Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: AUGUST 31, 2019

Participant Plan Performance Review for

West Virginia Investment Management Board

Participant Plans Allocation & Performance Net of Fees

Period Ending: August 31, 2019

	6/30/2019		8/31/2019		Performance %							
	Asset ($000)	%	Asset ($000)	%	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year	20 Year
WVIMB Fund Assets	**19,986,151**	**100.0**	**19,697,077**	**100.0**								
Pension Assets	**16,174,170**	**80.9**	**15,864,183**	**80.5**								
Public Employees' Retirement System	6,895,387	34.5	6,768,458	34.3	(1.4)	3.0	(1.3)	2.9	8.8	6.5	9.1	6.8
Teachers' Retirement System	7,836,784	39.1	7,679,516	39.0	(1.4)	3.0	(1.3)	2.9	8.7	6.4	9.0	6.7
EMS Retirement System	84,650	0.4	83,317	0.4	(1.4)	3.0	(1.3)	2.9	8.7	6.4	9.0	
Public Safety Retirement System	689,820	3.5	672,600	3.4	(1.4)	3.0	(1.3)	2.8	8.7	6.4	9.1	6.9
Judges' Retirement System	212,655	1.1	209,060	1.1	(1.4)	3.0	(1.3)	2.9	8.8	6.5	9.1	6.8
State Police Retirement System	207,101	1.0	205,336	1.0	(1.4)	3.0	(1.3)	2.9	8.8	6.5	9.1	6.8
Deputy Sheriffs' Retirement System	232,576	1.2	229,190	1.2	(1.4)	3.0	(1.3)	2.9	8.8	6.4	9.1	6.8
Municipal Police & Firefighter Retirement System	11,090	0.1	11,285	0.1	(1.4)	2.9	(1.3)	3.0	8.6	6.3		
Municipal Model A	2,925	0.0	2,883	0.0	(1.4)	3.0	(1.3)	3.3	8.9	6.5		
Municipal Model C	1,182	0.0	1,170	0.0	(1.2)	2.9	(1.0)	2.7				
Municipal Model F	0	0.0	1,368	0.0	(1.2)		(1.0)					
Insurance Assets	**2,829,801**	**14.2**	**2,831,547**	**14.4**								
Workers' Compensation Old Fund	1,105,721	5.5	1,083,760	5.5	(0.3)	2.7	0.0	3.8	5.2	3.9	5.4	
Workers' Comp. Self-Insured Guaranty Risk Pool	34,207	0.2	34,068	0.2	(0.4)	2.6	0.0	3.6	5.3	3.9	4.6	
Workers' Comp. Self-Insured Security Risk Pool	52,220	0.3	51,718	0.3	(0.4)	2.6	0.0	3.5	5.3	3.9		
Workers' Comp. Uninsured Employers' Fund	13,468	0.1	13,559	0.1	(0.4)	2.5	(0.1)	3.2	5.2	3.7	4.3	
Pneumoconiosis	238,605	1.2	236,016	1.2	(0.4)	2.6	0.0	3.5	5.3	3.8	5.7	5.7
Board of Risk & Insurance Management	158,696	0.8	158,646	0.8	(0.4)	2.6	0.0	3.5	5.4	3.8	5.8	
Public Employees' Insurance Agency	225,314	1.1	226,024	1.1	(0.1)	2.8	0.3	4.5	5.4	3.9	5.8	
WV Retiree Health Benefit Trust Fund	1,001,570	5.0	1,027,756	5.2	(1.4)	3.0	(1.3)	3.0	8.8	6.5	8.4	
Endowment Assets	**982,180**	**4.9**	**1,001,347**	**5.1**								
Berkeley County Development Authority	6,177	0.0	6,096	0.0	(1.4)	3.0	(1.3)	2.9	8.8			
Wildlife Fund	65,000	0.3	63,050	0.3	(1.4)	3.0	(1.3)	3.0	8.8	6.5	9.1	7.2
Prepaid Tuition Trust	34,513	0.2	30,968	0.2	1.2	2.7	1.5	7.8	7.2	5.7	8.0	6.7
Revenue Shortfall Reserve Fund	197,342	1.0	219,981	1.1	1.7	3.3	2.0	8.1	3.4	2.8	4.1	
Revenue Shortfall Reserve Fund - Part B	465,189	2.4	468,608	2.4	0.5	3.2	0.7	5.8	5.4	4.0	5.9	
WV DEP Trust	9,258	0.0	9,098	0.1	(1.9)	2.7	(1.7)	(0.2)	7.1	4.9		
WV DEP Agency	204,701	1.0	203,546	1.0	(0.9)	2.7	(0.6)	2.8	6.0	4.3		

	Asset ($000)	%	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year	20 Year
			Performance %							
Investment Pools Composite	19,703,071	100.00								
Total Equity Composite	9,151,997	46.45	(3.08)	3.06	(3.14)	(3.04)	8.67	5.50	9.94	6.61
+/- Total Equity Base Index (b)			*(0.75)*	*(1.40)*	*(1.13)*	*(2.61)*	*(0.85)*	*(0.44)*	*0.55*	*0.82*
Domestic Equity Composite	4,597,011	23.33	(1.99)	6.18	(0.70)	0.11	11.80	9.16	13.41	7.41
+/- Russell 3000 Index			*0.05*	*(0.22)*	*(0.12)*	*(1.20)*	*(0.44)*	*(0.44)*	*0.06*	*0.92*
International Equity Composite	4,554,986	23.12	(4.16)	0.07	(5.49)	(6.08)	5.59	1.82	6.36	6.35
+/- MSCI AC World ex US IMI Index (c)			*(1.12)*	*(1.43)*	*(1.38)*	*(2.48)*	*(0.61)*	*(0.14)*	*1.10*	*1.72*
Fixed Income Composite	3,298,921	16.74	1.08	3.08	1.51	8.94	4.22	3.74	4.90	5.72
+/- Bloomberg Barclays Capital Universal (d)			*(1.18)*	*(0.94)*	*(1.06)*	*(1.14)*	*0.83*	*0.19*	*0.58*	*0.43*
Core Fixed Income Composite	1,009,476	5.12	2.90	4.33	3.10	10.87	3.58	3.83	4.57	
+/- Bloomberg Barclays Capital Aggregate			*0.31*	*0.22*	*0.28*	*0.70*	*0.49*	*0.48*	*0.66*	
Total Return Fixed Income Composite *(k)*	2,289,445	11.62	0.30	2.54	0.83	8.11	4.50	3.68	5.08	6.15
+/- Bloomberg Barclays Capital Universal			*(1.96)*	*(1.48)*	*(1.74)*	*(1.97)*	*1.11*	*0.13*	*0.76*	*0.80*
TIPS Composite	408,717	2.07	2.37	3.61	2.73	7.49	2.90	2.23		
+/- Bloomberg Barclays Capital U.S.TIPS			*(0.01)*	*(0.01)*	*(0.01)*	*0.03*	*0.03*	*0.02*		
Cash Composite	107,697	0.55	0.18	0.55	0.37	2.28	1.46	0.94	0.54	1.91
+/- Citigroup 90 Day T-Bill (e)			*(0.01)*	*(0.04)*	*(0.02)*	*(0.07)*	*(0.01)*	*0.02*	*(0.03)*	*(0.02)*
Private Equity Composite	1,931,599	9.81	(0.08)	6.05	(0.02)	19.99	20.31	16.15	15.78	
+/- Russell 3000 + 3% (f, g)								*3.55*	*(1.19)*	
Real Estate Composite	1,929,344	9.79	0.13	1.80	0.10	7.31	8.36	9.20	9.41	
+/- NCREIF + 1% (f)								*(0.73)*	*(0.59)*	
Hedge Fund Composite	2,276,985	11.56	(0.31)	1.57	0.52	3.09	4.46	3.10	4.92	
+/- HFRI FOF + 1% (h)			*0.30*	*0.19*	*0.77*	*1.80*	*0.03*	*0.09*	*1.22*	
Opportunistic Income Composite	597,811	3.03	0.01	1.87	0.00	7.48	5.77			
+/- CS Leveraged Loan + 2% (l)			*0.13*	*0.65*	*(0.83)*	*2.10*	*(1.16)*			

	Equity		Fixed Income		Private Equity		Real Estate		Hedge Funds		Opportunistic Income		Cash	
	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %	Actual %	Strategy %
Pension Assets														
Public Employees' Retirement System	49.7	55.0	12.6	15.0	11.4	10.0	11.4	10.0	11.2	10.0	3.5	0.0	0.2	0.0
Teachers' Retirement System	49.9	55.0	12.7	15.0	11.4	10.0	11.4	10.0	11.1	10.0	3.5	0.0	0.0	0.0
EMS Retirement System	49.8	55.0	13.2	15.0	11.2	10.0	11.2	10.0	11.1	10.0	3.5	0.0	0.0	0.0
Public Safety Retirement System	49.8	55.0	12.5	15.0	11.5	10.0	11.5	10.0	11.1	10.0	3.6	0.0	0.0	0.0
Judges' Retirement System	49.7	55.0	12.8	15.0	11.4	10.0	11.4	10.0	11.1	10.0	3.5	0.0	0.1	0.0
State Police Retirement System	49.8	55.0	13.3	15.0	11.1	10.0	11.1	10.0	11.0	10.0	3.4	0.0	0.3	0.0
Deputy Sheriffs' Retirement System	49.8	55.0	13.0	15.0	11.3	10.0	11.3	10.0	11.1	10.0	3.5	0.0	0.0	0.0
Municipal Police & Firefighter Retirement System	49.6	55.0	13.9	15.0	10.5	10.0	10.5	10.0	10.5	10.0	3.3	0.0	1.7	0.0
Municipal Model A	49.7	55.0	12.3	15.0	11.1	10.0	11.1	10.0	11.1	10.0	3.4	0.0	1.3	0.0
Municipal Model C	47.0	50.0	27.5	30.0	5.5	5.0	5.5	5.0	11.1	10.0	1.7	0.0	1.7	0.0
Municipal Model F	54.2	55.0	45.2	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Insurance Assets														
Workers' Compensation Old Fund	29.5	30.0	49.9	50.0	0.0	0.0	0.0	0.0	17.0	15.0	0.0	0.0	3.6	5.0
Workers' Comp. Self-Insured Guaranty Risk Pool	29.2	30.0	43.9	45.0	0.0	0.0	0.0	0.0	22.2	20.0	0.0	0.0	4.7	5.0
Workers' Comp. Self-Insured Security Risk Pool	29.3	30.0	43.9	45.0	0.0	0.0	0.0	0.0	22.5	20.0	0.0	0.0	4.3	5.0
Workers' Comp. Uninsured Employers Fund	29.1	30.0	38.6	40.0	0.0	0.0	0.0	0.0	22.1	20.0	0.0	0.0	10.2	10.0
Pneumoconiosis	29.3	30.0	43.9	45.0	0.0	0.0	0.0	0.0	22.4	20.0	0.0	0.0	4.4	5.0
Board of Risk & Insurance Mgmt.	29.1	30.0	43.9	45.0	0.0	0.0	0.0	0.0	22.0	20.0	0.0	0.0	5.0	5.0
Public Employees' Insurance Agency	24.2	25.0	53.9	55.0	0.0	0.0	0.0	0.0	21.9	20.0	0.0	0.0	0.0	0.0
WV Retiree Health Benefit Trust Fund	50.2	55.0	14.0	15.0	10.8	10.0	10.8	10.0	10.8	10.0	3.4	0.0	0.0	0.0
Endowment Assets														
Berkeley County Development Authority	50.0	55.0	13.3	15.0	11.1	10.0	11.1	10.0	11.1	10.0	3.4	0.0	0.0	0.0
Wildlife Fund	49.4	55.0	13.0	15.0	11.4	10.0	11.4	10.0	11.1	10.0	3.5	0.0	0.2	0.0
Prepaid Tuition Trust	0.0	0.0	70.3	70.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.7	30.0
Revenue Shortfall Reserve Fund	0.0	0.0	91.6	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0
Revenue Shortfall Reserve Fund - Part B	21.9	22.5	78.1	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	64.1	65.0	13.3	15.0	0.0	0.0	0.0	0.0	22.6	20.0	0.0	0.0	0.0	0.0
WV DEP Agency	39.1	40.0	38.7	40.0	0.0	0.0	0.0	0.0	22.2	20.0	0.0	0.0	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) As of January 2019, the Total Equity Base Index is 100% MSCI ACWI Gross. From January 2014 to December 2018, the Total Equity Base Index was 50% Russell 3000 and 50% MSCI ACWI ex USA (IMI). From April 2008 to December 2013, the Total Equity Base Index was 50% Russell 3000 and 50% MSCI ACWI ex USA (Standard). Prior periods were 40% S&P 500, 30% Russell 2500, and 30% MSCI ACWI ex USA.

(c) Prior to January 2014, the index was the MSCI ACW ex USA (Standard).

(d) Prior to April 2008, the index was Bloomberg Barclays Capital Aggregate.

(e) Prior to January 2014, the index was Citigroup 90 Day T-Bill plus 15 basis points.

(f) The Private Equity Composite and Real Estate Composite are long-term programs whose benchmarks are only reported for 5 years and beyond.

(g) Prior to January 2014, the index was S&P 500 plus 500 basis points.

(h) Prior to January 2014, the index was Libor plus 400 basis points.

(i) 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.

(j) Prior to April 2008, the index was a custom index.

(k) From October 2015 to March 2017, performance returns from the Opportunistic Income Pool were included in the Total Return Fixed Income Composite.

(l) Prior to April 2017, the index was CS Leveraged Loan plus 250 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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