

**Employees' Retirement System  
of Milwaukee County**

**Monthly Report**

**December 31, 2010**



## Investment Manager Status Report

<u>Investment Manager</u>	<u>Asset Class</u>	<u>Benchmark</u>	<u>Status</u>	<u>Reason</u>
J.P. Morgan	Core Fixed Income	BarCap Aggregate	In-Compliance	
Mellon Capital	Core Fixed Income	BarCap Aggregate	In-Compliance	
Mellon Capital	Large-Cap Core Equity	S&P 500	In-Compliance	
Boston Partners	Large-Cap Value Equity	Russell 1000 Value	In-Compliance	
Reinhart Partners	Mid-Cap Growth Equity	Russell MidCap Growth	In-Compliance	
Artisan Partners	Mid-Cap Growth Equity	Russell MidCap Growth	In-Compliance	
AQR	Small-Cap Value Equity	Russell 2000 Value	In-Compliance	
Fiduciary Management	Small-Cap Value Equity	Russell 2000 Value	In-Compliance	
Barings	International Core	MSCI EAFE	In-Compliance	
<b>GMO Large Cap Value</b>	<b>International Value</b>	<b>MSCI EAFE</b>	<b>Alert</b>	<b>Performance</b>
GMO Intl Small Comp	International Small Core	Citigroup ex. US <\$2 Billion	In-Compliance	
Barings	Emerging Markets	MSCI EM	In-Compliance	
ABS Global	Long/Short Equity	HFRX Hedged Equity	In-Compliance	
K2 Advisors	Long/Short Equity	HFRX Hedged Equity	In-Compliance	
<b>ING Clarion</b>	<b>Real Estate REIT</b>	<b>NAREIT Equity</b>	<b>Termination</b>	<b>Asset Allocation</b>
Morgan Stanley	Core Real Estate	NFI ODCE	In-Compliance	
Progress	Private Equity FoFs Diversified	VE All Private Equity	In-Compliance	
Adams Street	Private Equity FoFs Diversified	VE All Private Equity	In-Compliance	
IFM	Infrastructure	CPI + 4%	In-Compliance	
JP Morgan	Infrastructure	CPI + 4%	In-Compliance	

## Investment Manager Evaluation Terminology

The following terminology has been developed by Marquette Associates to facilitate efficient communication among the Investment Manager, Investment Consultant, and the Plan Sponsor. Each term signifies a particular status with the Fund and any conditions that may require improvement. In each case, communication is made only after consultation with the Trustees and/or the Investment Committee of the Plan.

**In-Compliance** – The investment manager states it is acting in accordance with the Investment Policy Guidelines.

**Alert** – The investment manager is notified of a problem in performance (usually related to a benchmark or volatility measure), a change in investment characteristics, an alteration in management style or key investment professionals, and/or any other irregularities.

**On Notice** – The investment manager is notified of continued concern with one or more Alert issues. Failure to improve upon stated issues within a specific time frame justifies termination.

**Termination** – The Trustees have decided to terminate the investment manager. The investment manager is notified and transition plans are in place.

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## Market Values

December 31, 2010

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Asset Class	Market Values	Allocation	Target
Total Fixed Income	\$560,672,229	30.1%	32.0%
Total U.S. Equity	\$466,710,986	25.1%	23.0%
Total International Equity	\$351,785,721	18.9%	18.0%
Total Long/Short Equity	\$190,193,702	10.2%	10.0%
Total Real Estate	\$95,896,970	5.2%	7.0%
Total Infrastructure	\$129,632,310	7.0%	7.0%
Total Private Equity	\$24,596,674	1.3%	3.0%
Total Cash/Cash Equivalents	<u>\$42,109,895</u>	<u>2.3%</u>	<u>0.0%</u>
<b>TOTAL PORTFOLIO</b>	<b><u>\$1,861,598,487</u></b>	<b><u>100.0%</u></b>	<b><u>100.0%</u></b>

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## Current Asset Allocation vs. Policy

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Asset Class	% of Assets	Target	Difference	Target Range
Fixed Income	30.1%	32.0%	-1.9%	27% - 37%
Domestic Equity	25.1%	23.0%	2.1%	13% - 33%
International Equity	18.9%	18.0%	0.9%	13% - 23%
Long/Short Equity	10.2%	10.0%	0.2%	5% - 15%
Real Estate	5.2%	7.0%	-1.8%	4% - 10%
Infrastructure	7.0%	7.0%	0.0%	5% - 9%
Private Equity	1.3%	3.0%	-1.7%	1% - 5%
Cash/Other	<u>2.3%</u>	<u>0.0%</u>	2.3%	0% - 5%
<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>		

# Market Values

December 31, 2010

Asset Class	Investment Manager	Market Values	Allocation	Target
Core Fixed Income	J.P. Morgan	\$297,829,555	16.0%	16.0%
Core Fixed Income	Mellon Capital - Non Lending	<u>\$262,842,674</u>	<u>14.1%</u>	<u>16.0%</u>
<b>Total Fixed Income</b>		<b>\$560,672,229</b>	<b>30.1%</b>	<b>32.0%</b>
Large-Cap Core Equity	Mellon Capital - Non Lending	\$113,831,346	6.1%	6.0%
Large-Cap Value Equity	Boston Partners	\$138,155,277	7.4%	7.0%
Mid-Cap Growth Equity	Artisan Partners	\$55,923,570	3.0%	2.5%
Mid-Cap Growth Equity	Reinhart Partners	\$48,472,247	2.6%	2.5%
Small-Cap Value Equity	AQR	\$55,683,900	3.0%	2.5%
Small-Cap Value Equity	Fiduciary Management	\$50,197,315	2.7%	2.5%
Cash Securitization	Cash Equity Overlay	<u>\$4,447,331</u>	<u>0.2%</u>	---
<b>Total U.S. Equity</b>		<b>\$466,710,986</b>	<b>25.1%</b>	<b>23.0%</b>
International Core	Barings	\$117,394,497	6.3%	6.0%
International Value	GMO Large Cap Value	\$98,467,835	5.3%	6.0%
International Small Core	GMO Intl Small Companies	\$70,398,927	3.8%	3.0%
Emerging Markets	Barings	<u>\$65,524,462</u>	<u>3.5%</u>	<u>3.0%</u>
<b>Total International Equity</b>		<b>\$351,785,721</b>	<b>18.9%</b>	<b>18.0%</b>
Long/Short Equity	ABS Global	\$96,742,894	5.2%	5.0%
Long/Short Equity	K2 Advisors	<u>\$93,450,808</u>	<u>5.0%</u>	<u>5.0%</u>
<b>Total Long/Short Equity</b>		<b>\$190,193,702</b>	<b>10.2%</b>	<b>10.0%</b>
Real Estate REIT	ING Clarion	\$17,806,970	1.0%	0.0%
Real Estate - Core	Morgan Stanley	\$78,090,000	4.2%	---
Real Estate - Core	UBS	\$0	0.0%	---
Real Estate - Core	American Realty	<u>\$0</u>	<u>0.0%</u>	---
<b>Total Real Estate</b>		<b>\$95,896,970</b>	<b>5.2%</b>	<b>7.0%</b>
Infrastructure - Core	IFM	\$69,632,310	3.7%	3.5%
Infrastructure - Core	JP Morgan	<u>\$60,000,000</u>	<u>3.2%</u>	<u>3.5%</u>
<b>Total Infrastructure</b>		<b>\$129,632,310</b>	<b>7.0%</b>	<b>7.0%</b>
Private Equity FoFs Diversified	Progress	\$307,551	0.0%	---
Private Equity FoFs Diversified	Adams Street 2005	\$6,801,366	0.4%	---
Private Equity FoFs Diversified	Adams Street 2009	\$4,046,049	0.2%	---
Private Equity FoFs Diversified	Brinson 1998	\$346,001	0.0%	---
Private Equity FoFs Diversified	Brinson 1999	\$781,349	0.0%	---
Private Equity FoFs Diversified	Brinson 2000	\$1,827,443	0.1%	---
Private Equity FoFs Diversified	Brinson 2001	\$4,122,031	0.2%	---
Private Equity FoFs Diversified	Brinson 2002	\$2,376,011	0.1%	---
Private Equity FoFs Diversified	Brinson 2003	\$1,845,730	0.1%	---
Private Equity FoFs Diversified	Brinson 2004	\$2,036,066	0.1%	---
Private Equity - Direct	Separate Account - Old	\$5,200	0.0%	---
Private Equity - Direct	Separate Account - New	<u>\$101,877</u>	<u>0.0%</u>	---
<b>Total Private Equity</b>		<b>\$24,596,674</b>	<b>1.3%</b>	<b>3.0%</b>
Cash Short-Term	Transition Account	\$0	0.0%	---
Cash Short-Term	General Cash	\$29,193,492	1.6%	---
Cash Short-Term	Cash Overlay	<u>\$12,916,403</u>	<u>0.7%</u>	---
<b>Total Cash Equivalents</b>		<b>\$42,109,895</b>	<b>2.3%</b>	<b>0.0%</b>
<b>TOTAL PORTFOLIO</b>		<b><u>\$1,861,598,487</u></b>	<b><u>100.0%</u></b>	<b><u>100.0%</u></b>

## Annualized Performance (Gross of Fees)

December 31, 2010

	Mth.	YTD	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year
<b>Total Fund Composite</b>	<b>3.5%</b>	<b>12.2%</b>	<b>12.2%</b>	<b>15.4%</b>	<b>1.1%</b>	<b>2.4%</b>	<b>4.6%</b>	<b>6.5%</b>	<b>6.1%</b>
<b>Benchmark</b>									
Policy Benchmark <sup>1</sup>	3.6%	12.5%	12.5%	16.2%	0.5%	2.0%	4.3%	5.7%	5.0%
Actuarial Rate of Return	---	---	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
<b>Total Fixed Income Composite</b>	<b>-1.2%</b>	<b>7.0%</b>	<b>7.0%</b>	<b>11.1%</b>	<b>6.8%</b>	<b>6.7%</b>	<b>6.6%</b>	<b>6.2%</b>	<b>7.3%</b>
<b>Benchmark</b>									
BarCap Aggregate	-1.1%	6.5%	6.5%	6.2%	5.9%	6.2%	5.8%	5.1%	5.8%
<b>Total Domestic Equity Composite</b>	<b>6.9%</b>	<b>19.7%</b>	<b>19.7%</b>	<b>25.9%</b>	<b>0.1%</b>	<b>1.5%</b>	<b>4.0%</b>	<b>6.2%</b>	<b>3.9%</b>
<b>Benchmark</b>									
Wilshire 5000	6.9%	17.2%	17.2%	22.6%	-1.9%	-0.1%	2.9%	4.7%	2.5%
<b>Total International Equity Composite</b>	<b>7.7%</b>	<b>12.5%</b>	<b>12.5%</b>	<b>20.5%</b>	<b>-6.6%</b>	<b>-3.6%</b>	<b>-0.3%</b>	<b>3.0%</b>	<b>3.6%</b>
<b>Benchmark</b>									
MSCI ACWI ex. U.S.	7.8%	11.6%	11.6%	25.9%	-4.6%	0.4%	5.3%	9.1%	6.0%
<b>Total Long/Short Equity Composite</b>	<b>2.1%</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>
<b>Benchmark</b>									
HFRX Hedged Equity	5.2%	8.9%	8.9%	11.0%	-2.8%	-1.3%	0.7%	1.4%	3.5%
Wilshire 5000	6.9%	17.2%	17.2%	22.6%	-1.9%	-0.1%	2.9%	4.7%	2.5%
MSCI ACWI	7.4%	13.2%	13.2%	23.8%	-3.8%	0.0%	4.0%	6.6%	3.7%
<b>Total Real Estate Composite</b>	<b>5.3%</b>	<b>15.4%</b>	<b>15.4%</b>	<b>25.3%</b>	<b>-0.9%</b>	<b>-4.7%</b>	<b>2.5%</b>	<b>8.1%</b>	<b>10.2%</b>
<b>Benchmark</b>									
Custom Benchmark <sup>3</sup>	5.1%	21.1%	21.1%	27.3%	-3.8%	-5.7%	1.9%	7.2%	10.6%
<b>Total Infrastructure Composite<sup>2</sup></b>	<b>5.0%</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>
<b>Benchmark</b>									
CPI + 4%	0.3%	4.9%	4.9%	5.8%	5.2%	5.9%	6.0%	6.4%	6.3%

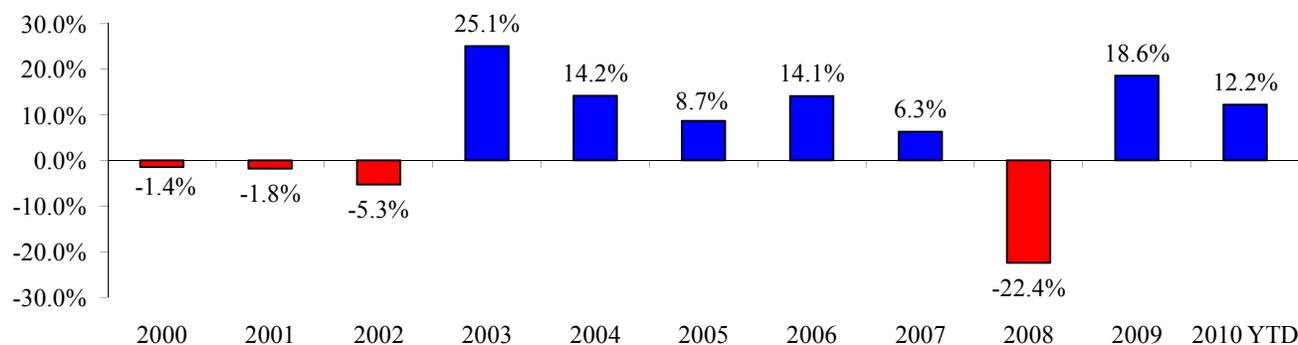
<sup>1</sup> As of 6/30/2009, the Policy Benchmark consists of 39% BarCap Aggregate, 36% Wilshire 5000, 18% MSCI ACWI ex US, and 7% NCREIF ODCE. Prior to 6/30/2009, the Policy Benchmark consisted of 35% BarCap Aggregate, 7% BarCap High Yield, 14% Wilshire 4500, 20% S&P 500, 16% MSCI EAFE, 4% MSCI World ex US, 1% 91 Day T-Bills, and 3% S&P Global REIT.

<sup>2</sup> Quarterly valued. Monthly change in performance results from currency fluctuation not the appraised value of assets.

<sup>3</sup> As of 10/1/2010, the Custom Real Estate Benchmark consists of 100% NFI ODCE. Prior to 10/1/2010, the Custom Real Estate Benchmark consisted of 100% S&P Global REIT.

Signifies Outperformance of Benchmark

## Fiscal Review



# Annualized Performance (Gross of Fees)

December 31, 2010

	Mth.	YTD	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year
<b>Fixed Income - Core</b>									
J.P. Morgan	-1.2%	6.3%	6.3%	7.5%	6.4%	6.6%	6.2%	---	---
Mellon Capital	-1.1%	6.6%	6.6%	6.1%	5.9%	6.2%	5.9%	5.1%	5.9%
<b>Benchmarks</b>									
BarCap Aggregate	-1.1%	6.5%	6.5%	6.2%	5.9%	6.2%	5.8%	5.1%	5.8%
<b>Large-Cap Core Equity</b>									
Mellon Capital	6.7%	14.9%	14.9%	20.6%	-2.9%	-0.8%	2.3%	3.9%	1.45%
<b>Benchmarks</b>									
S&P 500	6.7%	15.1%	15.1%	20.6%	-2.9%	-0.8%	2.3%	3.9%	1.41%
<b>Large-Cap Value Equity</b>									
Boston Partners	6.9%	13.7%	13.7%	20.2%	-1.2%	0.4%	4.0%	7.0%	5.5%
<b>Benchmarks</b>									
Russell 1000 Value	7.9%	15.5%	15.5%	17.6%	-4.4%	-3.4%	1.3%	4.1%	3.3%
<b>Mid-Cap Growth Equity</b>									
Artisan Partners	5.8%	33.3%	33.3%	42.3%	4.9%	9.0%	9.3%	10.4%	7.0%
Reinhart Partners	6.4%	21.8%	21.8%	28.7%	0.5%	2.0%	5.8%	---	---
<b>Benchmarks</b>									
Russell MidCap Growth	6.2%	26.4%	26.4%	36.0%	1.0%	3.5%	4.9%	7.4%	3.1%
<b>Small-Cap Value Equity</b>									
AQR	8.2%	26.8%	26.8%	29.0%	3.4%	0.0%	---	---	---
Fiduciary Management	7.9%	25.1%	25.1%	---	---	---	---	---	---
<b>Benchmarks</b>									
Russell 2000 Value	8.3%	24.5%	24.5%	22.5%	2.2%	-1.0%	3.5%	6.2%	8.4%
<b>International Large-Cap Equity</b>									
<sup>1</sup> Barings	6.8%	8.8%	8.8%	20.4%	-6.9%	---	---	---	---
<sup>1</sup> GMO Large Cap Value	7.8%	7.6%	7.6%	13.0%	-7.9%	-3.7%	1.5%	6.4%	6.8%
<b>Benchmarks</b>									
MSCI EAFE	8.1%	8.2%	8.2%	19.7%	-6.6%	-2.3%	2.9%	6.9%	3.9%
<b>International Small-Cap Equity</b>									
<sup>1</sup> GMO Intl Small Companies	11.0%	21.2%	21.2%	---	---	---	---	---	---
<b>Benchmarks</b>									
Citigroup ex. US <\$2 Billion	9.2%	25.1%	25.1%	37.8%	0.4%	2.4%	5.8%	10.0%	10.0%
<b>Emerging Markets Equity</b>									
<sup>1</sup> Barings	4.9%	18.3%	18.3%	---	---	---	---	---	---
<b>Benchmarks</b>									
MSCI Emerging Markets	7.2%	19.2%	19.2%	46.1%	0.0%	8.7%	13.1%	17.7%	16.2%
<b>Long/Short Equity</b>									
<sup>1</sup> K2	2.5%	---	---	---	---	---	---	---	---
<sup>1</sup> ABS	1.7%	---	---	---	---	---	---	---	---
<b>Benchmarks</b>									
HFRX Hedged Equity	5.2%	8.9%	8.9%	11.0%	-2.8%	-1.3%	0.7%	1.4%	3.5%
Wilshire 5000	6.9%	17.2%	17.2%	22.6%	-1.9%	-0.1%	2.9%	4.7%	2.5%
MSCI ACWI	7.4%	13.2%	13.2%	23.8%	-3.8%	0.0%	4.0%	6.6%	3.7%

## Annualized Performance (Gross of Fees)

December 31, 2010

	Mth.	YTD	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year
<b>Real Estate - Equity</b>									
ING Clarion	6.3%	15.9%	15.9%	25.6%	-0.8%	-4.7%	2.6%	8.2%	10.3%
Morgan Stanley	5.1%	---	---	---	---	---	---	---	---
<b>Benchmarks</b>									
S&P Global REIT	6.5%	23.4%	23.4%	28.5%	-3.2%	-5.3%	2.3%	7.4%	10.8%
NFI ODCE (Net)	5.1%	16.5%	16.5%	-9.9%	-10.2%	-4.5%	-0.8%	3.7%	4.3%
<b>Infrastructure</b>									
<sup>1,2</sup> IFM	5.0%	---	---	---	---	---	---	---	---
J.P. Morgan	---	---	---	---	---	---	---	---	---
<b>Benchmarks</b>									
CPI + 4%	0.3%	4.9%	4.9%	5.8%	5.2%	5.9%	6.0%	6.4%	6.3%

Signifies Outperformance of Benchmark.

<sup>1</sup> Performance reported is net of fees.

<sup>2</sup> Quarterly valued. Monthly change in performance results from currency fluctuation not the appraised value of assets.

**Estimated Annual Investment Management Fees**  
based on December 31, 2010 reported Market Values

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee <sup>1</sup>	Industry Average <sup>2</sup>
Core Fixed Income	J.P. Morgan	0.20% on the first \$100 million 0.15% on the Balance	0.17% \$496,744	0.24%
Core Fixed Income Large-Cap Core Equity	Mellon Capital - Non Lending	0.04% on the first \$200 million 0.02% on the Balance	0.03% \$115,335	0.08%
Large-Cap Value Equity	Boston Partners	0.40% on the first \$15 million 0.30% on the next \$25 million 0.20% on the next \$25 million 0.15% on the next \$35 million 0.10% on the Balance	0.25% \$215,597	0.51%
Mid-Cap Growth Equity	Artisan Partners	0.80% on the first \$50 million 0.60% on the next \$50 million 0.50% on the Balance	0.78% \$435,541	0.68%
Mid-Cap Growth Equity	Reinhart Partners	0.60% on the first \$25 million 0.50% on the next \$25 million 0.40% on the Balance	0.55% \$267,361	0.78%
Small-Cap Value Equity	AQR	1.00% on the first \$25 million 0.85% on the next \$50 million 0.75% on the Balance	0.92% \$510,813	0.95%
Small-Cap Value Equity	Fiduciary Management	0.70% on the first \$10 million 0.65% on the next \$40 million 0.60% on the next \$25 million 0.50% on the Balance	0.66% \$331,184	0.83%
International Core	Barings	0.75% on the Balance	0.75% \$880,459	0.68%
Emerging Markets	Barings	0.75% on the Balance	0.75% \$491,433	0.92%
International Value	GMO Large Cap Value	0.67% on the Balance	0.67% \$659,734	1.04%
International Small Core	GMO Intl Small Companies	0.75% on the Balance	0.75% \$527,992	1.04%
Long/Short Equity	ABS Global	0.85% on the Balance <b>*redemptions quarterly with 45 days notice</b>	0.85% \$822,315	1.37%
Long/Short Equity	K2 Advisors	0.90% on the Balance <b>*redemptions quarterly with 91 days notice</b>	0.90% \$841,057	1.37%
Real Estate REIT	ING Clarion	0.65% on the first \$50 million 0.60% on the next \$50 million 0.55% on the next \$50 million 0.50% on the next \$50 million 0.45% on the next \$50 million 0.40% on the Balance	0.65% \$115,745	0.70%
Real Estate - Core	Morgan Stanley	0.90% on the Balance	0.90% \$702,810	1.03%

Infrastructure	IFM	1.25% on the first \$250 million 1.15% on the next \$250 million 1.00% on the Balance <b>(two year hard lock)<sup>3</sup></b> <b>Performance Fee:</b> <b>20% of return above 8% on a</b> <b>rolling three year basis (begins</b> <b>12/31/11)</b>	1.25% \$870,404	1.80%
Infrastructure	J.P. Morgan	2.00% on the Balance <b>(six year soft lock, no performance</b> <b>fee)<sup>3</sup></b>	2.00% \$1,200,000	1.11%
Private Equity	Adams Street	0.90% on commitment <b>until 2016</b> <b>*based on \$30mm commitment</b>	0.90% \$360,000	
Cash Overlay	BNY Beta Management	0.025% on the notional value	0.025% \$11,639	
<b>Total Investment Management Fees</b>			<b>0.53%</b> <b>\$9,856,165</b>	<b>0.65%</b>
Custodian	BNY Mellon (Custodian) (Cash Operating Account)	\$50,000 Flat Annual Fee 0.15% on STIF Funds	\$93,790	
<b>Total Fund</b>			<b>0.53%</b> <b>\$9,949,955</b>	

<sup>1</sup> Expense Ratio & Estimated Annual Fee are Based on Market Value at Month End.

<sup>2</sup> Source: 2010 Marquette Associates Investment Management Fee Study.

<sup>3</sup> Hard Lock-Up - investors can withdraw 2.5% per quarter, free of charge during lock-up period. Soft Lock-Up - investors can withdraw semi-annually with a 6% redemption fee charged during lock-up period (4% to the Fund and 2% to the manager).

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## Glossary

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**Alpha** measures nonsystematic return, or the return of the manager that cannot be attributed to the market. It can be thought of as how the manager performed if the market has no gain or loss. Marquette calculates alpha as the annualized y-intercept of the best fit line based on the ordinary least squares regression, using the market's quarterly return less the risk-free rate as the independent variable and the manager's quarterly return less the risk-free rate as the dependent variable. Marquette uses the 90-day T-Bill returns as the risk-free rate.

**Beta** measures the volatility of the manager. It is a measure of systematic risk, or the manager return attributable to market movements. A beta equal to 1.0 indicates a volatility level equivalent to the market. Higher betas are associated with higher volatility levels, while lower betas are associated with lower volatility levels. Marquette calculates beta as the covariance (correlation of two assets multiplied by their standard deviation) divided by the variance (standard deviation squared) of the market.

**Credit Ratings** are a method of evaluating the possibility of default by a bond issuer. Marquette uses ratings issued by Moody's Investors Service with the following ratings:

Aaa	Highest Quality
Aa	High Grade, High Quality
A	Upper Medium Grade
Baa	Medium Grade
Ba	Non-Investment Grade
B	Speculative
Caa	Poor to Default
Ca	Highest Speculation
C	May Be in Default

Moody's uses the numerical modifiers 1 (highest), 2, and 3 in the range from Aa1 through Ca3.

**Equity yield** measures the annual return of the portfolio attributable to dividends. It is determined by dividing the total amount of annual dividends per total shares by the average market price of the total stocks in the portfolio.

**Market capitalization** is the value of a corporation as determined by the market price of its issued and outstanding common stock. It is calculated by multiplying the number of outstanding shares by the current market price of a share.

**Modified Duration** is the ratio of Macaulay duration to  $(1 + y)$ , where  $y$  = the bond yield. Modified duration is inversely related to the approximate percentage change in price for a given change in yield.

**Net of Fees** calculations are an estimate of the performance of the total fund and individual managers after taking into account management fees. The estimate is calculated by subtracting the current estimated annual expense ratio from the historical gross of fee returns.

**Price-to-Book Ratio** is a measure of relative value measuring the weighted average of the individual portfolio's Price/Book ratios. The ratio is calculated by dividing the price of a stock by the book value of the company. Low Price/Book ratios are associated with value stocks and vice versa

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## Glossary

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**Price-to-Earnings Ratio** is a measure of relative value measuring the weighted average of the individual portfolio's Price/Earnings ratios. The ratio is calculated by dividing the price of a stock by the last twelve months' earnings of the company. Low Price/Earnings ratios are associated with value stocks and vice versa.

**R-Squared** measures how closely the manager's returns track the benchmark. The closer the R-squared statistic is to 1.0, the more closely related the manager's returns are to the benchmark. A higher R-squared also increases the reliability of alpha and beta.

**Sharpe Ratio** measures the excess return per unit of risk. The higher the ratio, the more efficient the manager. It is the average return of the manager minus the risk-free rate, divided by the standard deviation of the differences of the two return streams.

**Trading Effect** assesses the total performance caused by cash flows into and out of the portfolio, in addition to all purchases and sales of securities during the quarter. This effect is calculated by subtracting the buy and hold equity return of the portfolio from the actual equity return of the portfolio for the quarter.

**Yield to Worst** is computed by using the lower of either the yield to maturity or the yield to call on every possible call date.

*Due to current market conditions, there is general uncertainty regarding credit pricing which has resulted in significant differences between pricing sources. Marquette Associates, Inc. utilizes pricing sources it believes to be reliable; however, we can make no assurances as to their accuracy.*

*The sources of information used in this report are believed to be reliable. Marquette has not independently verified all of the information contained herein.*

*This report has been prepared and presented in compliance with the IMCA Performance Reporting Standards. It meets the mandatory requirements of those standards. IMCA has not been involved with the preparation or review of the report.*