Wilshire

WILSHIRE ASSOCIATES

Wilshire Consulting

Employees' Retirement Fund of the City of Dallas

Investment Performance Analysis

April 30, 2019

Wilshire Consulting

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending April 30, 2019

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Global Equity Composite	2.97	7.13	15.64	3.50	11.19	6.38	8/31/12	9.27	254,860	7.15
Global Low Volatility Composite	1.15	4.47	10.38	7.43	8.84		6/30/15	8.82	357,862	10.04
Domestic Equity Composite	4.21	8.18	18.25	8.40	13.99	10.47	12/31/89	10.11	470,808	13.22
International Equity Composite	2.24	5.08	13.98	-6.25	8.17	3.54	12/31/89	5.47	499,038	14.01
Global Fixed Income Composite	0.17	2.12	3.48	4.92	2.53	3.00	9/30/95	4.98	496,999	13.95
High Yield Composite	1.37	3.74	8.46	5.51	6.38	4.14	12/31/96	6.50	361,490	10.15
Credit Opportunities Composite	0.96	2.87	6.92	5.20	6.32		1/31/16	7.61	178,463	5.01
Total Real Estate Composite	0.91	3.55	8.35	11.50	6.34	8.45	12/31/89	6.66	416,368	11.69
Indices										
MSCI ACWI (N)	3.38	7.48	15.97	5.06	11.36	6.96	12/31/00	5.32		
Wilshire 5000	4.01	9.24	18.68	12.85	14.84	11.35	12/31/84	11.15		
Standard & Poor's 500	4.05	9.48	18.25	13.50	14.87	11.63	12/31/84	11.29		
MSCI ACWI X US IMI Index (N)	2.58	5.17	13.16	-3.98	7.91	2.96	5/31/94	4.89		
MSCI EAFE Index (N)	2.81	6.10	13.07	-3.21	7.24	2.60	12/31/84	8.49		
Bloomberg Aggregate	0.03	1.89	2.97	5.29	1.90	2.57	12/31/84	6.77		
FTSE High Yield Cash Pay	1.34	3.94	8.79	6.61	7.60	4.48	12/31/88	8.02		
Wilshire Real Est. Secs	-0.17	3.93	15.82	17.42	6.68	8.54	12/31/84	9.09		
Alerian MLP Index	-1.33	2.33	15.27	5.08	1.61	-5.78	12/31/95	11.36		

Manager returns are net of fees.

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	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
MLP Composite	-1.50	3.07	18.62	7.30	4.43	-2.17	12/31/11	5.84	250,409	7.03
Private Equity Composite	2.54	2.66	2.75	12.93	12.77	12.53	5/31/09	13.39	239,476	6.72
Managed Short Term Composite	0.19	0.59	0.79	2.18	1.25	0.78	12/31/89	2.95	36,824	1.03
Dallas Total Fund	1.59	4.42	10.63	5.84	8.24	5.88	12/31/84	9.08	3,562,598	100.00
Policy Index	1.80	4.83	10.93	6.58	7.98	5.52	12/31/84	9.68		
Indices										
MSCI ACWI (N)	3.38	7.48	15.97	5.06	11.36	6.96	12/31/00	5.32		
Wilshire 5000	4.01	9.24	18.68	12.85	14.84	11.35	12/31/84	11.15		
Standard & Poor's 500	4.05	9.48	18.25	13.50	14.87	11.63	12/31/84	11.29		
MSCI ACWI X US IMI Index (N)	2.58	5.17	13.16	-3.98	7.91	2.96	5/31/94	4.89		
MSCI EAFE Index (N)	2.81	6.10	13.07	-3.21	7.24	2.60	12/31/84	8.49		
Bloomberg Aggregate	0.03	1.89	2.97	5.29	1.90	2.57	12/31/84	6.77		
FTSE High Yield Cash Pay	1.34	3.94	8.79	6.61	7.60	4.48	12/31/88	8.02		
Wilshire Real Est. Secs	-0.17	3.93	15.82	17.42	6.68	8.54	12/31/84	9.09		
Alerian MLP Index	-1.33	2.33	15.27	5.08	1.61	-5.78	12/31/95	11.36		

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Systematic Financial	4.27	5.54	15.71	0.18	14.04	10.17	7/31/03	10.90	65,902	14.00
Russell 2000	3.40	6.50	18.48	4.61	13.60	8.63	7/31/03	9.40		
Russell 2000 + 1.25%	3.50	6.81	18.89	5.86	14.85	9.88	7/31/03	10.65		
Redwood Investments *	3.55	7.89	19.99	8.49			9/30/16	9.04	34,354	7.30
Russell 2000 Growth	3.05	8.22	20.71	6.91			9/30/16	13.44		
Russell 2000 Growth +1.50%	3.17	8.59	21.21	8.41			9/30/16	14.94		
Channing Capital *	4.77	8.19	20.52	-0.37	9.79	6.21	11/30/13	6.06	34,021	7.23
Russell 2000 Value	3.78	4.71	16.16	2.19	11.46	6.94	11/30/13	6.59		
Russell 2000 Value + 1.25%	3.89	5.02	16.57	3.44	12.71	8.19	11/30/13	7.84		
Domestic Equity Small Cap Composite	4.21	6.80	17.98	2.09	12.79	8.69	5/31/03	9.58	134,278	28.52
Indices										
Wilshire 5000	4.01	9.24	18.68	12.85	14.84	11.35	12/31/89	9.85		
Standard & Poor's 500	4.05	9.48	18.25	13.50	14.87	11.63	12/31/89	9.80		
Russell 2000	3.40	6.50	18.48	4.61	13.60	8.63	12/31/89	9.51		
Russell 1000 Value	3.55	7.54	15.90	9.06	10.97	8.27	12/31/89	9.72		

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Wilshire Consulting

MONTHLY SUMMARY

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Smith Graham *	4.71	5.02	16.48	-1.26			12/31/17	-0.50	68,068	14.46
Russell Mid Cap	3.81	9.19	20.97	10.69			12/31/17	7.42		
Russell Mid Cap + 2%	3.97	9.69	21.63	12.69			12/31/17	9.42		
T. Rowe Price	4.14	9.66	19.24	13.77	15.92	12.36	3/31/06	9.33	145,157	30.83
Standard & Poor's 500	4.05	9.48	18.25	13.50	14.87	11.63	3/31/06	8.75		
Standard & Poor's 500 + 1%	4.13	9.73	18.58	14.50	15.87	12.63	3/31/06	9.75		
Northern Trust S&P 500 (Lending)	4.05	9.52	18.29	13.55	14.88	11.67	12/31/94	10.08	123,305	26.19
Standard & Poor's 500	4.05	9.48	18.25	13.50	14.87	11.63	12/31/94	10.03		
Domestic Equity Composite	4.21	8.18	18.25	8.40	13.99	10.47	12/31/89	10.11	470,808	100.00
Custom Benchmark	4.01	9.24	18.68	12.85	14.84	11.35	12/31/89	10.14		
Indices										
Wilshire 5000	4.01	9.24	18.68	12.85	14.84	11.35	12/31/89	9.85		
Standard & Poor's 500	4.05	9.48	18.25	13.50	14.87	11.63	12/31/89	9.80		
Russell 2000	3.40	6.50	18.48	4.61	13.60	8.63	12/31/89	9.51		
Russell 1000 Value	3.55	7.54	15.90	9.06	10.97	8.27	12/31/89	9.72		

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Wilshire Consulting

MONTHLY SUMMARY

Investment Performance and Market Values

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Adelante Capital Management	-0.03	5.54	17.38	17.44	6.70	8.46	9/30/01	10.06	90,240	21.67
Wilshire Real Est. Secs	-0.17	3.93	15.82	17.42	6.68	8.54	9/30/01	10.41		
Wilshire Real Est. Secs +1%	-0.08	4.18	16.15	18.42	7.68	9.54	9/30/01	11.41		
CenterSquare	-0.01	4.28	16.39				5/31/18	14.44	89,205	21.42
Wilshire Real Est. Secs	-0.17	3.93	15.82				5/31/18	13.32		
Wilshire Real Est. Secs + 1%	-0.08	4.18	16.15				5/31/18	14.24		
REIT Composite	-0.02	4.91	16.89	18.00	6.43	8.18	9/30/01	10.17	179,445	43.10
Wilshire Real Est. Secs	-0.17	3.93	15.82	17.42	6.68	8.54	9/30/01	10.41		
Heitman America Real Estate Trust, LP	0.00	1.33	1.33	5.89	6.86	9.14	11/30/10	11.14	93,043	22.35
NCREIF ODCE NOF	0.00	1.20	1.20	6.55	7.01	9.17	11/30/10	10.78		
Invesco Core Real Estate USA, LLC	0.00	1.11	1.11	7.97	8.90	10.60	11/30/10	11.28	77,264	18.56
NCREIF ODCE NOF	0.00	1.20	1.20	6.55	7.01	9.17	11/30/10	10.78		
Invesco II	6.02	6.02	6.02	7.34	1.54	0.99	9/30/13	0.80	66,615	16.00
Indices										
Wilshire REIT Index	-0.18	3.90	15.81	17.47	6.38	8.20	12/31/89	9.69		
NCREIF ODCE NOF	0.00	1.20	1.20	6.55	7.01	9.17	12/31/98	7.48		

Manager returns are net of fees. Private Core Real Estate manager information is preliminary as market values are not yet finalized by the manager.

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Wilshire Consulting

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending April 30, 2019

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Private Core Real Estate Composite	1.62	2.53	2.53	6.98	6.23	8.49	9/30/10	10.12	236,922	56.90
Custom Benchmark	1.32	2.27	2.27	6.76	5.85	7.43	9/30/10	9.37		
Total Real Estate Composite	0.91	3.55	8.35	11.50	6.34	8.45	12/31/89	6.66	416,368	100.00
Custom Benchmark	0.58	3.11	9.01	12.39	6.50	8.26	12/31/89	8.69		
Indices										
Wilshire REIT Index	-0.18	3.90	15.81	17.47	6.38	8.20	12/31/89	9.69		
NCREIF ODCE NOF	0.00	1.20	1.20	6.55	7.01	9.17	12/31/98	7.48		

Manager returns are net of fees.

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Employees' Retirement Fund of the City of Dallas

Monthly Performance and Market Value Summary

Periods Ended 04/30/19

Wilshire

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple [3]
Hamilton Lane Secondary Fund II	1,871,708	25,000,000	22,848,181	26,504,594	Jul-09	8.7%	1.2
Hamilton Lane Secondary Fund III	12,908,479	30,000,000	17,762,479	16,913,862	Nov-12	21.3%	1.7
Hamilton Lane Secondary Fund IV	17,034,562	30,000,000	12,310,713	204,691	Mar-17	42.6%	1.4
Hamilton Lane Fund VII Composite	29,348,538	50,000,000	42,992,714	28,131,444	Jan-10	6.7%	1.3
Hamilton Lane Fund VIII (Global)	22,412,676	30,000,000	16,412,837	2,568,375	Nov-12	11.8%	1.5
Hamilton Lane Cash	-	-	-	-	Aug-09	-.-	-.-
GCM Grosvenor - Partnership, L.P.	44,991,843	75,000,000	81,062,229	82,497,881	Jun-11	15.6%	1.6
GCM Grosvenor - Partnership II, L.P. (2014)	50,716,345	60,000,000	57,618,205	18,421,089	Jul-14	11.3%	1.2
GCM Grosvenor - Partnership II, L.P. (2015)	26,018,618	20,000,000	23,948,499	1,428,044	Dec-15	11.0%	1.1
GCM Grosvenor - Partnership II, L.P. (2017)	4,507,682	30,000,000	4,724,620	66,378	Jan-18	-11.1%	1.0
GCM Grosvenor Cash	-	-	-	-	Jun-11	-.-	-.-
Fairview Capital III *	29,665,888	40,000,000	27,254,684	1,630,828	Aug-15	10.1%	1.1
Total Private Equity Composite	**239,476,339**	**390,000,000**	**306,935,163**	**178,367,186**	**Jul-09**	**12.8%**	**1.4**
Public Market Equivalent (PME) [2]	**299,125,801**					**16.9%**	

* Next Generation Manager

[1] Total Value to Paid-in Capital ("TVPI") multiple calculation = *(market value + distributions) / capital called*

[2] The Public Market Equivalent (PME) approach creates a hypothetical investment vehicle that mimics the private equity composite cash flows. The performance difference between the PME vehicle and the private equity portfolio is determined by their net asset value (NAV) at the end of the benchmarking period. The performance of the "public market" is simulated using the monthly S&P 500 index returns, plus a 300 BPs annual hurdle rate.

Wilshire Consulting

MONTHLY SUMMARY

Investment Performance and Market Values

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	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Acadian International	1.73	4.49	14.00	-9.39	9.69	4.88	3/31/89	8.34	101,741	20.39
Custom Benchmark	2.21	4.51	12.70	-8.54	6.81	3.75	3/31/89	5.84		
Custom Benchmark + 2%	2.38	5.01	13.36	-6.54	8.81	5.75	3/31/89	7.84		
Ativo International *	2.34	5.21	12.57	-2.55			12/31/17	-1.25	34,923	7.00
MSCI EAFE Index (N)	2.81	6.10	13.07	-3.21			12/31/17	-1.90		
MSCI EAFE Index (N) + 2%	2.98	6.59	13.73	-1.21			12/31/17	0.10		
AQR Capital Management	1.11	3.56	13.01	-9.05	7.08	3.08	3/31/06	3.19	198,797	39.84
Custom Benchmark	2.64	5.27	13.23	-3.23	8.09	2.83	3/31/06	2.82		
Custom Benchmark + 1.5%	2.77	5.64	13.73	-1.73	9.59	4.33	3/31/06	4.32		
Baillie Gifford	4.66						3/31/19	4.66	82,221	16.48
MSCI ACWI Ex U.S. (N)	2.64						3/31/19	2.64		
Earnest Partners *	3.24						3/31/19	3.24	81,353	16.30
MSCI ACWI Ex U.S. (N)	2.64						3/31/19	2.64		
BlackRock ACWI Ex U.S.									1	0.00
Indices										
MSCI ACWI X US IMI Index (N)	2.58	5.17	13.16	-3.98	7.91	2.96	5/31/94	4.89		
MSCI ACWI ex US (N)	2.64	5.27	13.23	-3.23	8.09	2.83	12/31/98	4.78		
MSCI ACWI X US Small Cap (N)	2.21	4.51	12.70	-8.54	6.81	3.75	5/31/94	5.56		
MSCI EAFE Index (N)	2.81	6.10	13.07	-3.21	7.24	2.60	12/31/89	4.37		
MSCI Emerging Mkts (N)	2.11	3.19	12.24	-5.04	11.25	4.04	12/31/98	8.99		

*Next Generation Manager. Manager returns are net of fees.

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International Equity Composite	2.24	5.08	13.98	-6.25	8.17	3.54	12/31/89	5.47	499,038	100.00
Custom Benchmark	2.58	5.17	13.16	-3.98	7.91	2.96	12/31/89	4.57		
Indices										
MSCI ACWI X US IMI Index (N)	2.58	5.17	13.16	-3.98	7.91	2.96	5/31/94	4.89		
MSCI ACWI ex US (N)	2.64	5.27	13.23	-3.23	8.09	2.83	12/31/98	4.78		
MSCI ACWI X US Small Cap (N)	2.21	4.51	12.70	-8.54	6.81	3.75	5/31/94	5.56		
MSCI EAFE Index (N)	2.81	6.10	13.07	-3.21	7.24	2.60	12/31/89	4.37		
MSCI Emerging Mkts (N)	2.11	3.19	12.24	-5.04	11.25	4.04	12/31/98	8.99		

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Ariel Global *	1.61	4.41	11.32	2.48			12/31/17	3.81	107,978	42.37
MSCI ACWI (N)	3.38	7.48	15.97	5.06			12/31/17	3.76		
MSCI ACWI (N) + 1.5%	3.50	7.85	16.46	6.56			12/31/17	5.26		
Wellington	4.07	9.49	19.47	4.09	10.77	8.17	8/31/12	12.03	127,505	50.03
MSCI ACWI (N)	3.38	7.48	15.97	5.06	11.36	6.96	8/31/12	9.77		
MSCI ACWI (N) + 2%	3.54	7.97	16.63	7.06	13.36	8.96	8/31/12	11.77		
Northern Trust Global Equity	3.45	7.45	16.23	4.94	11.66		9/30/15	11.81	19,377	7.60
MSCI AC World IMI Index (N)	3.31	7.28	16.01	4.28	11.20		9/30/15	11.34		
Global Equity Composite	2.97	7.13	15.64	3.50	11.19	6.38	8/31/12	9.27	254,860	100.00
MSCI ACWI (N)	3.38	7.48	15.97	5.06	11.36	6.96	8/31/12	9.77		
Indices										
MSCI AC World IMI Index (N)	3.31	7.28	16.01	4.28	11.20	6.89	8/31/12	9.83		
MSCI ACWI (N)	3.38	7.48	15.97	5.06	11.36	6.96	8/31/12	9.77		

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Wilshire Consulting

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Acadian Global Low Vol.	1.40	3.09	9.66	4.43	8.03		6/30/15	8.10	178,727	49.94
MSCI ACWI (N)	3.38	7.48	15.97	5.06	11.36		6/30/15	7.85		
MSCI ACWI (N) + 2%	3.54	7.97	16.63	7.06	13.36		6/30/15	9.85		
MSCI ACWI Min Vol (N)	0.88	5.70	10.92	9.97	9.09		6/30/15	8.98		
BlackRock Global Low Vol.	0.90	5.84	11.10	10.44	9.61		6/30/15	9.52	179,135	50.06
MSCI ACWI Min Vol (N)	0.88	5.70	10.92	9.97	9.09		6/30/15	8.98		
Global Low Volatility Composite	1.15	4.47	10.38	7.43	8.84		6/30/15	8.82	357,862	100.00
MSCI ACWI Min Vol (N)	0.88	5.70	10.92	9.97	9.09		6/30/15	8.98		
Indices										
MSCI ACWI Min Vol (N)	0.88	5.70	10.92	9.97	9.09	8.90	6/30/15	8.98		
MSCI ACWI (N)	3.38	7.48	15.97	5.06	11.36	6.96	6/30/15	7.85		

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Harvest Fund Advisors MLP	-1.45	3.30	19.40	7.02	4.23	-2.68	12/31/11	5.17	124,590	49.75
Alerian MLP Index	-1.33	2.33	15.27	5.08	1.61	-5.78	12/31/11	0.73		
Alerian MLP Index + 1.5%	-1.21	2.71	15.76	6.58	3.11	-4.28	12/31/11	2.23		
Atlantic Trust CIBC	-1.54	2.85	17.86	7.59	4.63	-2.31	12/31/11	6.14	125,819	50.25
Alerian MLP Index	-1.33	2.33	15.27	5.08	1.61	-5.78	12/31/11	0.73		
Alerian MLP Index + 1.5%	-1.21	2.71	15.76	6.58	3.11	-4.28	12/31/11	2.23		
MLP Composite	-1.50	3.07	18.62	7.30	4.43	-2.17	12/31/11	5.84	250,409	100.00
Alerian MLP Index	-1.33	2.33	15.27	5.08	1.61	-5.78	12/31/11	0.73		
Indices										
Alerian MLP Index	-1.33	2.33	15.27	5.08	1.61	-5.78	12/31/11	0.73		
Standard & Poor's 500	4.05	9.48	18.25	13.50	14.87	11.63	12/31/11	14.68		

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MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending April 30, 2019

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Securian Asset Management	0.22	2.38	3.64	5.34	3.08	3.45	6/30/07	4.56	213,544	42.97
Bloomberg Aggregate	0.03	1.89	2.97	5.29	1.90	2.57	6/30/07	4.14		
Bloomberg Aggregate + 0.5%	0.07	2.01	3.14	5.79	2.40	3.07	6/30/07	4.64		
Aberdeen Global Fixed Income	0.20	2.12	3.70	4.80	2.15	2.60	4/30/07	4.56	212,809	42.82
Bloomberg Aggregate	0.03	1.89	2.97	5.29	1.90	2.57	4/30/07	3.99		
Bloomberg Aggregate + 0.5%	0.07	2.01	3.14	5.79	2.40	3.07	4/30/07	4.49		
Garcia Hamilton *	-0.09	1.33	2.32	4.06	2.07	2.85	10/31/13	3.17	70,647	14.21
Bloomberg Aggregate	0.03	1.89	2.97	5.29	1.90	2.57	10/31/13	2.66		
Bloomberg Aggregate + 0.5%	0.07	2.01	3.14	5.79	2.40	3.07	10/31/13	3.16		
Global Fixed Income Composite	0.17	2.12	3.48	4.92	2.53	3.00	9/30/95	4.98	496,999	100.00
Bloomberg Aggregate	0.03	1.89	2.97	5.29	1.90	2.57	9/30/95	5.09		
Indices										
10 yr Treasury Bellwethers Index	-0.58	1.74	2.48	6.48	-0.04	2.29	9/30/95	4.86		
Bloomberg Aggregate	0.03	1.89	2.97	5.29	1.90	2.57	9/30/95	5.09		

* Next Generation Manager. Manager returns are net of fees.

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Neuberger Berman	0.96	2.87	6.92	5.20	6.32		1/31/16	7.61	178,463	100.00
Custom Benchmark	1.10	3.29	7.27	5.68	6.22		1/31/16	7.89		
Custom Benchmark + 1%	1.18	3.54	7.60	6.68	7.22		1/31/16	8.89		
Indices										
ML High Yield Master II Constrained	1.40	4.12	8.90	6.71	7.78	4.86	1/31/16	10.07		
S&P LSTA Leverage Loan Index	1.65	3.09	5.72	4.24	5.55	3.94	1/31/16	6.47		
JPM EMBI Global Diversified	0.24	2.68	7.21	6.00	5.25	5.23	1/31/16	7.07		

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Oaktree Capital Management	1.31	3.50	8.30	4.98	6.13	3.56	1/31/97	6.73	180,492	49.93
Citigroup HY Cash Pay Capped	1.35	3.96	8.82	6.59	7.50	4.43	1/31/97			
Citigroup High Yield Cash Pay	1.34	3.94	8.79	6.61	7.60	4.48	1/31/97	6.93		
Citigroup HY Cash Pay + 1%	1.42	4.19	9.12	7.61	8.60	5.48	1/31/97	7.93		
BlackRock	1.44	3.97	8.63	6.04	6.64	4.24	9/30/06	6.42	180,998	50.07
Citigroup HY Cash Pay Capped	1.35	3.96	8.82	6.59	7.50	4.43	9/30/06	6.93		
Citigroup High Yield Cash Pay	1.34	3.94	8.79	6.61	7.60	4.48	9/30/06	7.02		
Citigroup HY Cash Pay + 1%	1.42	4.19	9.12	7.61	8.60	5.48	9/30/06	8.02		
High Yield Composite	1.37	3.74	8.46	5.51	6.38	4.14	12/31/96	6.50	361,490	100.00
Citigroup High Yield Cash Pay	1.34	3.94	8.79	6.61	7.60	4.48	12/31/96	6.93		
Indices										
10 yr Treasury Bellwethers Index	-0.58	1.74	2.48	6.48	-0.04	2.29	12/31/96	4.88		
91-Day Treasury Bill	0.19	0.59	0.79	2.18	1.25	0.78	12/31/96	2.22		
FTSE High Yield Cash Pay	1.34	3.94	8.79	6.61	7.60	4.48	12/31/96	6.90		

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	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Cash Account	0.19	0.59	0.79	2.18	1.25	0.78	12/31/87	3.31	36,824	100.00
Managed Short Term Composite	0.19	0.59	0.79	2.18	1.25	0.78	12/31/89	2.95	36,824	100.00
Indices										
91-Day Treasury Bill	0.19	0.59	0.79	2.18	1.25	0.78	12/31/89	2.96		

Manager returns are net of fees.

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