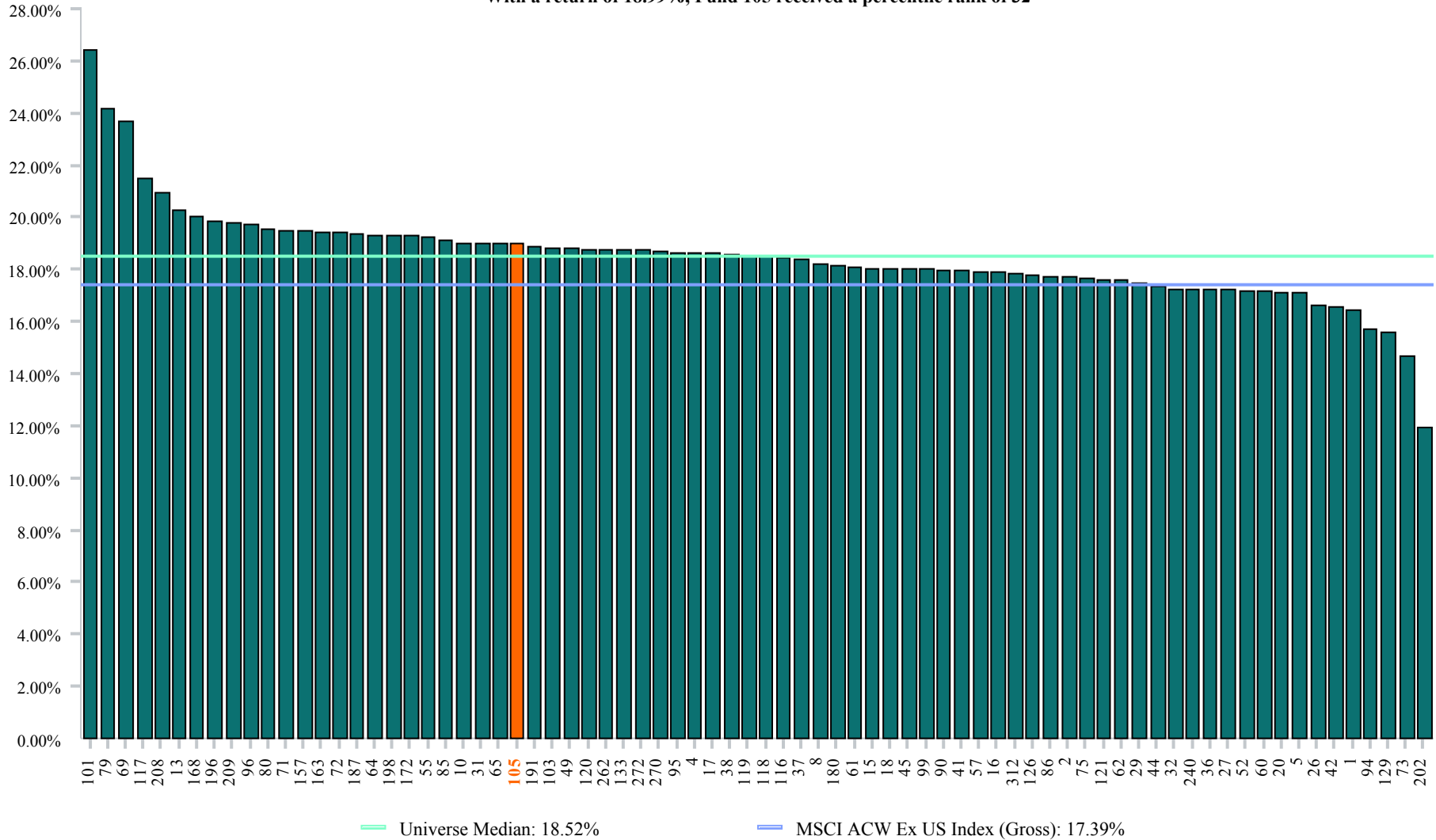
Annualized Returns:	1 Year	3 Years	5 Years
Milwaukee ERS	16.65%	10.69%	1.13%
R 3000 Index	16.42%	11.21%	2.05%
<i>Variance</i>	<i>0.23%</i>	<i>-0.52%</i>	<i>-0.92%</i>

1 Year Annualized International Equity Returns

As of December 31, 2012

Fund Number: 105

76 of 81 funds provided International Equity returns for this time period
With a return of 18.99%, Fund 105 received a percentile rank of 32



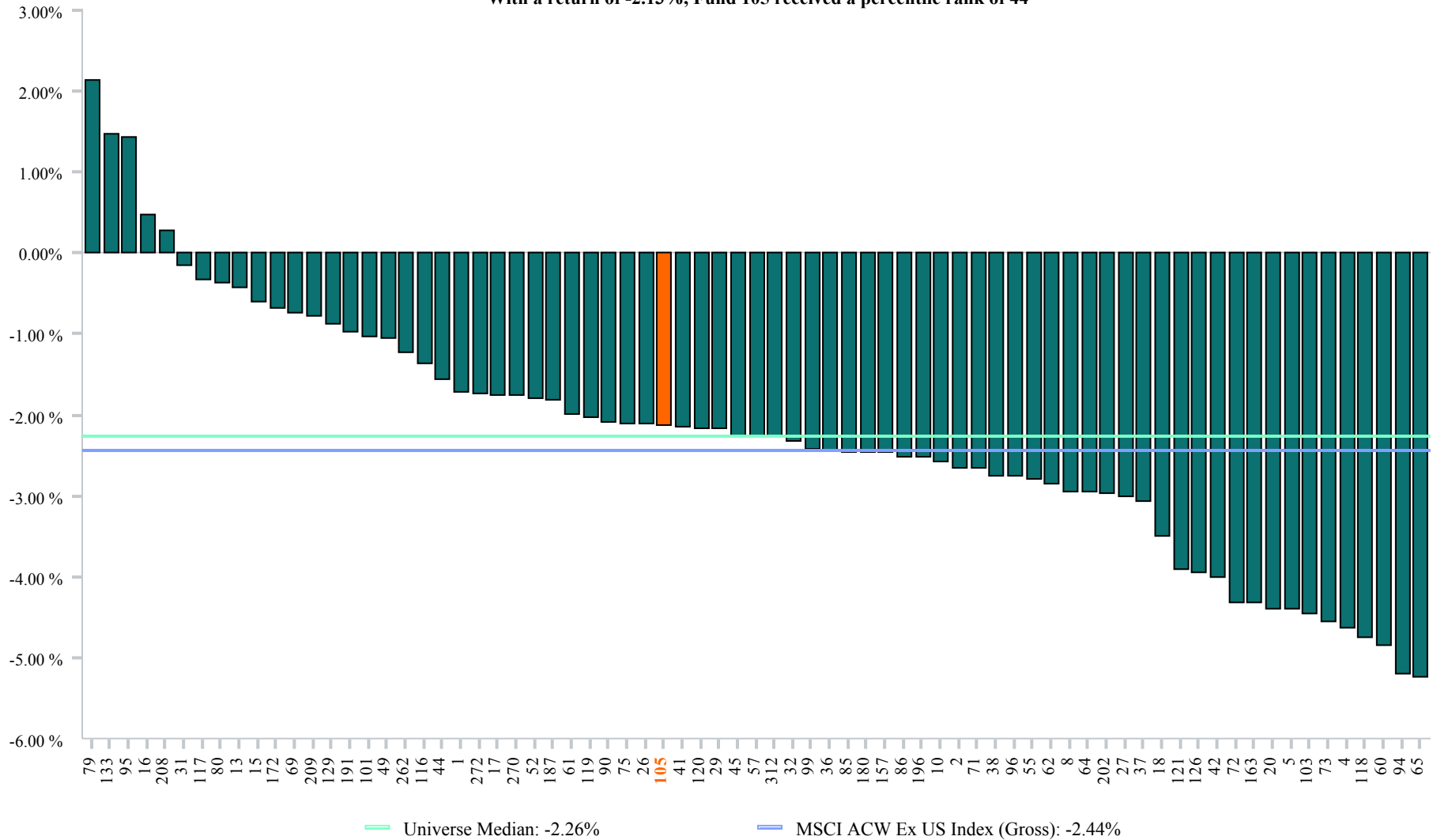
Funds with less history than the specified time period will not appear in the chart.

5 Year Annualized International Equity Returns

As of December 31, 2012

Fund Number: 105

73 of 81 funds provided International Equity returns for this time period
 With a return of -2.13%, Fund 105 received a percentile rank of 44



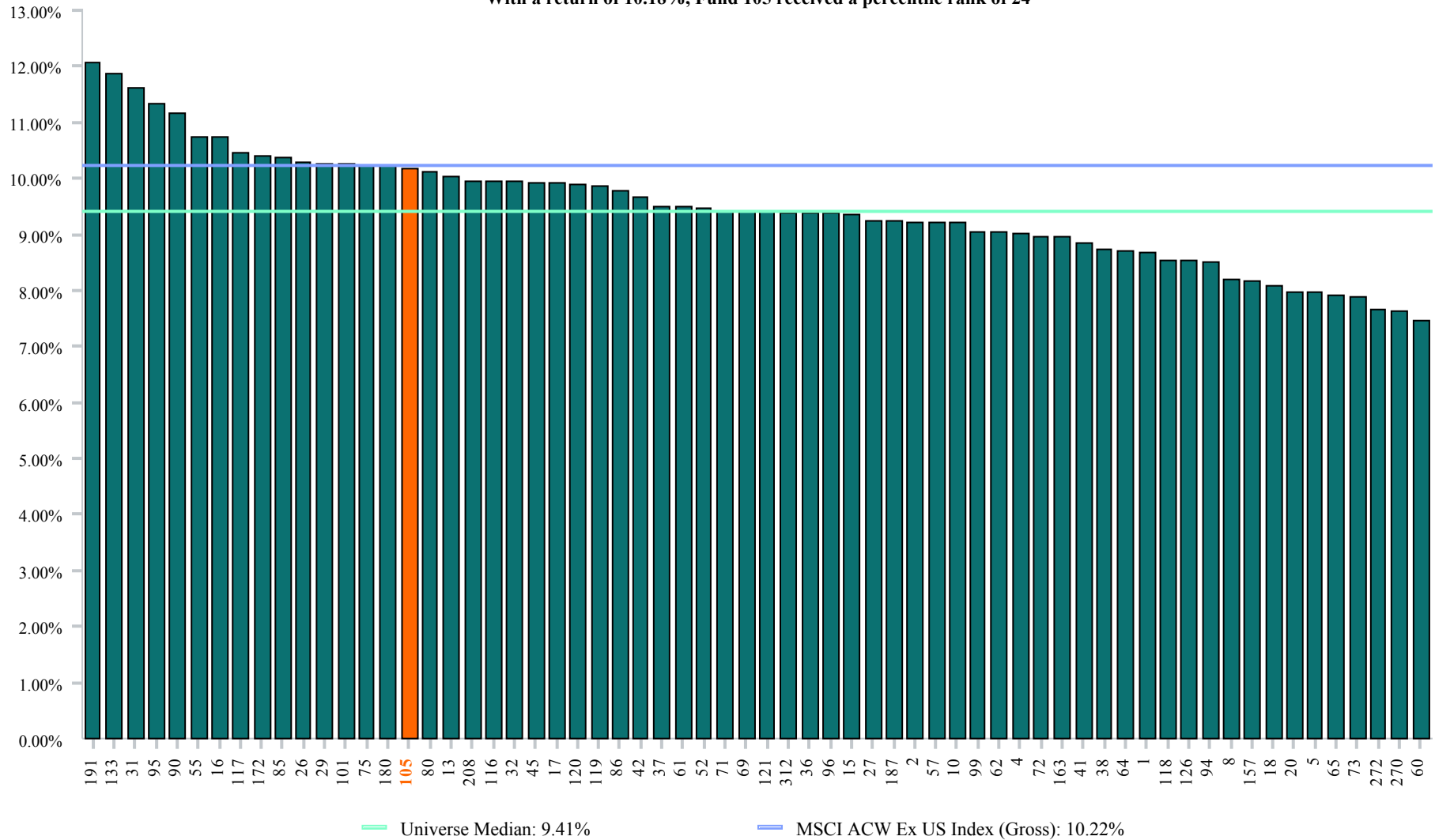
Funds with less history than the specified time period will not appear in the chart.

10 Year Annualized International Equity Returns

As of December 31, 2012

Fund Number: 105

64 of 81 funds provided International Equity returns for this time period
 With a return of 10.18%, Fund 105 received a percentile rank of 24



— Universe Median: 9.41%

— MSCI ACW Ex US Index (Gross): 10.22%

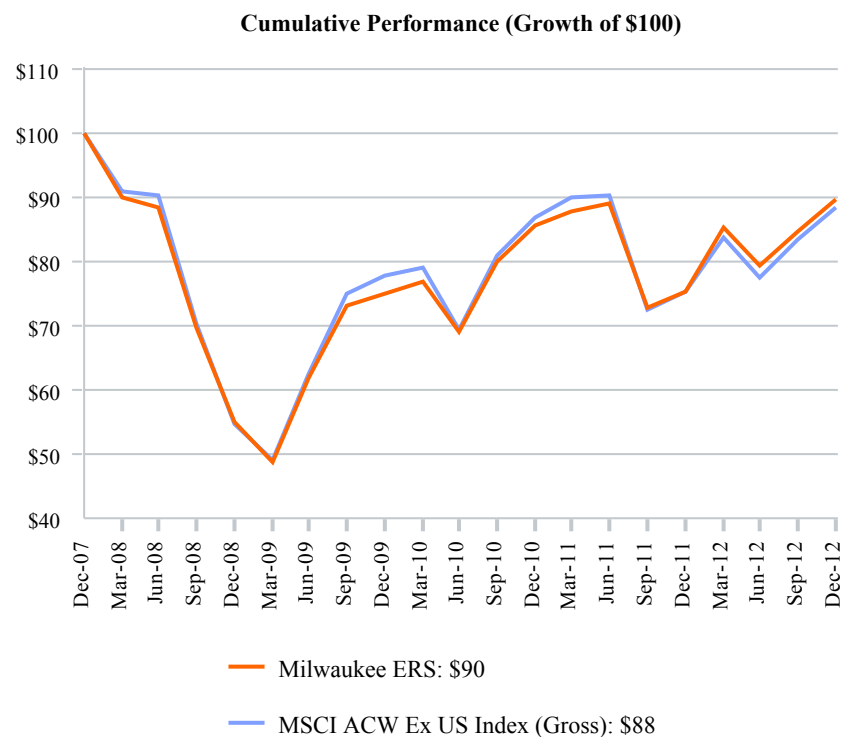
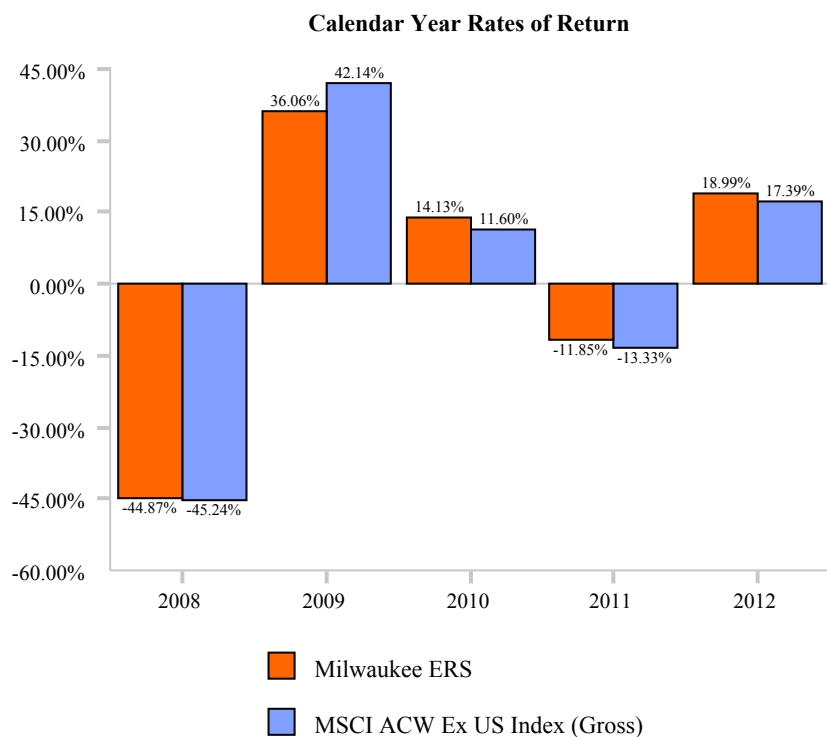
Funds with less history than the specified time period will not appear in the chart.

Total Return - International Equity

Milwaukee ERS vs. MSCI ACW Ex US Index (Gross)

As of December 31, 2012

Fund Number: 105



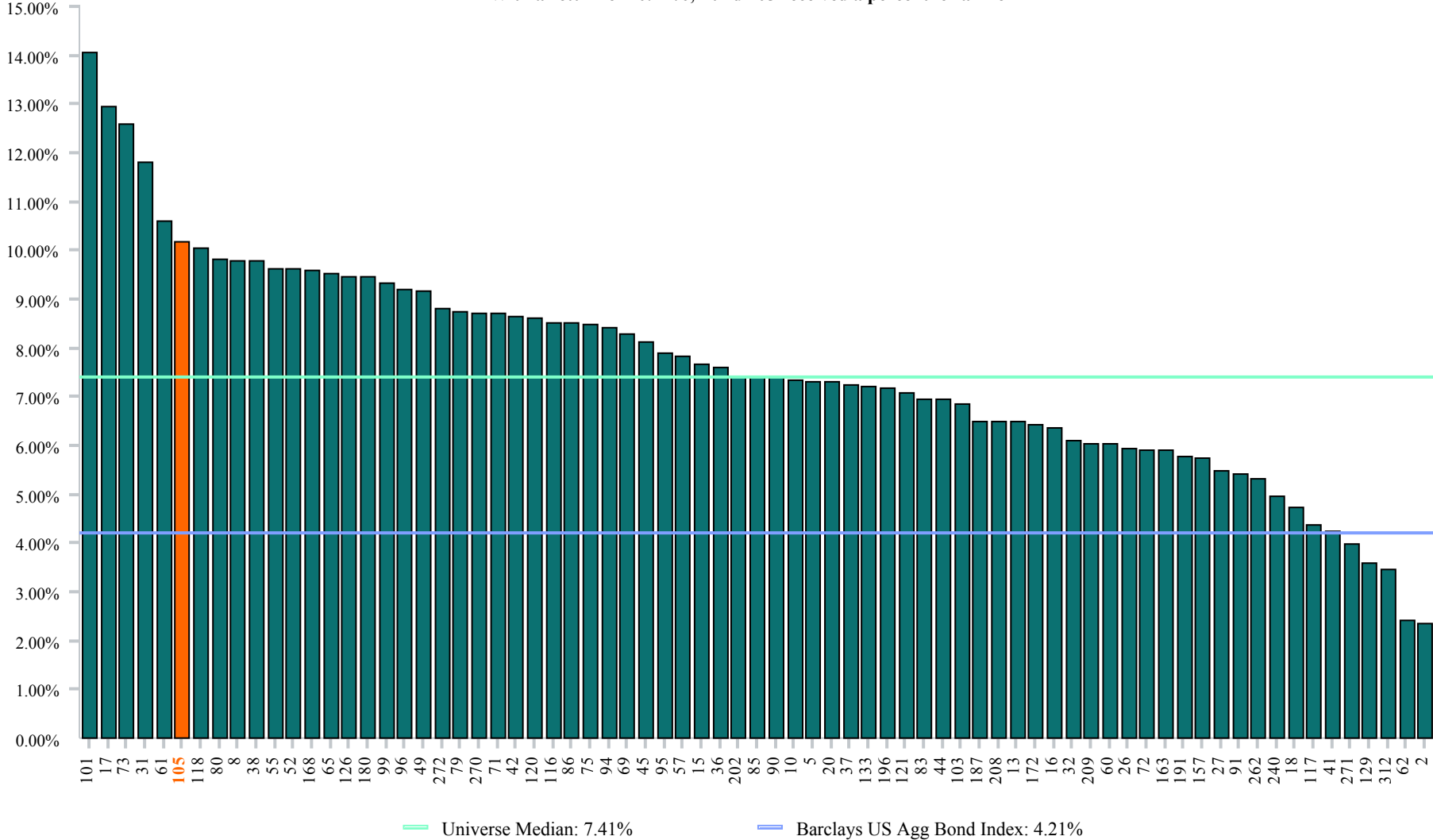
<u>Annualized Returns:</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>
Milwaukee ERS	18.99%	6.18%	-2.13%
MSCI ACW Ex US Index (Gross)	17.39%	4.33%	-2.44%
<i>Variance</i>	<i>1.60%</i>	<i>1.85%</i>	<i>0.31%</i>

1 Year Annualized US Fixed Income Returns

As of December 31, 2012

Fund Number: 105

73 of 75 funds provided US Fixed Income returns for this time period
 With a return of 10.17%, Fund 105 received a percentile rank of 7



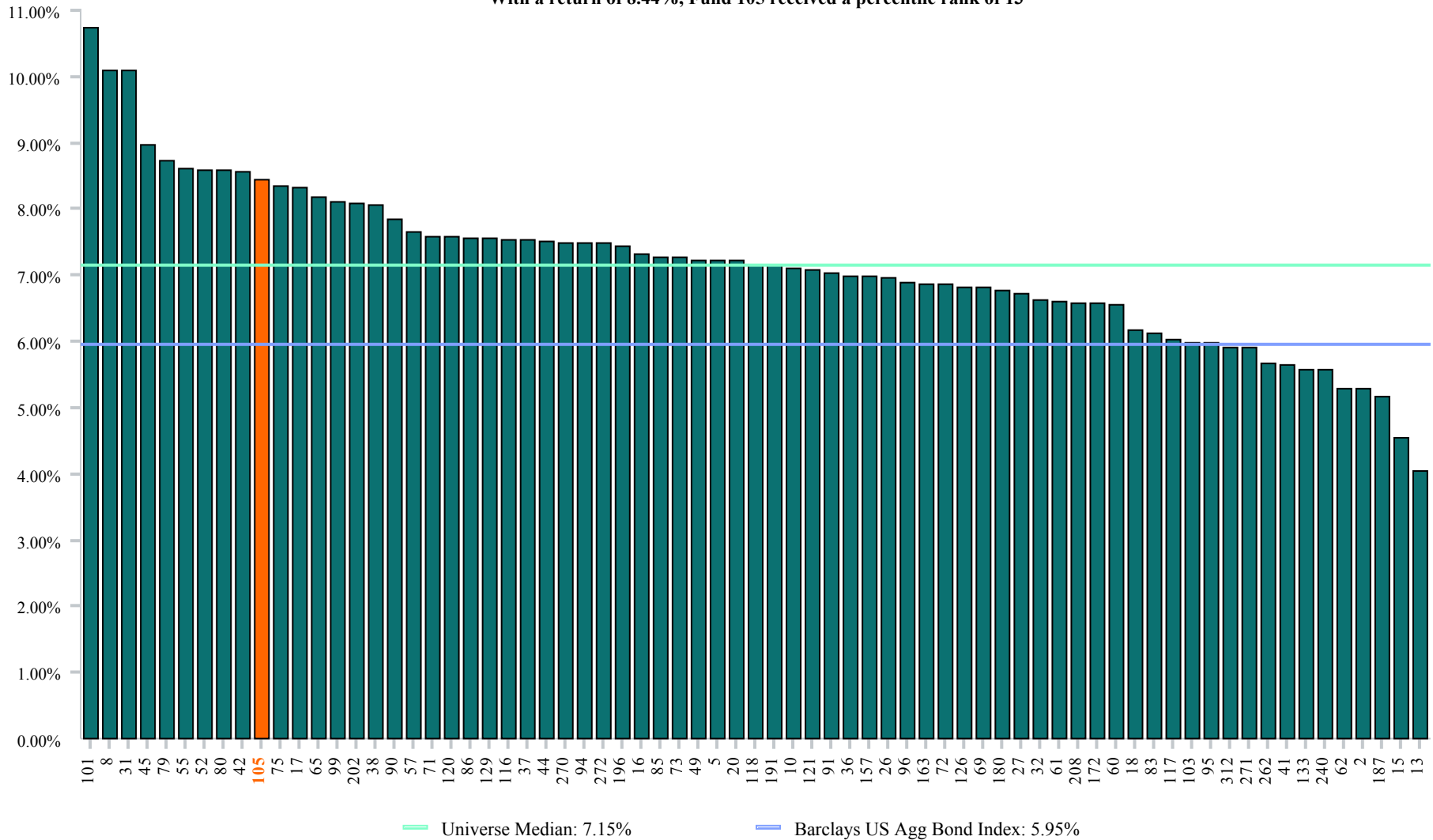
Funds with less history than the specified time period will not appear in the chart.

5 Year Annualized US Fixed Income Returns

As of December 31, 2012

Fund Number: 105

71 of 75 funds provided US Fixed Income returns for this time period
 With a return of 8.44%, Fund 105 received a percentile rank of 13



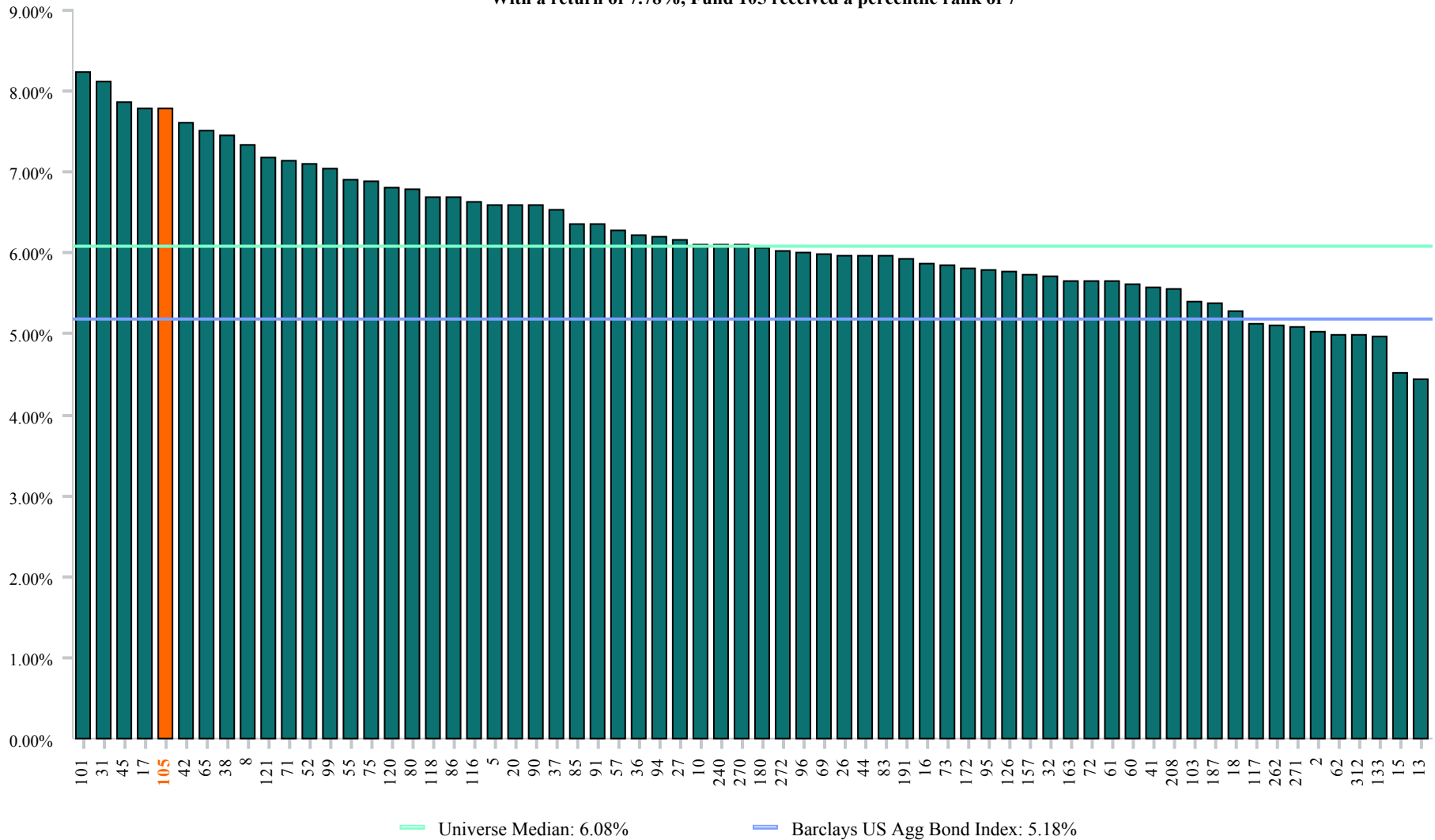
Funds with less history than the specified time period will not appear in the chart.

10 Year Annualized US Fixed Income Returns

As of December 31, 2012

Fund Number: 105

66 of 75 funds provided US Fixed Income returns for this time period
 With a return of 7.78%, Fund 105 received a percentile rank of 7



Funds with less history than the specified time period will not appear in the chart.

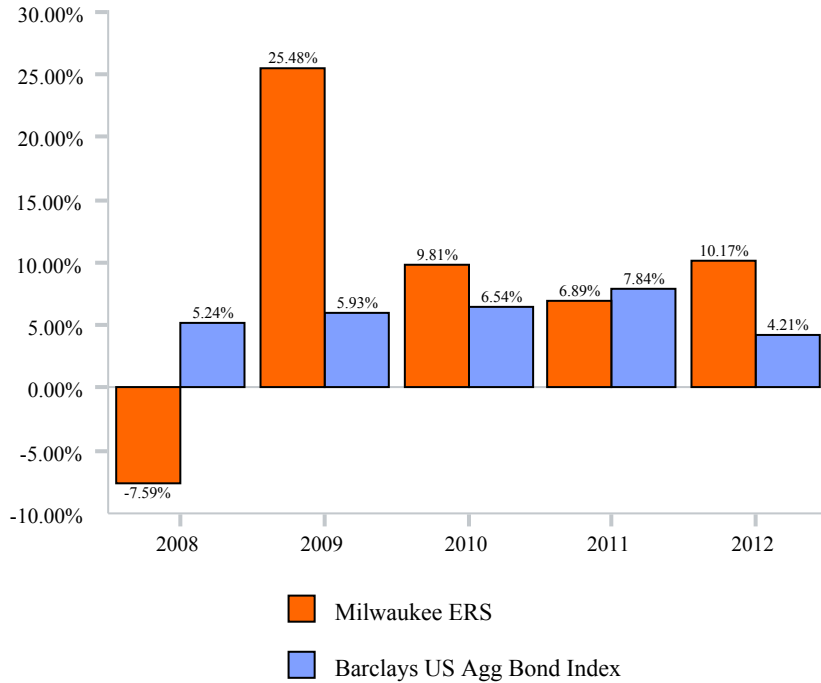
Total Return - US Fixed Income

Milwaukee ERS vs. Barclays US Agg Bond Index

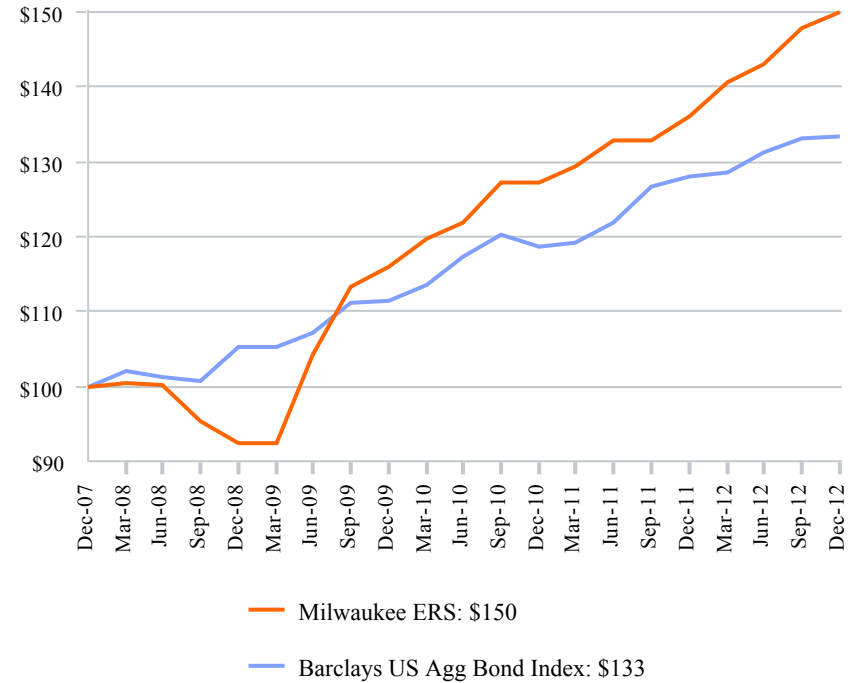
As of December 31, 2012

Fund Number: 105

Calendar Year Rates of Return



Cumulative Performance (Growth of \$100)



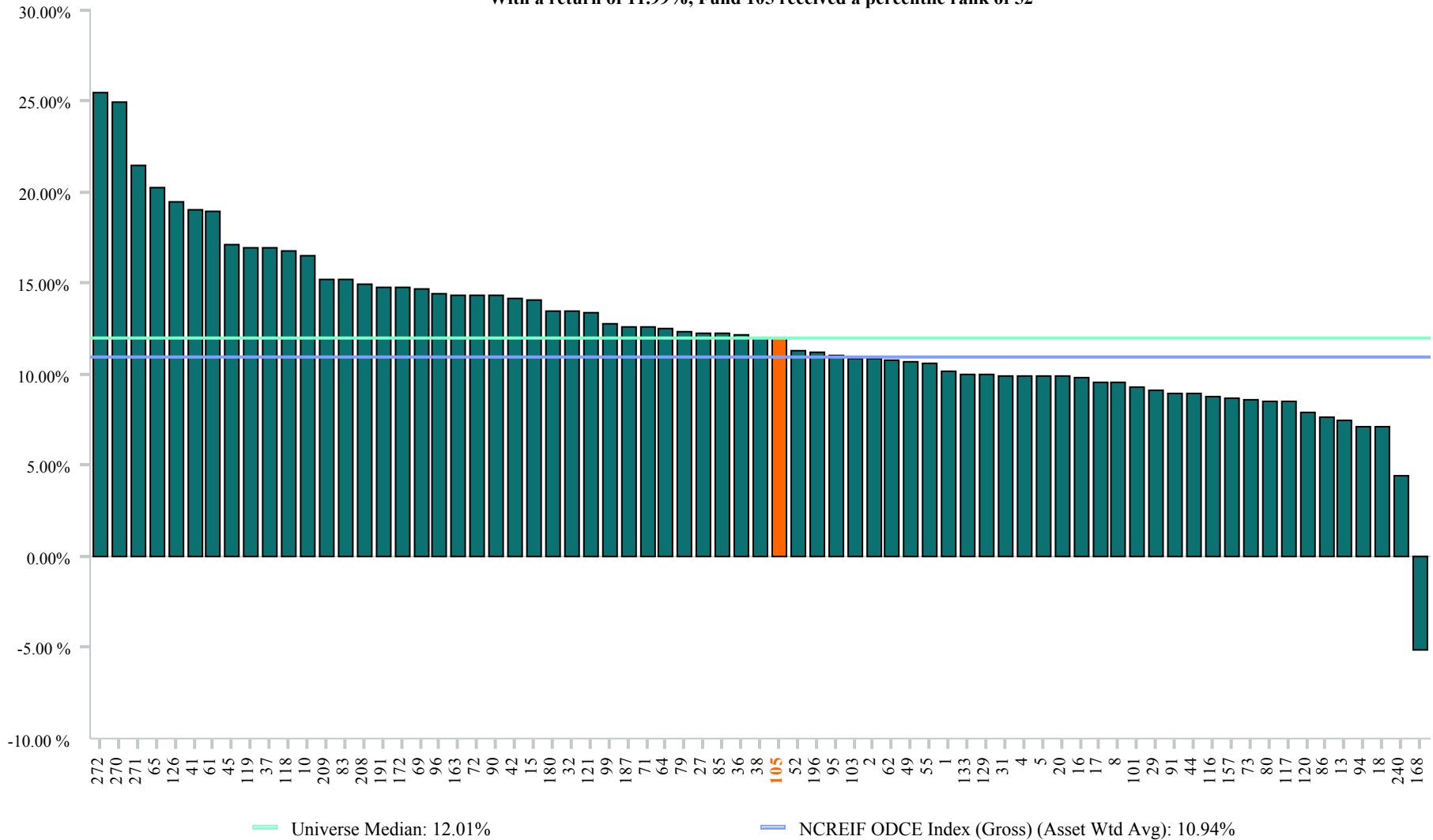
<u>Annualized Returns:</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>
Milwaukee ERS	10.17%	8.95%	8.44%
Barclays US Agg Bond Index	4.21%	6.19%	5.95%
<i>Variance</i>	5.96%	2.76%	2.49%

1 Year Annualized Real Estate Returns

As of December 31, 2012

Fund Number: 105

71 of 81 funds provided Real Estate returns for this time period
 With a return of 11.99%, Fund 105 received a percentile rank of 52



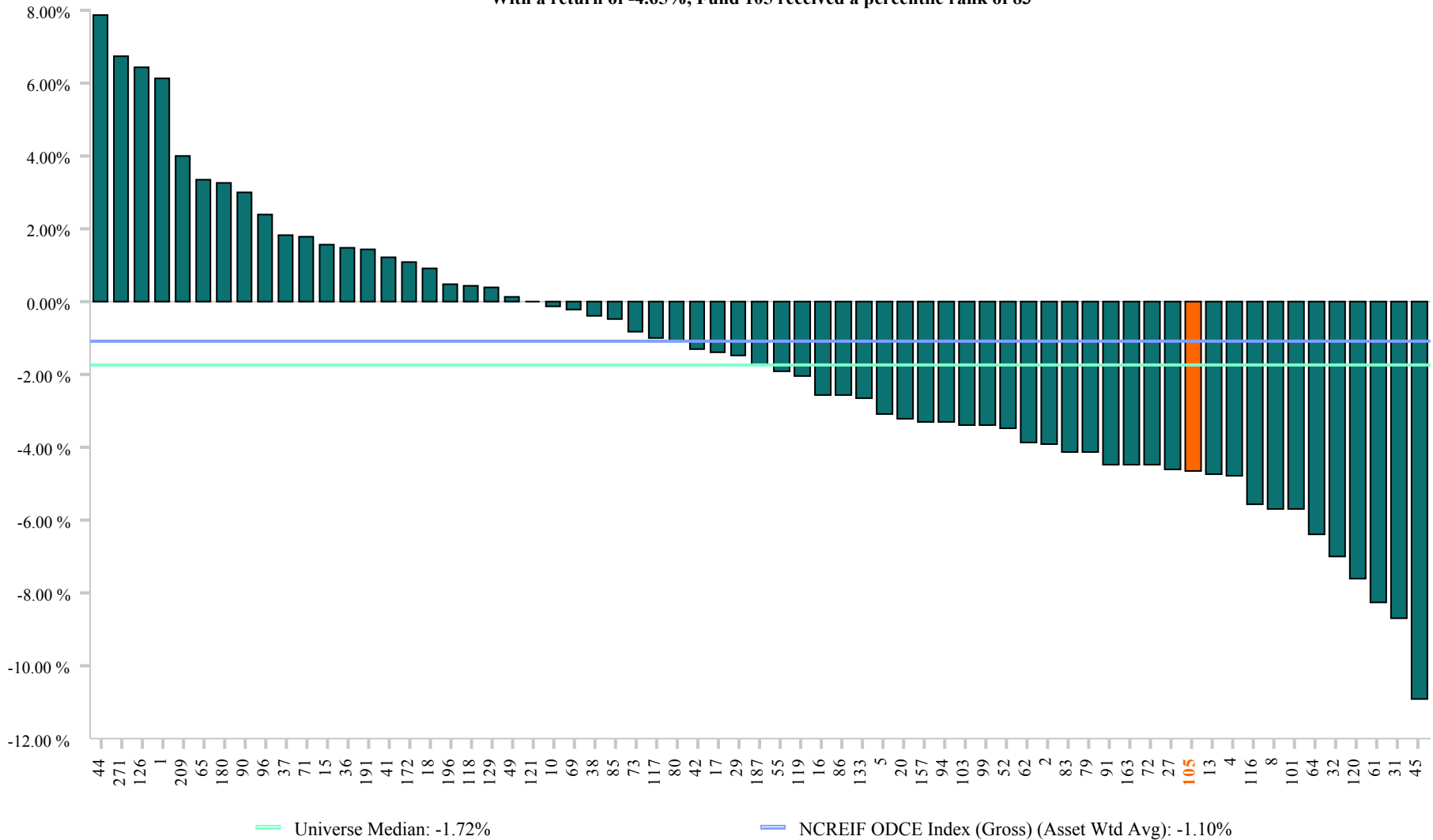
Funds with less history than the specified time period will not appear in the chart.

5 Year Annualized Real Estate Returns

As of December 31, 2012

Fund Number: 105

65 of 81 funds provided Real Estate returns for this time period
 With a return of -4.65%, Fund 105 received a percentile rank of 83



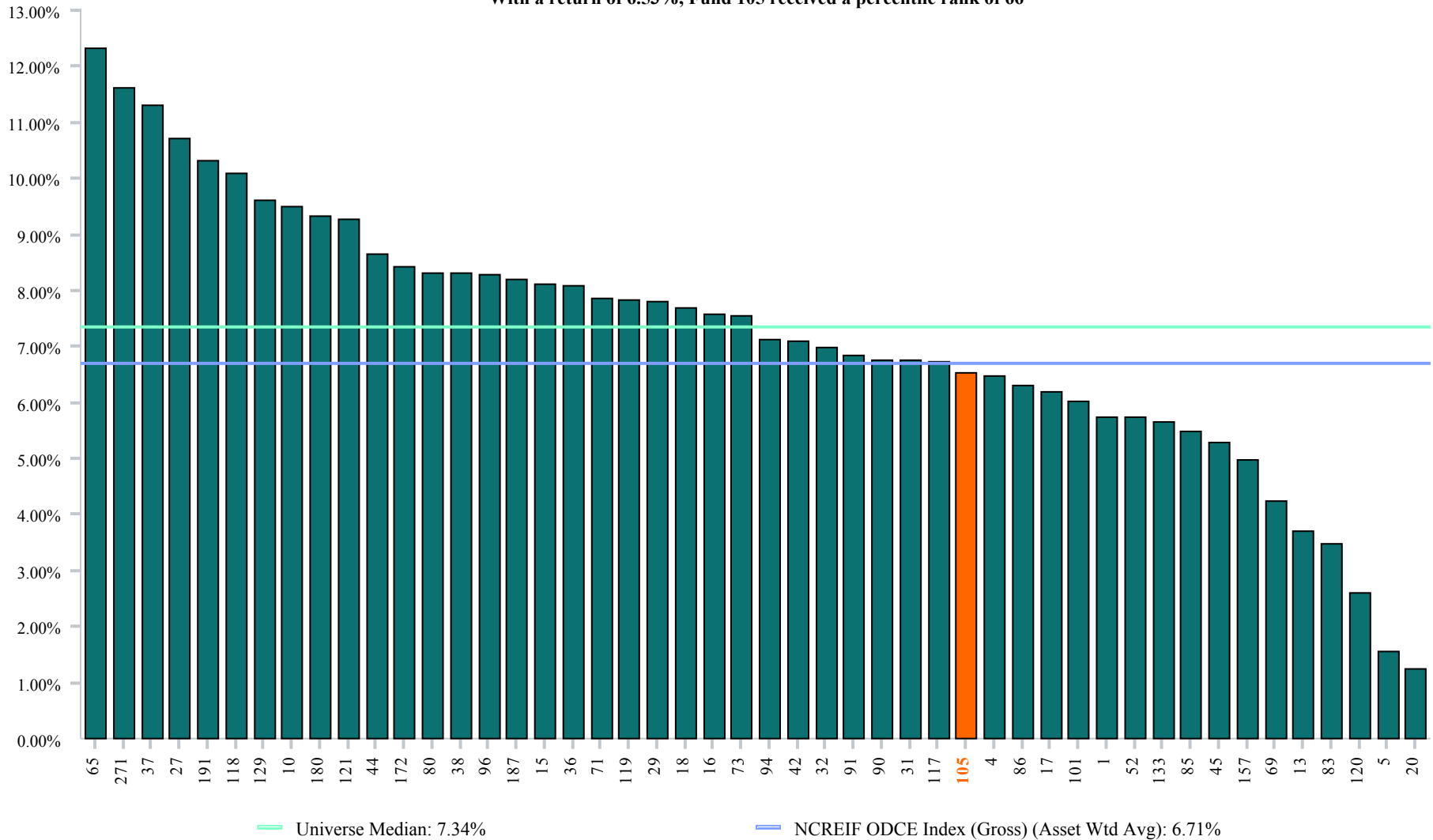
Funds with less history than the specified time period will not appear in the chart.

10 Year Annualized Real Estate Returns

As of December 31, 2012

Fund Number: 105

48 of 81 funds provided Real Estate returns for this time period
 With a return of 6.53%, Fund 105 received a percentile rank of 66



Funds with less history than the specified time period will not appear in the chart.

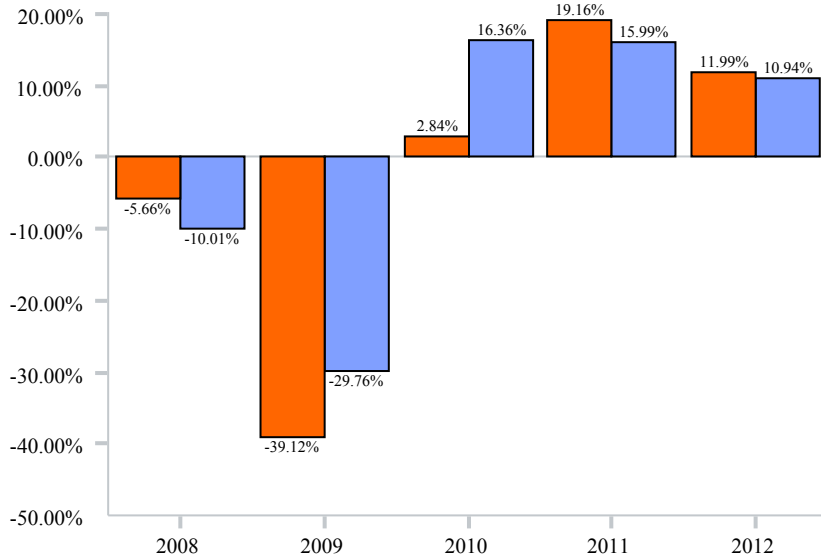
Total Return - Real Estate

Milwaukee ERS vs. NCREIF ODCE Index (Gross) (Asset Wtd Avg)

As of December 31, 2012

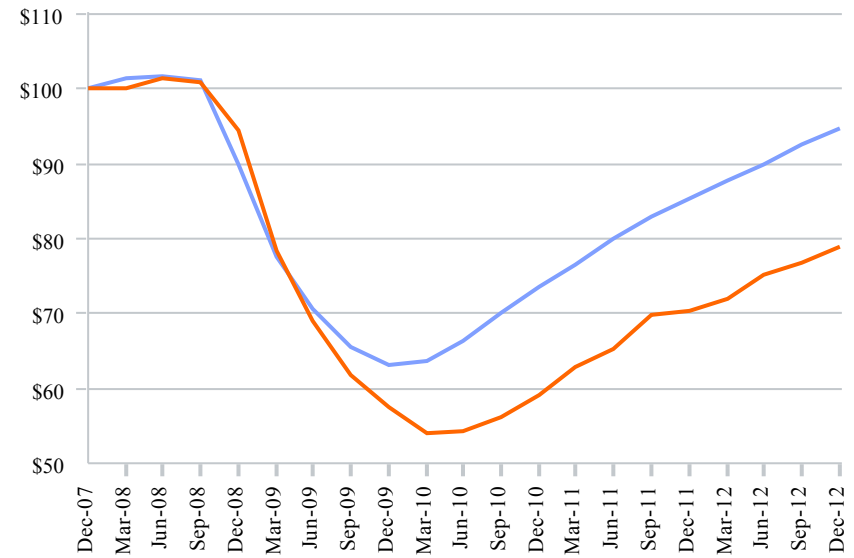
Fund Number: 105

Calendar Year Rates of Return



■ Milwaukee ERS
■ NCREIF ODCE Index (Gross) (Asset Wtd Avg)

Cumulative Performance (Growth of \$100)



— Milwaukee ERS: \$79
— NCREIF ODCE Index (Gross) (Asset Wtd Avg): \$95

<u>Annualized Returns:</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>
Milwaukee ERS	11.99%	11.13%	-4.65%
NCREIF ODCE Index (Gross) (Asset Wtd Avg)	10.94%	14.40%	-1.10%
<i>Variance</i>	<i>1.05%</i>	<i>-3.27%</i>	<i>-3.55%</i>

Risk/Return Analysis

5 Year Annualized Total Fund Returns vs. Standard Deviation

As of December 31, 2012

Fund Number: 105



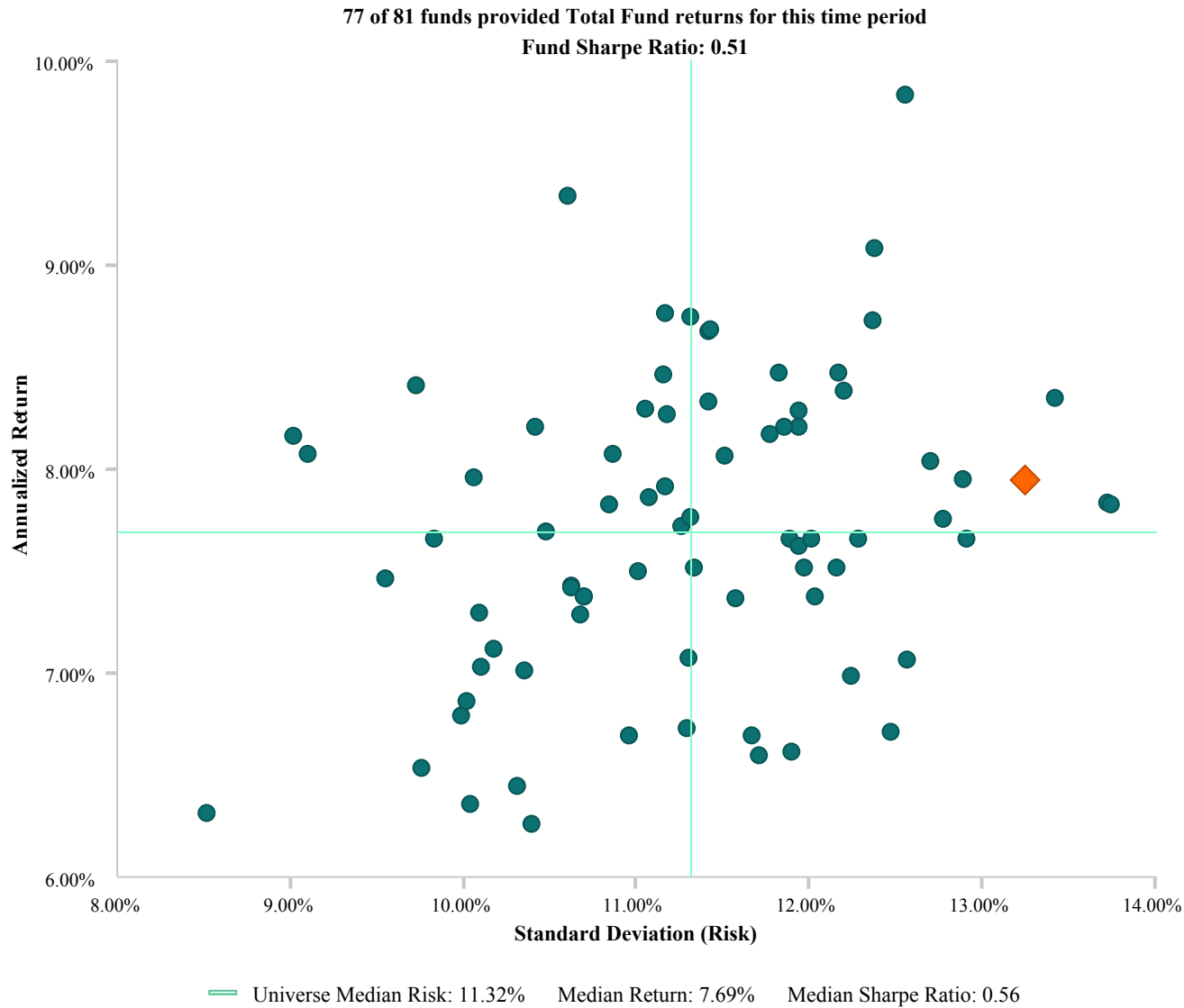
Funds with less history than the specified time period will not appear in the chart.

Risk/Return Analysis

10 Year Annualized Total Fund Returns vs. Standard Deviation

As of December 31, 2012

Fund Number: 105



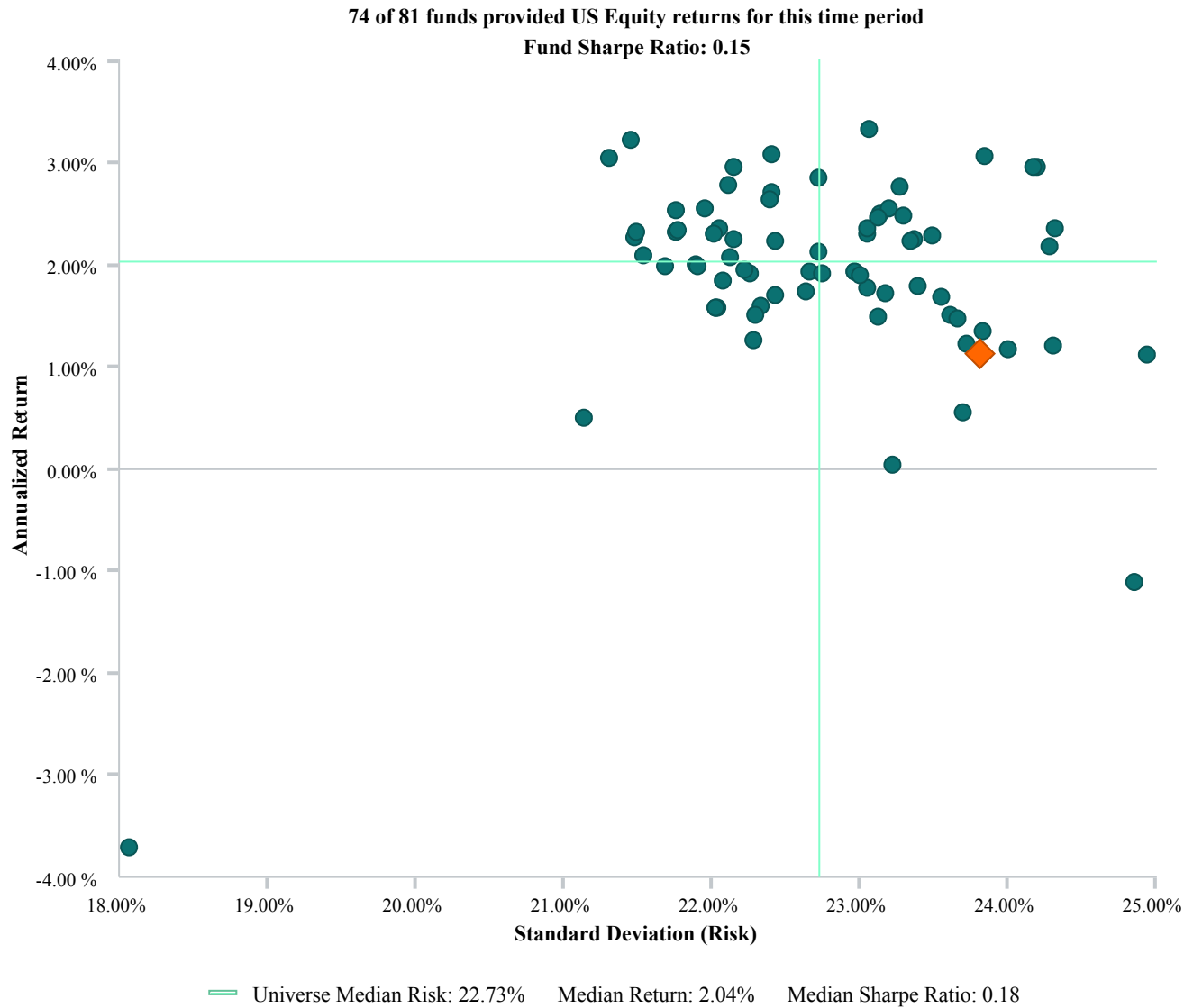
Funds with less history than the specified time period will not appear in the chart.

Risk/Return Analysis

5 Year Annualized US Equity Returns vs. Standard Deviation

As of December 31, 2012

Fund Number: 105



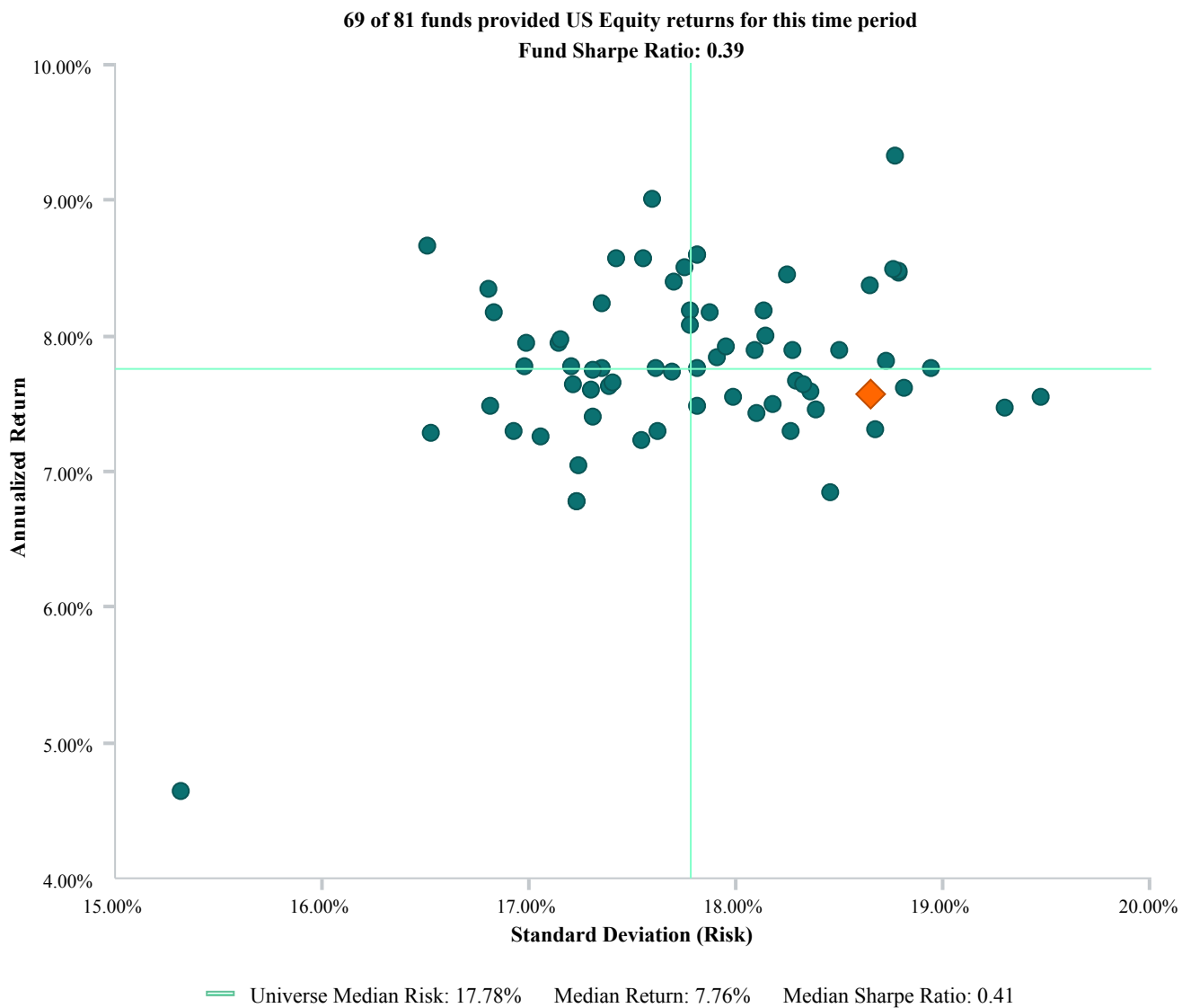
Funds with less history than the specified time period will not appear in the chart.

Risk/Return Analysis

10 Year Annualized US Equity Returns vs. Standard Deviation

As of December 31, 2012

Fund Number: 105



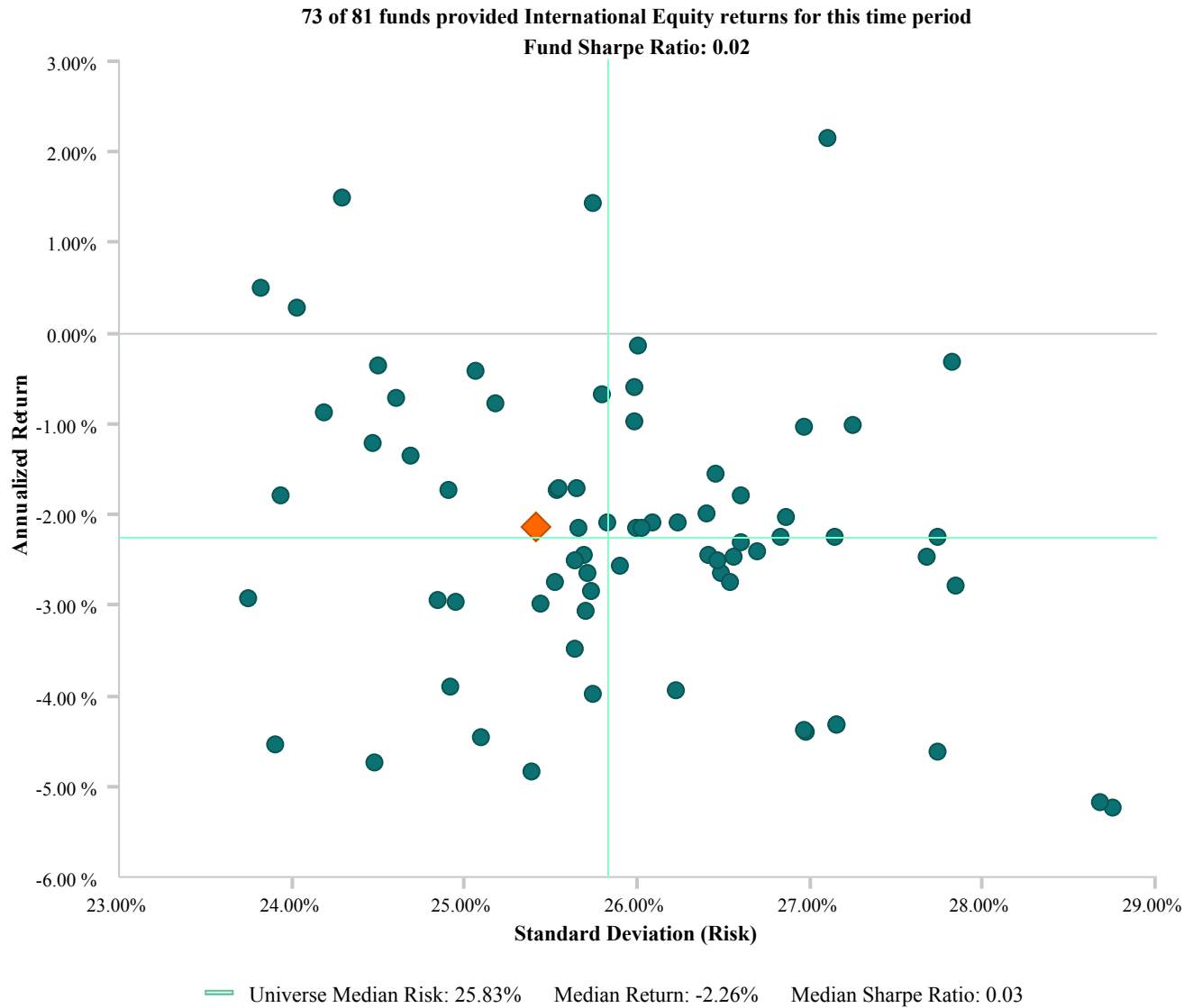
Funds with less history than the specified time period will not appear in the chart.

Risk/Return Analysis

5 Year Annualized International Equity Returns vs. Standard Deviation

As of December 31, 2012

Fund Number: 105

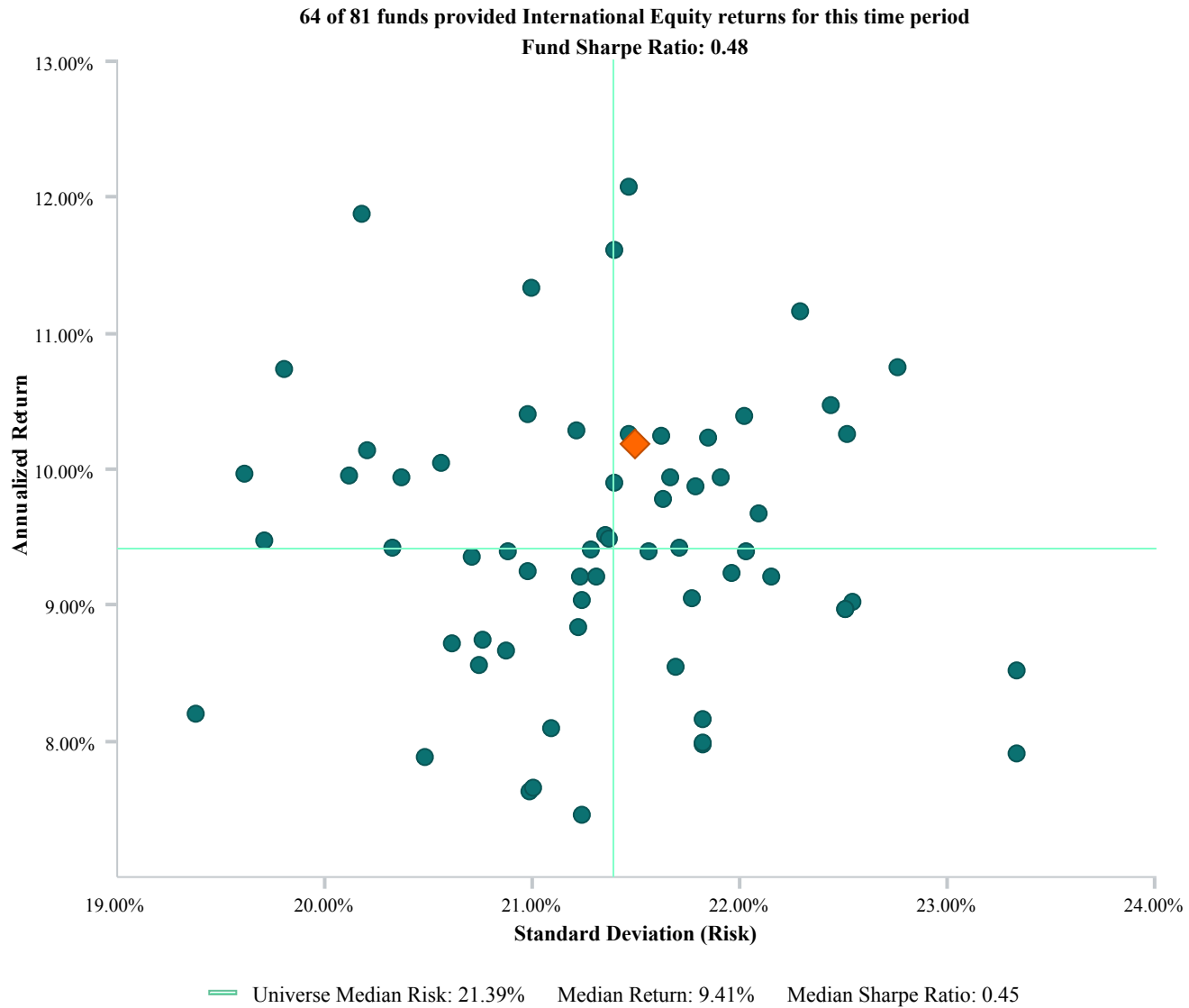


Funds with less history than the specified time period will not appear in the chart.

Risk/Return Analysis

10 Year Annualized International Equity Returns vs. Standard Deviation
As of December 31, 2012

Fund Number: 105



Funds with less history than the specified time period will not appear in the chart.

Risk/Return Analysis

5 Year Annualized US Fixed Income Returns vs. Standard Deviation

As of December 31, 2012

Fund Number: 105

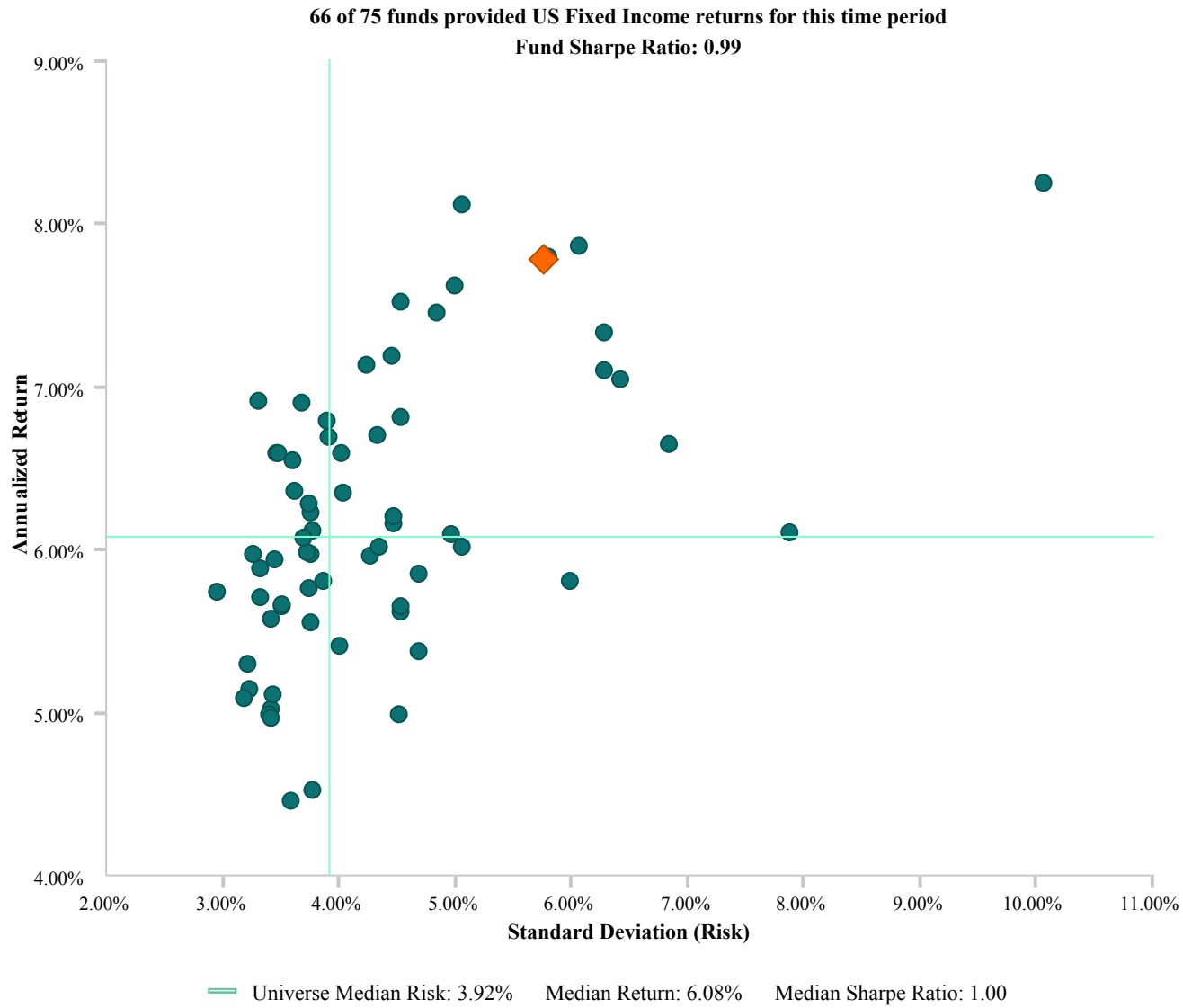


Funds with less history than the specified time period will not appear in the chart.

Risk/Return Analysis

10 Year Annualized US Fixed Income Returns vs. Standard Deviation As of December 31, 2012

Fund Number: 105



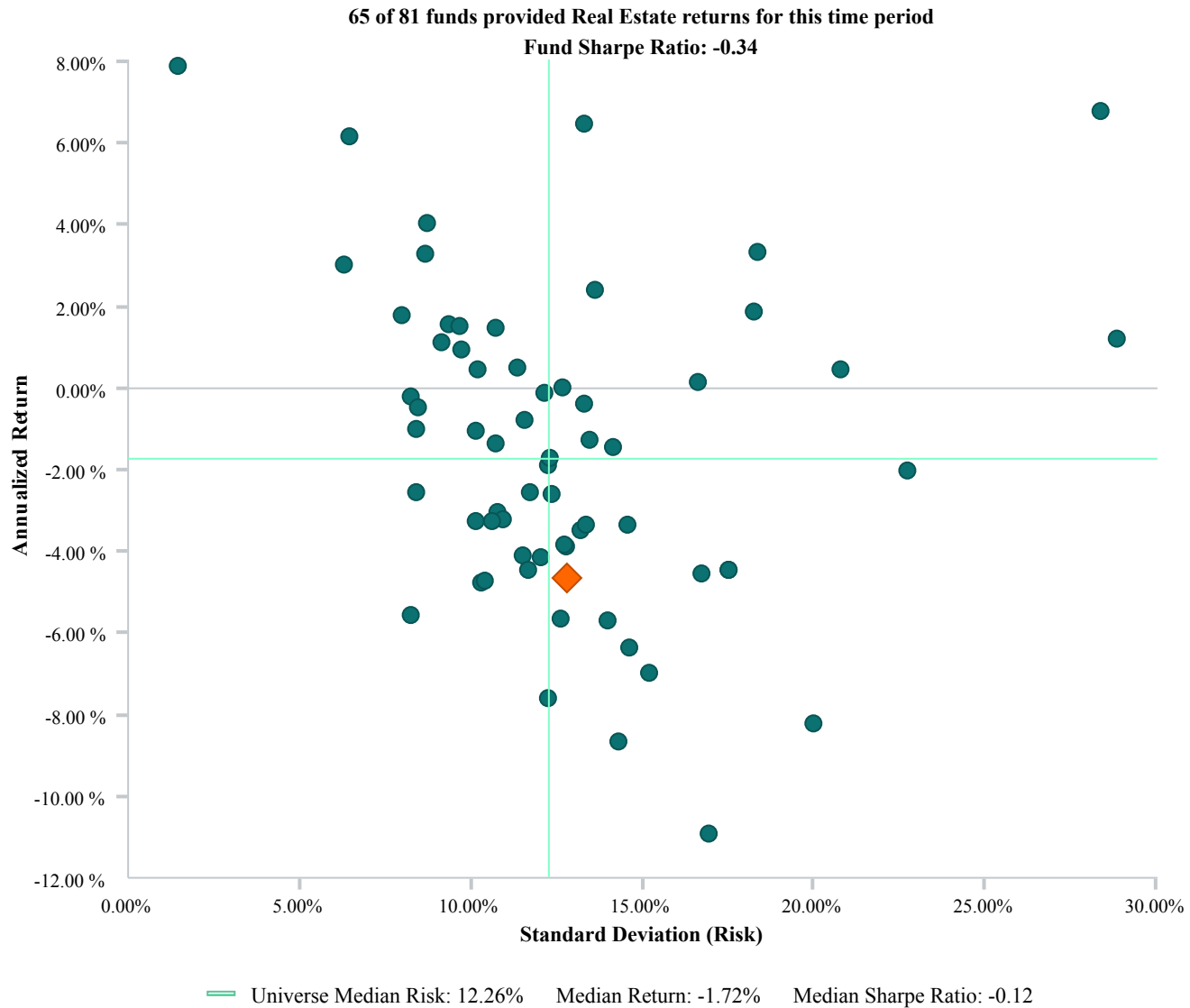
Funds with less history than the specified time period will not appear in the chart.

Risk/Return Analysis

5 Year Annualized Real Estate Returns vs. Standard Deviation

As of December 31, 2012

Fund Number: 105



Funds with less history than the specified time period will not appear in the chart.

Risk/Return Analysis

10 Year Annualized Real Estate Returns vs. Standard Deviation

As of December 31, 2012

Fund Number: 105



Funds with less history than the specified time period will not appear in the chart.

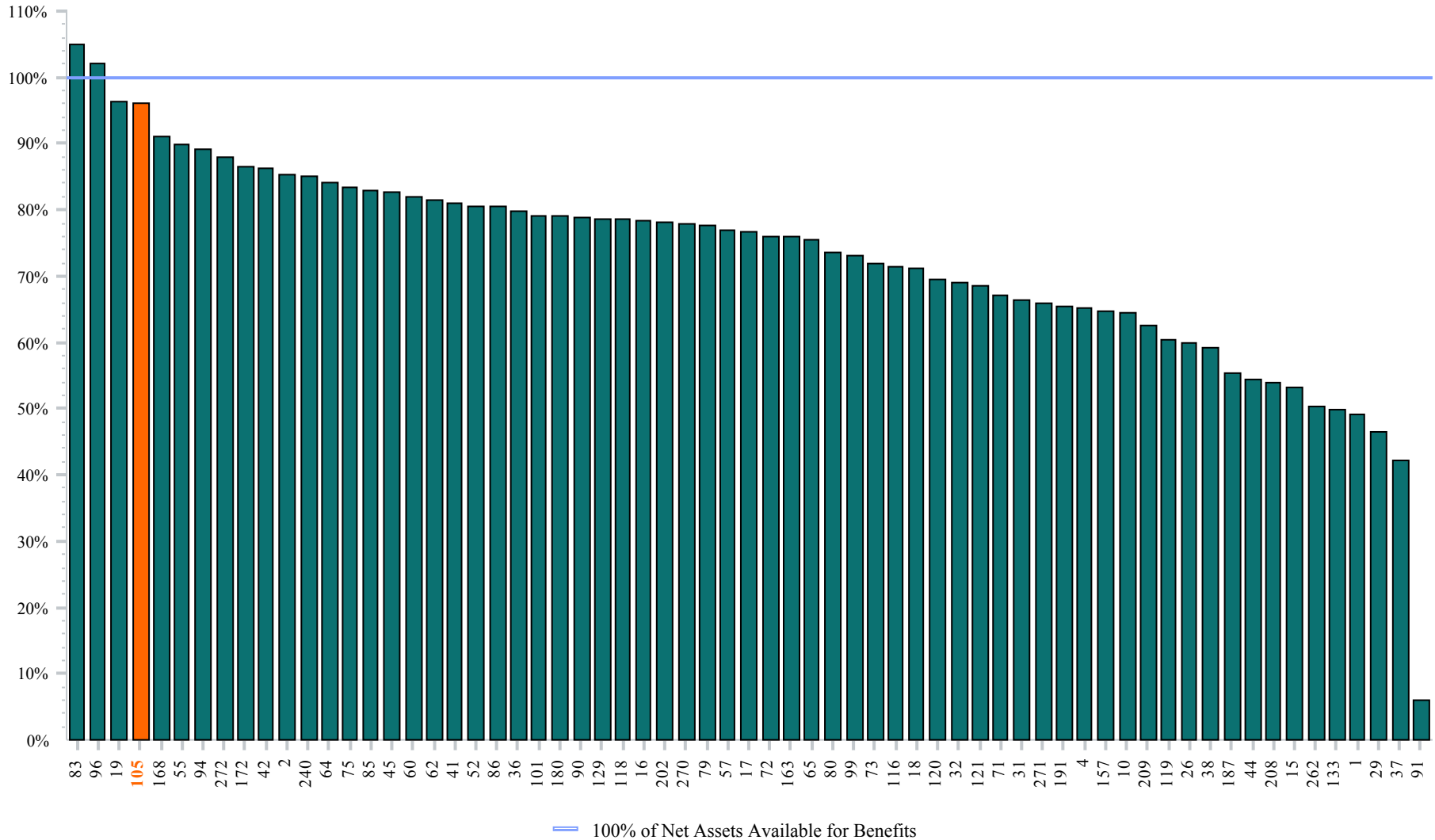
Net Assets Available For Benefits

Expressed as a Percentage of the Pension Benefit Obligation

As of December 31, 2012

Fund Number: 105

65 of 81 funds provided Net Assets Available data



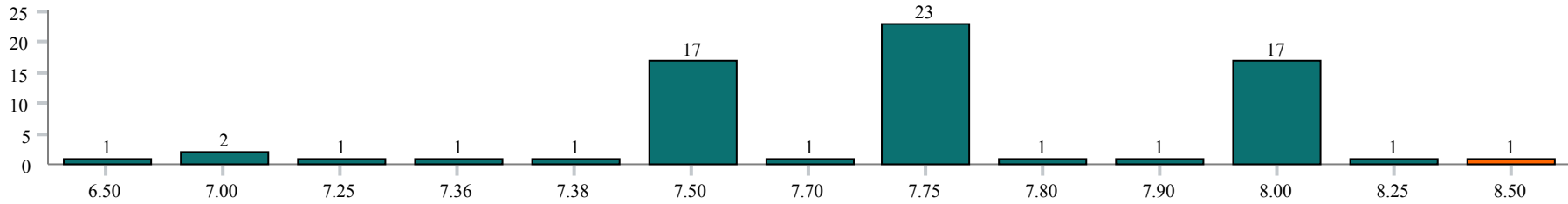
Funds that did not provide data will not appear in the chart.

Actuarial Assumption Rates

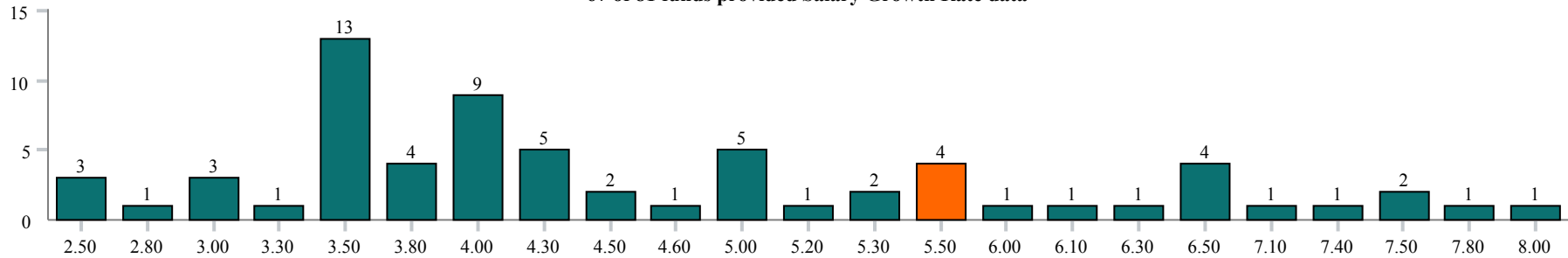
As of December 31, 2012

Fund Number: 105

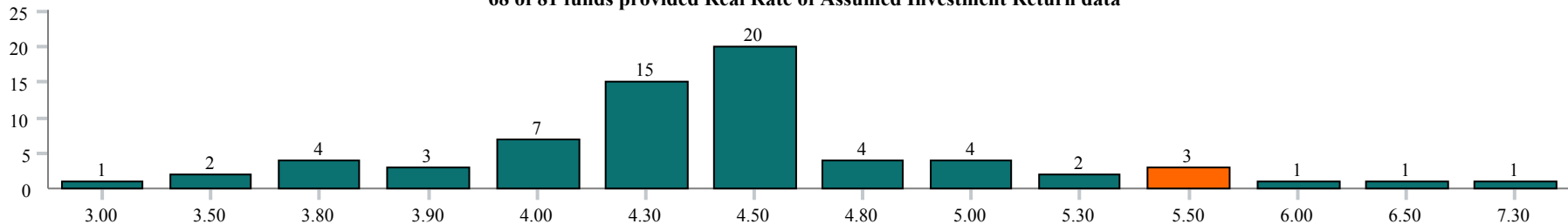
Actuarial Rate Assumptions - 7.75% Median
68 of 81 funds provided Actuarial Rate data



Salary Growth Rate Assumptions (Inflation plus Merit) - 4.00% Median
67 of 81 funds provided Salary Growth Rate data



Real Rate of Assumed Investment Return (Interest Rate minus Inflation) - 4.50% Median
68 of 81 funds provided Real Rate of Assumed Investment Return data



■ Milwaukee ERS

Funds that did not provide data will not appear in the chart.

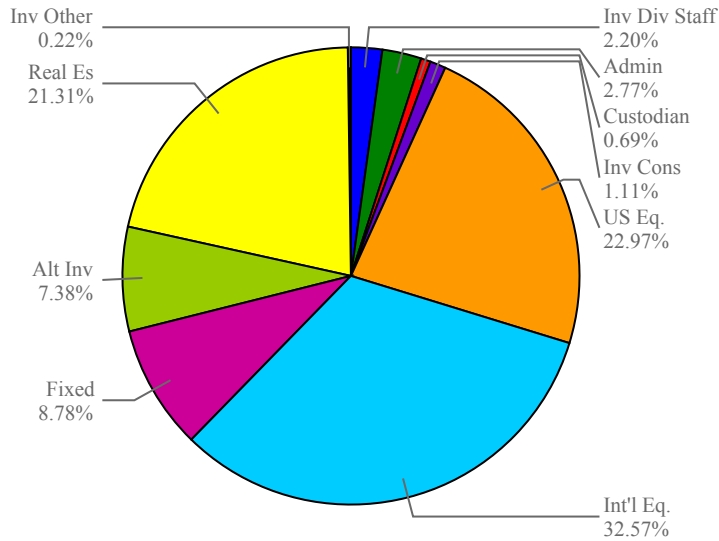
Total Administrative and Investment Fees

Milwaukee ERS vs. All Funds

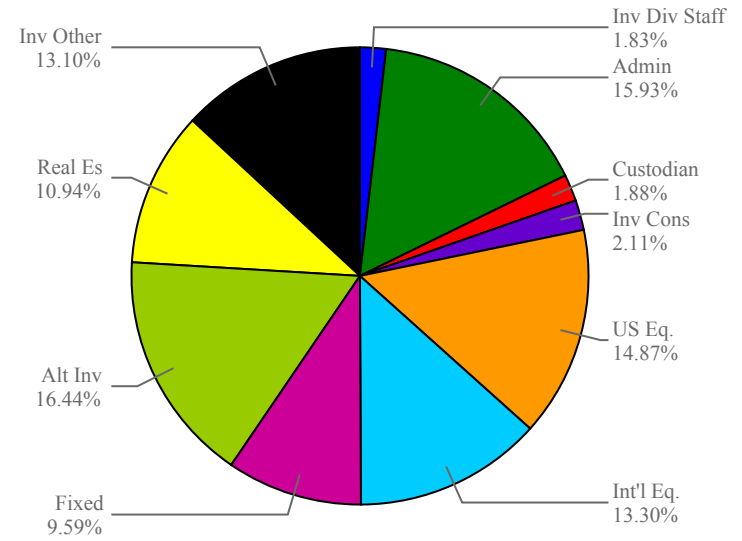
As of December 31, 2012

Fund Number: 105

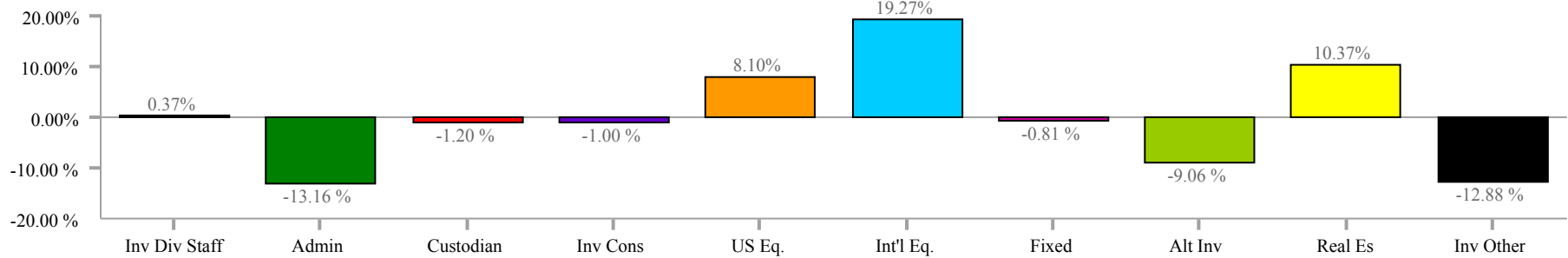
Milwaukee ERS



All Funds



Variance



Allocations shown may not sum up to 100% exactly due to rounding.

Total Fund Fee Summary in Basis Points

Milwaukee ERS vs. Average by Asset Range

As of December 31, 2012

Fund Number: 105

61 of 81 funds provided fee data for this time period

Administrative Expenses	Milwaukee ERS	Under \$500 Million	\$500mm - \$1 Billion	\$1 - \$5 Billion	\$5 - \$10 Billion	\$10 - \$20 Billion	Over \$20 Billion
Internal Inv. Div. Staff	0.95	0.00	0.00	0.78	0.87	0.75	1.54
Actuary	0.26	2.76	1.10	0.68	0.31	0.12	0.17
Legal	0.22	0.77	0.54	1.07	0.90	0.18	0.16
Consultant	0.00	1.87	0.11	0.39	0.61	0.07	0.28
Audit	0.18	0.30	0.26	0.22	0.11	0.06	0.07
Other Professional	0.29	2.60	0.31	0.72	0.24	0.12	0.53
General Administrative	0.24	10.85	6.61	5.52	6.35	3.11	2.16
Total Administrative Expenses	2.14	19.14	8.94	9.38	9.39	4.40	4.91

Investment Expenses	Milwaukee ERS	Under \$500 Million	\$500mm - \$1 Billion	\$1 - \$5 Billion	\$5 - \$10 Billion	\$10 - \$20 Billion	Over \$20 Billion
Custodial	0.30	2.29	2.67	1.21	0.46	0.40	0.26
Investment Consulting	0.48	1.60	2.38	1.33	0.90	0.68	0.38
Domestic Equity	9.88	7.93	9.67	9.63	7.64	5.23	3.68
International Equity	14.01	2.45	12.00	7.85	5.90	6.70	4.42
Fixed Income	3.78	3.81	7.79	5.10	5.19	3.14	3.81
Real Estate	9.17	2.18	5.40	5.32	6.58	3.41	6.09
Other Investment Management	0.09	14.95	0.00	8.14	6.21	1.95	4.95
Total Investment Expenses (ex. Alt Inv)	37.70	35.21	39.91	38.58	32.89	21.51	23.59
Alternative Investments	3.17	2.99	13.39	3.67	8.59	6.53	13.82
Total Investment Expenses	40.88	38.21	53.30	42.26	41.48	28.03	37.41

Total Expenses	43.01	57.35	62.24	51.64	50.87	32.44	42.32
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Expressed in basis points on total fund assets. Funds that did not provide fee data will not appear in the table.

Addendum and Glossary

As of December 31, 2012

Miscellaneous Comments

- Performance shown is gross of fees, with the exception of the following:
 - **Funds 36, 49, 127 and 128:** Performance shown is net of fees.
 - **Funds 5 and 20:** Performance shown is net of fees, except for Total Fund performance.
- Performance shown is calculated using quarterly performance provided by participating public funds.
- Performance shown may differ from a fund's actual performance due to rounding.
- Net Assets Available for Benefit includes funding percentage valuation as of dates between June 2011 and June 2012.
- Allocations shown reflect dedicated managers/mandates rather than actual exposure.

Glossary of Terms

Beta - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Return - Compounded rate of return for the period.

%Return - The time-weighted rate of return of a portfolio for a specified time period.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., BofA ML 3 Mo US T-Bill Index), divided by the standard deviation of the excess return. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

Standard Deviation - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period. Calculation is based on quarterly periodicity.