Verus

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SUCCESS

PERIOD ENDING: MAY 31, 2022

Participant Plan Performance Review for

West Virginia Investment Management Board

	6/30/2021		5/31/2022		Performance %							
	Asset ($000)	%	Asset ($000)	%	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year	20 Year
WVIMB Fund Assets	**25,345,298**	**100.0**	**24,111,806**	**100.0**								
Pension Assets	**20,619,195**	**81.3**	**19,727,664**	**81.8**								
Public Employees' Retirement System	8,807,095	34.7	8,424,276	34.9	0.4	(2.1)	(1.6)	1.4	11.9	9.5	9.9	8.0
Teachers' Retirement System	9,886,658	39.0	9,365,955	38.8	0.4	(2.1)	(1.6)	1.4	11.8	9.5	9.8	7.8
EMS Retirement System	118,769	0.5	117,906	0.5	0.4	(2.1)	(1.7)	1.3	11.9	9.5	9.9	
Public Safety Retirement System	851,520	3.4	810,083	3.4	0.4	(2.0)	(1.6)	1.4	11.9	9.5	9.9	8.0
Judges' Retirement System	280,670	1.1	272,212	1.1	0.4	(2.1)	(1.7)	1.3	11.9	9.5	9.9	8.0
State Police Retirement System	301,156	1.2	302,820	1.3	0.4	(2.1)	(1.7)	1.3	11.9	9.5	9.9	8.0
Deputy Sheriffs' Retirement System	314,633	1.2	307,936	1.3	0.4	(2.1)	(1.7)	1.3	11.9	9.5	9.9	8.0
Municipal Police & Firefighter Retirement System	23,816	0.1	27,628	0.1	0.4	(2.0)	(1.7)	1.3	11.7	9.4	9.6	
Natural Resources Police Office Retirement System	25,063	0.1	25,507	0.1	0.4	(2.1)	(1.7)	1.3				
Municipal Model A (I)	7,477	0.0	70,973	0.3	0.4	(2.6)	(1.3)	1.8	12.1	9.7		
Municipal Model B (I)	2,338	0.0	2,368	0.0	0.4	(5.5)	(7.9)	(7.2)				
Insurance Assets	**3,524,704**	**14.0**	**3,186,732**	**13.2**								
Workers' Compensation Old Fund	1,086,608	4.3	927,278	3.8	0.1	(4.3)	(5.9)	(5.3)	5.8	4.9	5.0	
Workers' Comp. Self-Insured Guaranty Risk Pool	39,772	0.2	37,142	0.2	0.1	(4.0)	(5.3)	(4.8)	6.0	5.0	5.3	
Workers' Comp. Self-Insured Security Risk Pool	56,201	0.2	50,745	0.2	0.1	(4.0)	(5.3)	(4.8)	6.0	5.0		
Workers' Comp. Uninsured Employers' Fund	16,909	0.1	16,194	0.1	0.1	(4.0)	(5.3)	(4.9)	5.9	4.9	5.2	
Pneumoconiosis	247,663	1.0	216,973	0.9	0.1	(4.0)	(5.4)	(4.9)	6.0	5.0	5.3	5.5
Board of Risk & Insurance Management	194,839	0.8	184,411	0.7	0.1	(4.0)	(5.4)	(4.9)	6.1	5.1	5.3	
Public Employees' Insurance Agency	270,948	1.1	170,052	0.7	0.1	(4.2)	(5.5)	(5.0)	5.4	4.7	5.0	
WV Retiree Health Benefit Trust Fund	1,611,764	6.3	1,583,937	6.6	0.4	(2.1)	(1.7)	1.3	11.8	9.5	9.7	
Endowment Assets	**1,201,399**	**4.7**	**1,197,410**	**5.0**								
Berkeley County Development Authority	8,428	0.0	8,282	0.0	0.4	(2.1)	(1.7)	1.3	11.9	9.5		
Wildlife Fund	78,281	0.3	77,198	0.3	0.4	(2.1)	(1.7)	1.3	11.8	9.5	9.8	8.0
WV State Parks and Recreation Endowment Fund	6,465	0.0	14,466	0.1	0.4	(1.9)	(1.9)					
Revenue Shortfall Reserve Fund	293,538	1.2	338,593	1.4	(0.3)	(5.0)	(5.5)	(4.9)	1.1	1.8	1.8	
Revenue Shortfall Reserve Fund - Part B	557,458	2.2	517,988	2.2	0.1	(5.3)	(7.1)	(6.4)	4.5	4.1	4.6	
WV DEP Trust	11,837	0.0	11,115	0.0	0.2	(4.7)	(6.1)	(5.6)	9.5	7.2	8.4	
WV DEP Agency	245,392	1.0	229,768	1.0	0.3	(4.4)	(6.4)	(5.8)	6.8	5.5		

Composite Asset Allocation & Performance Net of Fees

Period Ending: May 31, 2022

	Asset ($000)	%	Performance % 1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year	20 Year
Investment Pools Composite	24,118,714	100.00								
Portable Alpha Composite	4,815,323	19.97	0.08	(4.29)	(2.27)	(0.07)				
+/- S&P 500 Index			*(0.10)*	*0.87*	*0.30*	*0.23*				
Large Cap Domestic Equity Composite	317,118	1.31	0.15	(5.18)	(2.66)	(0.39)	16.42	13.08	14.26	9.09
+/- S&P 500 Index			*(0.03)*	*(0.02)*	*(0.09)*	*(0.09)*	*(0.02)*	*(0.30)*	*(0.13)*	*(0.05)*
Non-Large Cap Domestic Equity Composite	930,142	3.86	(1.79)	(9.82)	(10.47)	(10.96)	12.11	9.76	11.81	9.44
+/- Russell 2500 Index			*(2.13)*	*(3.07)*	*2.18*	*0.66*	*0.06*	*0.00*	*(0.19)*	*(0.03)*
International Equity Composite	4,625,296	19.18	0.84	(6.40)	(12.16)	(12.58)	8.27	4.96	8.04	7.42
+/- MSCI AC World ex US IMI Index (b)			*0.26*	*(1.05)*	*(0.58)*	*(0.46)*	*1.03*	*(0.02)*	*1.01*	*0.85*
Fixed Income Composite	4,294,024	17.80	0.37	(5.15)	(8.80)	(8.10)	1.09	2.07	2.83	4.44
+/- Bloomberg Universal (c)			*(0.18)*	*0.65*	*0.28*	*0.31*	*0.89*	*0.74*	*0.77*	*0.53*
Core Fixed Income Composite	1,276,030	5.29	0.23	(5.58)	(8.12)	(7.36)	0.88	1.86	2.33	
+/- Bloomberg US Aggregate			*(0.41)*	*0.28*	*0.74*	*0.86*	*0.88*	*0.69*	*0.62*	
Total Return Fixed Income Composite *(j)*	3,017,994	12.51	0.43	(4.97)	(9.09)	(8.42)	1.14	2.14	3.07	4.82
+/- Bloomberg Universal			*(0.12)*	*0.83*	*(0.01)*	*(0.01)*	*0.94*	*0.81*	*1.01*	*0.82*
TIPS Composite	460,172	1.91	(0.97)	(4.82)	(2.04)	(1.44)	4.53	3.76	2.03	
+/- Bloomberg US TIPS			*0.02*	*0.00*	*0.00*	*0.01*	*0.08*	*0.08*	*0.03*	
Cash Composite	130,890	0.54	0.03	0.06	0.09	0.09	0.54	1.01	0.61	1.30
+/- FTSE 3 Month US T-Bill (d)			*(0.02)*	*(0.03)*	*(0.04)*	*(0.04)*	*(0.11)*	*(0.08)*	*(0.02)*	*(0.03)*
Private Equity Composite	2,893,475	12.00	0.54	5.64	12.61	33.49	30.56	26.14	19.39	
+/- Russell 3000 + 3% (e, f)			*0.43*	*11.05*	*15.87*	*34.17*	*11.96*	*10.39*	*2.21*	
Real Estate Composite	2,422,202	10.04	0.61	4.77	13.48	17.56	8.82	8.76	9.50	
+/- NCREIF + 1% (e)			*(1.22)*	*(1.08)*	*(7.22)*	*(3.91)*	*(1.37)*	*(0.52)*	*(1.02)*	
Hedge Fund Composite	2,370,668	9.83	(0.14)	1.15	2.74	2.60	7.17	5.78	5.50	
+/- HFRI FOF + 1% (g)			*0.76*	*2.71*	*5.60*	*4.84*	*1.06*	*0.79*	*1.31*	
Private Credit & Income Composite	859,404	3.56	2.74	3.72	6.85	10.09	7.56	6.99		
+/- CS Leveraged Loan + 2% (e, k)			*5.09*	*5.53*	*5.65*	*8.32*	*2.74*	*1.60*		

	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	46.9	50.0	14.5	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.2	0.0
Teachers' Retirement System	46.8	50.0	14.4	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.4	0.0
EMS Retirement System	46.6	50.0	14.6	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.4	0.0
Public Safety Retirement System	46.0	50.0	13.9	15.0	13.3	10.0	11.1	10.0	3.9	5.0	9.4	10.0	2.4	0.0
Judges' Retirement System	46.8	50.0	14.6	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.2	0.0
State Police Retirement System	46.6	50.0	14.7	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.3	0.0
Deputy Sheriffs' Retirement System	46.8	50.0	14.6	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.2	0.0
Municipal Police & Firefighter Retirement System	45.6	50.0	14.5	15.0	13.2	10.0	11.0	10.0	3.9	5.0	9.4	10.0	2.4	0.0
Natural Resources Police Office Retirement System	46.5	50.0	14.5	15.0	13.4	10.0	11.2	10.0	4.0	5.0	9.5	10.0	0.9	0.0
Municipal Model A	46.7	50.0	14.6	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.3	0.0
Municipal Model B	53.7	55.0	45.1	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
Insurance Assets														
Workers' Compensation Old Fund	29.3	30.0	51.8	50.0	0.0	0.0	0.0	0.0	0.0	0.0	14.7	15.0	4.2	5.0
Workers' Comp. Self-Insured Guaranty Risk Pool	28.9	30.0	46.6	45.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4	20.0	5.1	5.0
Workers' Comp. Self-Insured Security Risk Pool	29.0	30.0	46.8	45.0	0.0	0.0	0.0	0.0	0.0	0.0	19.5	20.0	4.7	5.0
Workers' Comp. Uninsured Employers Fund	28.8	30.0	46.3	45.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3	20.0	5.6	5.0
Pneumoconiosis	29.2	30.0	47.2	45.0	0.0	0.0	0.0	0.0	0.0	0.0	19.7	20.0	3.9	5.0
Board of Risk & Insurance Mgmt.	28.9	30.0	46.5	45.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4	20.0	5.2	5.0
Public Employees' Insurance Agency	23.8	25.0	56.7	55.0	0.0	0.0	0.0	0.0	0.0	0.0	19.5	20.0	0.0	0.0
WV Retiree Health Benefit Trust Fund	46.8	50.0	14.8	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.0	0.0
Endowment Assets														
Berkeley County Development Authority	46.7	50.0	14.9	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.0	0.0
Wildlife Fund	46.8	50.0	14.6	15.0	13.5	10.0	11.3	10.0	4.0	5.0	9.6	10.0	0.2	0.0
WV State Parks and Recreation Endowment Fund	43.4	50.0	13.7	15.0	12.5	10.0	10.4	10.0	3.7	5.0	8.9	10.0	7.4	0.0
Revenue Shortfall Reserve Fund	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Revenue Shortfall Reserve Fund - Part B	21.7	22.5	78.3	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	63.6	65.0	16.6	15.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	20.0	0.0	0.0
WV DEP Agency	38.7	40.0	41.8	40.0	0.0	0.0	0.0	0.0	0.0	0.0	19.5	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 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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