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ENTERPRISE  
SUCCESS**



**PERIOD ENDING: FEBRUARY 28, 2023**

Participant Plan Performance Review for

**West Virginia Investment Management Board**

# Participant Plans Allocation & Performance Net of Fees

Period Ending: February 28, 2023

	6/30/2022		2/28/2023		Performance %							
	Asset (\$000)	%	Asset (\$000)	%	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year	20 Year
<b>WVIMB Fund Assets</b>	<b>22,991,842</b>	<b>100.0</b>	<b>23,505,863</b>	<b>100.0</b>								
<b>Pension Assets</b>	<b>18,829,116</b>	<b>81.9</b>	<b>19,163,079</b>	<b>81.5</b>								
Public Employees' Retirement System	8,004,835	34.8	8,146,599	34.7	(1.4)	0.8	4.3	(2.7)	9.6	7.3	8.4	8.5
Teachers' Retirement System	8,980,424	39.1	9,012,189	38.3	(1.4)	0.9	4.3	(2.7)	9.6	7.3	8.3	8.3
EMS Retirement System	112,407	0.5	117,646	0.5	(1.4)	0.8	4.3	(2.7)	9.6	7.3	8.3	
Public Safety Retirement System	767,508	3.3	764,939	3.3	(1.4)	0.9	4.3	(2.7)	9.7	7.3	8.4	8.5
Judges' Retirement System	259,323	1.1	268,834	1.1	(1.4)	0.8	4.3	(2.7)	9.6	7.3	8.4	8.5
State Police Retirement System	289,417	1.3	305,231	1.3	(1.4)	0.8	4.3	(2.7)	9.6	7.3	8.4	8.5
Deputy Sheriffs' Retirement System	293,315	1.3	304,154	1.3	(1.4)	0.8	4.3	(2.7)	9.6	7.3	8.4	8.5
Municipal Police & Firefighter Retirement System	26,796	0.1	31,598	0.1	(1.4)	0.8	4.2	(2.8)	9.5	7.2	8.2	
Natural Resources Police Office Retirement System	24,467	0.1	26,112	0.1	(1.4)	0.8	4.3	(2.7)				
Municipal Model A (I)	68,337	0.3	183,247	0.8	(1.4)	0.9	5.2	(2.4)	10.2	7.7		
Municipal Model B (I)	2,287	0.0	2,530	0.0	(2.2)	1.1	3.9	(7.2)	4.6			
<b>Insurance Assets</b>	<b>3,007,901</b>	<b>13.1</b>	<b>3,170,511</b>	<b>13.5</b>								
Workers' Compensation Old Fund	881,990	3.8	846,331	3.6	(1.5)	0.9	1.9	(6.4)	3.2	3.3	4.0	
Workers' Comp. Self-Insured Guaranty Risk Pool	35,691	0.1	36,039	0.2	(1.5)	0.9	2.2	(5.6)	3.7	3.5	4.3	
Workers' Comp. Self-Insured Security Risk Pool	48,590	0.2	47,771	0.2	(1.5)	0.9	2.2	(5.6)	3.7	3.5		
Workers' Comp. Uninsured Employers' Fund	15,559	0.1	16,147	0.1	(1.5)	0.9	2.2	(5.6)	3.6	3.4	4.2	
Pneumoconiosis	207,487	0.9	199,385	0.8	(1.5)	0.9	2.2	(5.7)	3.6	3.5	4.3	5.2
Board of Risk & Insurance Management	175,463	0.8	178,178	0.8	(1.5)	0.9	2.1	(5.7)	3.7	3.5	4.3	
Public Employees' Insurance Agency	134,812	0.6	171,493	0.7	(1.6)	1.1	2.0	(6.0)	2.9	3.3	4.1	
WV Retiree Health Benefit Trust Fund	1,508,309	6.6	1,675,167	7.1	(1.4)	0.9	4.3	(2.7)	9.6	7.3	8.3	
<b>Endowment Assets</b>	<b>1,154,825</b>	<b>5.0</b>	<b>1,172,273</b>	<b>5.0</b>								
Berkeley County Development Authority	7,886	0.0	8,225	0.0	(1.4)	0.9	4.3	(2.7)	9.6	7.3		
Wildlife Fund	73,641	0.3	71,097	0.3	(1.4)	0.8	4.3	(2.8)	9.6	7.3	8.3	8.5
WV State Parks and Recreation Endowment Fund	14,770	0.1	28,779	0.1	(1.3)	0.8	4.6	(2.2)				
Revenue Shortfall Reserve Fund	329,802	1.4	326,041	1.4	(1.7)	0.3	(1.3)	(8.6)	(2.3)	0.9	1.1	
Revenue Shortfall Reserve Fund - Part B	498,719	2.2	499,824	2.1	(1.9)	0.5	0.2	(8.6)	1.1	2.5	3.5	
WV DEP Trust	10,357	0.0	11,040	0.0	(1.4)	2.1	6.6	(4.5)	7.9	5.1	6.9	
WV DEP Agency	219,650	1.0	227,267	1.1	(1.7)	1.4	3.5	(5.5)	4.6	3.8		

Composite Asset Allocation & Performance Net of Fees

Period Ending: February 28, 2023

	Asset (\$000)	%	Performance %								
			1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year	20 Year	
Investment Pools Composite	23,513,854	100.00									
Portable Alpha Composite +/- S&P 500 Index	4,835,789	20.57	(2.65) (0.21)	(2.91) (0.63)	5.31 (0.77)	(8.06) (0.37)					
Large Cap Domestic Equity Composite +/- S&P 500 Index	293,771	1.26	(2.44) 0.00	(2.24) 0.04	5.99 (0.09)	(7.79) (0.10)	12.16 0.01	9.54 (0.28)	12.19 (0.06)	10.27 0.04	
Non-Large Cap Domestic Equity Composite +/- Russell 2500 Index	1,116,410	4.75	0.58 2.93	5.86 4.83	24.83 12.69	(0.06) 5.36	14.70 3.22	9.09 1.42	10.51 0.55	11.52 0.58	
International Equity Composite +/- MSCI AC World ex US IMI Index (b)	4,558,549	19.38	(2.44) 0.92	5.62 1.86	7.36 (0.43)	(7.61) (0.55)	7.12 1.15	1.69 (0.37)	5.38 0.83	8.62 0.81	
Fixed Income Composite +/- Bloomberg Universal (c)	3,565,551	15.16	(2.48) (0.02)	0.57 0.34	(0.77) 0.99	(7.77) 1.53	(2.03) 1.39	1.15 0.47	2.08 0.69	3.76 0.48	
Core Fixed Income Composite +/- Bloomberg US Aggregate	1,065,934	4.53	(2.28) 0.31	0.55 0.59	(2.02) 0.55	(8.70) 1.02	(2.77) 1.00	1.33 0.80	1.73 0.61		
Total Return Fixed Income Composite (j) +/- Bloomberg Universal	2,499,617	10.63	(2.57) (0.11)	0.57 0.34	(0.23) 1.53	(7.38) 1.92	(1.74) 1.68	1.06 0.38	2.22 0.83	4.12 0.74	
TIPS Composite +/- Bloomberg US TIPS	396,494	1.69	(1.38) (0.01)	(0.58) 0.01	(2.74) 0.05	(10.35) 0.05	0.27 0.07	2.65 0.08	1.26 0.04		
Cash Composite +/- FTSE 3 Month US T-Bill (d)	109,114	0.46	0.33 (0.02)	1.01 (0.05)	2.01 (0.05)	2.14 (0.08)	0.76 (0.10)	1.26 (0.09)	0.81 (0.02)	1.34 (0.03)	
Private Equity Composite +/- Russell 3000 + 3% (e, f)	2,713,686	11.54	0.37 2.46	(0.62) 0.36	(0.29) (9.17)	1.58 6.65	24.74 9.95	23.07 10.65	18.26 3.30		
Real Estate Composite +/- NCREIF + 1% (e)	2,474,448	10.52	(0.25) 0.85	(1.46) 0.45	(1.54) (3.59)	5.80 (4.13)	7.69 (1.99)	7.71 (1.14)	8.71 (1.33)		
Hedge Fund Composite +/- HFRI FOF + 1% (g)	2,521,020	10.72	0.05 0.40	3.17 0.84	5.04 1.26	5.10 4.67	7.43 1.71	5.61 1.41	5.13 1.07		
Private Credit & Income Composite +/- CS Leveraged Loan + 2% (e, k)	929,022	3.95	(0.17) (0.96)	(0.43) (4.51)	1.47 (6.73)	5.68 1.42	6.65 0.94	6.73 1.10			

# Participant Plans Allocation vs. Strategy

Period Ending: February 28, 2023

	Equity		Fixed Income		Private Equity		Real Estate		Private Credit & Income		Hedge Funds		Cash	
	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %

## Pension Assets

Public Employees' Retirement System	48.7	45.0	12.3	15.0	12.5	12.0	11.7	12.0	4.3	6.0	10.5	10.0	0.0	0.0
Teachers' Retirement System	48.7	45.0	12.2	15.0	12.5	12.0	11.7	12.0	4.3	6.0	10.5	10.0	0.1	0.0
EMS Retirement System	48.5	45.0	12.6	15.0	12.5	12.0	11.6	12.0	4.3	6.0	10.5	10.0	0.0	0.0
Public Safety Retirement System	48.8	45.0	12.1	15.0	12.5	12.0	11.7	12.0	4.3	6.0	10.6	10.0	0.0	0.0
Judges' Retirement System	48.6	45.0	12.4	15.0	12.5	12.0	11.6	12.0	4.3	6.0	10.5	10.0	0.1	0.0
State Police Retirement System	48.4	45.0	12.7	15.0	12.4	12.0	11.6	12.0	4.3	6.0	10.5	10.0	0.1	0.0
Deputy Sheriffs' Retirement System	48.6	45.0	12.5	15.0	12.5	12.0	11.6	12.0	4.3	6.0	10.5	10.0	0.0	0.0
Municipal Police & Firefighter Retirement System	47.2	45.0	12.9	15.0	12.2	12.0	11.4	12.0	4.2	6.0	10.3	10.0	1.8	0.0
Natural Resources Police Office Retirement System	48.3	45.0	12.5	15.0	12.4	12.0	11.6	12.0	4.2	6.0	10.4	10.0	0.6	0.0
Municipal Model A	48.4	45.0	12.3	15.0	12.5	12.0	11.7	12.0	4.3	6.0	10.5	10.0	0.3	0.0
Municipal Model B	55.6	55.0	40.6	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0

## Insurance Assets

Workers' Compensation Old Fund	26.2	25.0	43.9	45.0	4.2	4.0	3.9	4.0	1.4	2.0	15.8	15.0	4.6	5.0
Workers' Comp. Self-Insured Guaranty Risk Pool	26.2	25.0	43.8	45.0	4.2	4.0	3.9	4.0	1.4	2.0	15.8	15.0	4.7	5.0
Workers' Comp. Self-Insured Security Risk Pool	26.2	25.0	44.0	45.0	4.2	4.0	3.9	4.0	1.4	2.0	15.8	15.0	4.5	5.0
Workers' Comp. Uninsured Employers Fund	26.1	25.0	43.6	45.0	4.1	4.0	3.9	4.0	1.4	2.0	15.7	15.0	5.2	5.0
Pneumoconiosis	26.3	25.0	44.2	45.0	4.2	4.0	3.9	4.0	1.4	2.0	15.9	15.0	4.1	5.0
Board of Risk & Insurance Mgmt.	25.8	25.0	44.1	45.0	4.2	4.0	3.9	4.0	1.4	2.0	15.7	15.0	4.9	5.0
Public Employees' Insurance Agency	20.7	20.0	53.6	55.0	2.1	2.0	1.9	2.0	0.7	1.0	21.0	20.0	0.0	0.0
WV Retiree Health Benefit Trust Fund	48.8	45.0	12.8	15.0	12.2	12.0	11.4	12.0	4.2	6.0	10.3	10.0	0.3	0.0

## Endowment Assets

Berkeley County Development Authority	48.4	45.0	12.7	15.0	12.4	12.0	11.6	12.0	4.2	6.0	10.5	10.0	0.2	0.0
Wildlife Fund	47.9	45.0	12.9	15.0	12.4	12.0	11.6	12.0	4.3	6.0	10.5	10.0	0.4	0.0
WV State Parks and Recreation Endowment Fund	47.0	45.0	11.5	15.0	11.7	12.0	10.9	12.0	4.0	6.0	9.9	10.0	5.0	0.0
Revenue Shortfall Reserve Fund	10.6	10.0	79.4	80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0
Revenue Shortfall Reserve Fund - Part B	18.5	17.5	71.5	72.5	2.1	2.0	1.9	2.0	0.7	1.0	5.3	5.0	0.0	0.0
WV DEP Trust	52.4	50.0	14.1	15.0	10.2	10.0	9.5	10.0	3.4	5.0	10.4	10.0	0.0	0.0
WV DEP Agency	36.5	35.0	38.0	40.0	2.1	2.0	1.9	2.0	0.7	1.0	20.8	20.0	0.0	0.0

- (a) As of January 2019, the PERS Base is 60% MSCI ACWI Gross and 40% Bloomberg Universal. From January 2014 to December 2018, the PERS Base was 30% Russell 3000, 30% MSCI ACWI ex USA (IMI), and 40% Bloomberg Universal. From April 2008 to December 2013, the PERS Base was 30% Russell 3000, 30% MSCI ACWI ex USA (Standard), and 40% Bloomberg Universal. Prior periods were 42% Russell 3000, 18% MSCI ACWI ex USA, and 40% Bloomberg US Aggregate.
- (b) Prior to January 2014, the index was the MSCI ACW ex USA (Standard).
- (c) Prior to April 2008, the index was Bloomberg US Aggregate.
- (d) Prior to January 2014, the index was FTSE 3 Month US T-Bill plus 15 basis points.
- (e) Private Equity, Real Estate, and Private Credit & Income consist primarily of private market investments. The time lag in determining the fair value of these investments makes the comparison to their public market benchmarks less meaningful over shorter time periods.
- (f) Prior to January 2014, the index was S&P 500 plus 500 basis points.
- (g) Prior to January 2014, the index was Libor plus 400 basis points.
- (h) As of July 2019, the Franklin Benchmark is 50% JPM EMBI Global Diversified ex GCC and 50% JPM GBI EM Diversified. Prior periods were 50% JPM EMBI Global Diversified and 50% JPM GBI EM Diversified.
- (i) Prior to April 2008, the index was a custom index.
- (j) From October 2015 to March 2017, performance returns from the Opportunistic Income Pool were included in the Total Return Fixed Income Composite.
- (k) Prior to April 2017, the index was CS Leveraged Loan plus 250 basis points.
- (l) In July 2020 the municipal plan potential investment models were condensed to Model A and Model B. The June 30, 2020 asset values for Model C and Model D are included in Model A. Model B was formerly Model F.
- (m) From September 2021 to September 2022, the index was S&P 500 Index 2.5x minus 3 Month Libor minus 15 basis points. From January 2021 to August 2021, the index was S&P 500 Index 2.2x minus 3 Month Libor minus 15 basis points. Prior to January 2021, the index was S&P 500 Index 2.5x minus 3 Month Libor minus 15 basis points.

Note: Participant returns are net of fees. Portfolio returns are net of management fees. Returns shorter than one year are unannualized.

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