



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: NOVEMBER 30, 2020

Participant Plan Performance Review for

West Virginia Investment Management Board

Participant Plans Allocation & Performance Net of Fees

Period Ending: November 30, 2020

	6/30/2020		11/30/2020		Performance %							
	Asset (\$000)	%	Asset (\$000)	%	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year	20 Year
WVIMB Fund Assets	20,136,091	100.0	22,039,144	100.0								
Pension Assets	16,181,269	80.4	17,731,289	80.5								
Public Employees' Retirement System	6,899,129	34.3	7,604,169	34.5	7.7	5.1	11.8	11.1	7.9	9.6	9.1	7.3
Teachers' Retirement System	7,820,075	38.8	8,512,344	38.7	7.7	5.1	11.7	11.0	7.9	9.6	9.0	7.2
EMS Retirement System	88,627	0.4	99,618	0.5	7.7	5.1	11.8	11.2	7.9	9.6	9.0	
Public Safety Retirement System	675,608	3.4	732,804	3.3	7.7	5.1	11.7	11.1	7.9	9.6	9.1	7.4
Judges' Retirement System	215,698	1.1	239,310	1.1	7.8	5.1	11.8	11.2	8.0	9.6	9.1	7.3
State Police Retirement System	220,921	1.1	250,363	1.1	7.8	5.1	11.8	11.2	8.0	9.6	9.1	7.3
Deputy Sheriffs' Retirement System	239,121	1.2	266,761	1.2	7.7	5.1	11.8	11.1	7.9	9.6	9.1	7.3
Municipal Police & Firefighter Retirement System	14,669	0.1	17,595	0.1	7.7	5.0	11.7	11.4	8.0	9.5	8.1	
Municipal Model A (I)	5,851	0.0	6,444	0.0	7.8	5.1	12.2	11.4	8.2	9.7		
Municipal Model B (I)	1,570	0.0	1,881	0.0	7.5	4.6	11.9	11.4				
Insurance Assets	2,910,807	14.5	3,182,519	14.4								
Workers' Compensation Old Fund	1,013,189	5.0	1,060,876	4.8	5.1	3.3	8.8	9.8	6.0	6.7	5.6	
Workers' Comp. Self-Insured Guaranty Risk Pool	34,115	0.2	37,075	0.2	5.2	3.5	8.9	9.6	5.9	6.5	5.7	
Workers' Comp. Self-Insured Security Risk Pool	50,505	0.3	53,648	0.2	5.1	3.4	8.9	9.6	5.9	6.5		
Workers' Comp. Uninsured Employers' Fund	14,005	0.1	15,404	0.1	5.1	3.4	8.7	9.3	5.7	6.3	5.6	
Pneumoconiosis	223,717	1.1	238,814	1.1	5.2	3.5	8.9	9.6	5.9	6.5	5.7	5.8
Board of Risk & Insurance Management	164,662	0.8	179,362	0.8	5.2	3.5	8.9	9.7	5.9	6.5	5.8	
Public Employees' Insurance Agency	260,386	1.3	280,236	1.2	4.7	3.2	7.6	9.0	5.8	6.4	5.7	
WV Retiree Health Benefit Trust Fund	1,150,228	5.7	1,317,104	6.0	7.8	5.1	11.6	11.1	8.0	9.6	8.8	
Endowment Assets	1,044,015	5.1	1,125,336	5.1								
Berkeley County Development Authority	6,378	0.0	7,132	0.0	7.8	5.1	11.8	11.2	7.9	9.6		
Wildlife Fund	62,699	0.3	66,951	0.3	7.7	5.1	11.7	11.0	7.9	9.6	9.0	7.7
Revenue Shortfall Reserve Fund	272,021	1.4	289,824	1.3	0.9	0.9	0.9	4.5	4.1	3.9	3.5	
Revenue Shortfall Reserve Fund - Part B	492,955	2.4	528,634	2.4	4.1	2.6	7.2	10.3	6.3	6.8	5.7	
WV DEP Trust	9,053	0.0	10,370	0.1	8.9	5.5	14.6	11.6	6.6	8.6		
WV DEP Agency	200,909	1.0	222,425	1.0	6.4	4.3	10.7	10.4	6.1	7.3		

Composite Asset Allocation & Performance Net of Fees

Period Ending: November 30, 2020

	Asset (\$000)	%	Performance %								
			1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year	20 Year	
Investment Pools Composite	22,044,910	100.00									
Portable Alpha Composite +/- S&P 500 Index	4,252,945	19.29	11.45 0.50	3.23 (0.66)	16.96 (0.68)						
Large Cap Domestic Equity Composite +/- S&P 500 Index	351,804	1.60	10.93 (0.02)	3.85 (0.04)	17.62 (0.02)	17.56 0.10	12.61 (0.56)	13.59 (0.40)	14.19 0.00	7.26 (0.03)	
Non-Large Cap Domestic Equity Composite +/- Russell 2500 Index	895,803	4.06	13.75 (2.54)	12.54 (2.80)	22.44 (2.92)	9.52 (4.34)	7.56 (1.20)	9.75 (1.31)	11.75 (0.22)	10.08 0.59	
International Equity Composite +/- MSCI AC World ex US IMI Index (b)	5,122,461	23.24	12.82 (0.70)	9.03 0.53	20.42 1.74	11.16 0.85	3.19 (1.03)	8.64 0.69	6.79 1.04	6.81 1.17	
Fixed Income Composite +/- Bloomberg Barclays Capital Universal (c)	3,684,975	16.72	2.13 0.83	1.80 1.04	3.91 1.97	8.13 0.77	5.67 0.18	5.41 0.72	4.54 0.51	5.61 0.49	
Core Fixed Income Composite +/- Bloomberg Barclays Capital Aggregate	1,094,803	4.97	1.13 0.15	0.92 0.44	1.90 0.75	8.11 0.83	6.01 0.56	4.77 0.43	4.25 0.54		
Total Return Fixed Income Composite (j) +/- Bloomberg Barclays Capital Universal	2,590,172	11.75	2.56 1.26	2.18 1.42	4.78 2.84	8.04 0.68	5.49 0.00	5.67 0.98	4.67 0.64	5.98 0.78	
TIPS Composite +/- Bloomberg Barclays Capital U.S.TIPS	390,380	1.77	1.14 0.02	0.10 0.00	3.55 0.03	10.34 0.19	5.94 0.10	4.74 0.06	3.55 0.02		
Cash Composite +/- FTSE 3 Month US T-Bill (d)	236,523	1.07	(0.01) (0.02)	0.01 (0.02)	0.02 (0.03)	0.50 (0.22)	1.48 (0.11)	1.11 (0.05)	0.61 (0.04)	1.58 (0.04)	
Private Equity Composite +/- Russell 3000 + 3% (e, f)	2,249,469	10.20	6.59 (5.82)	7.15 0.66	7.15 (13.94)	21.29 (0.73)	21.29 5.09	19.01 2.06	16.00 (1.62)		
Real Estate Composite +/- NCREIF + 1% (e)	2,057,523	9.33	1.67 1.34	1.62 1.21	2.11 2.20	1.11 (2.12)	5.59 (0.63)	7.07 (0.37)	8.70 (1.78)		
Hedge Fund Composite +/- HFRI FOF + 1% (g)	2,129,002	9.66	3.38 (0.44)	3.46 (0.68)	6.99 (1.92)	5.44 (4.03)	4.39 (0.48)	3.77 (0.91)	4.49 0.29		
Private Credit & Income Composite +/- CS Leveraged Loan + 2% (e, k)	674,025	3.06	2.17 (0.12)	3.48 (0.03)	3.29 (4.07)	3.16 (1.94)	5.54 (0.14)	4.71 (2.14)			

Participant Plans Allocation vs. Strategy

Period Ending: November 30, 2020

	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	51.2	50.0	13.2	15.0	11.8	10.0	10.8	10.0	3.5	5.0	9.2	10.0	0.3	0.0
Teachers' Retirement System	51.2	50.0	13.0	15.0	11.9	10.0	10.9	10.0	3.6	5.0	9.3	10.0	0.1	0.0
EMS Retirement System	51.4	50.0	13.6	15.0	11.4	10.0	10.4	10.0	3.4	5.0	9.1	10.0	0.7	0.0
Public Safety Retirement System	51.2	50.0	12.5	15.0	12.1	10.0	11.0	10.0	3.6	5.0	9.5	10.0	0.1	0.0
Judges' Retirement System	51.4	50.0	13.2	15.0	11.7	10.0	10.7	10.0	3.5	5.0	9.4	10.0	0.1	0.0
State Police Retirement System	51.7	50.0	14.0	15.0	11.2	10.0	10.2	10.0	3.4	5.0	9.1	10.0	0.4	0.0
Deputy Sheriffs' Retirement System	51.4	50.0	13.4	15.0	11.6	10.0	10.6	10.0	3.5	5.0	9.3	10.0	0.2	0.0
Municipal Police & Firefighter Retirement System	51.8	50.0	14.3	15.0	10.4	10.0	9.5	10.0	3.1	5.0	8.9	10.0	2.0	0.0
Municipal Model A	52.1	50.0	13.0	15.0	11.0	10.0	10.1	10.0	3.3	5.0	9.4	10.0	1.1	0.0
Municipal Model B	56.5	55.0	41.8	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0

Insurance Assets

Workers' Compensation Old Fund	31.7	30.0	48.7	50.0	0.0	0.0	0.0	0.0	0.0	0.0	14.9	15.0	4.7	5.0
Workers' Comp. Self-Insured Guaranty Risk Pool	32.3	30.0	43.8	45.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3	20.0	4.6	5.0
Workers' Comp. Self-Insured Security Risk Pool	31.8	30.0	43.9	45.0	0.0	0.0	0.0	0.0	0.0	0.0	19.9	20.0	4.4	5.0
Workers' Comp. Uninsured Employers Fund	32.2	30.0	39.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	20.0	9.7	10.0
Pneumoconiosis	32.0	30.0	44.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	20.0	4.2	5.0
Board of Risk & Insurance Mgmt.	32.2	30.0	43.7	45.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3	20.0	4.8	5.0
Public Employees' Insurance Agency	27.1	25.0	53.8	55.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	20.0	0.0	0.0
WV Retiree Health Benefit Trust Fund	52.8	50.0	14.8	15.0	10.5	10.0	9.6	10.0	3.1	5.0	9.2	10.0	0.0	0.0

Endowment Assets

Berkeley County Development Authority	51.5	50.0	13.7	15.0	11.5	10.0	10.5	10.0	3.5	5.0	9.3	10.0	0.0	0.0
Wildlife Fund	50.7	50.0	13.0	15.0	12.1	10.0	11.1	10.0	3.6	5.0	9.5	10.0	0.0	0.0
Revenue Shortfall Reserve Fund	0.0	0.0	56.9	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.1	0.0
Revenue Shortfall Reserve Fund - Part B	24.0	22.5	76.0	77.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WV DEP Trust	67.3	65.0	14.4	15.0	0.0	0.0	0.0	0.0	0.0	0.0	18.3	20.0	0.0	0.0
WV DEP Agency	42.4	40.0	38.8	40.0	0.0	0.0	0.0	0.0	0.0	0.0	18.8	20.0	0.0	0.0

- (a) As of January 2019, the PERS Base is 60% MSCI ACWI Gross and 40% Bloomberg Barclays Capital Universal. From January 2014 to December 2018, the PERS Base was 30% Russell 3000, 30% MSCI ACWI ex USA (IMI), and 40% Bloomberg Barclays Capital Universal. From April 2008 to December 2013, the PERS Base was 30% Russell 3000, 30% MSCI ACWI ex USA (Standard), and 40% Bloomberg Barclays Capital Universal. Prior periods were 42% Russell 3000, 18% MSCI ACWI ex USA, and 40% Bloomberg Barclays Capital Aggregate.
- (b) Prior to January 2014, the index was the MSCI ACW ex USA (Standard).
- (c) Prior to April 2008, the index was Bloomberg Barclays Capital 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.

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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