# Mass

# PRESENTATION TO THE CITY OF NEWTON OPEB BOARD

PRESENTED BY Francesco Daniele, Director of Client Services

DECEMBER 15, 2021

**Deborah B. Goldberg**, Treasurer and Receiver General, Chair **Michael G. Trotsky**, CFA, Executive Director and Chief Investment Officer

All figures as of 9/30/2021 unless otherwise noted

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### PRIM BOARD & PRIT FUND OVERVIEW



### **PRIT Fund Snapshot**

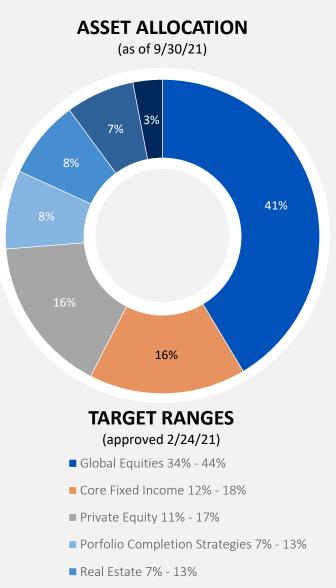
#### As of September 30, 2021

#### PRIT FUND FACTS

- \$98.5 billion AUM
- 53 public markets portfolios
- 16 real estate, timber and REIT portfolios
- 100+ private equity managers; 200+ partnerships
- 33 portfolio completion strategies managers

#### OVERSIGHT AND STAFFING

- 9 appointed and elected trustees
- 4 advisory committees, consisting of 35 industry professionals and Board members
- Staff of 52 professionals
  - 2 PhDs
  - 25 Masters
  - 14 CFAs
  - 6 CPAs
  - 2 CAIAs
  - 1 FRM
  - 1 CRE
  - 19 CFA Investment Foundations Program Certificate Holders



- Value-Added Fixed Income 5% 11%
- Timberland 1% 7%



### **About PRIM**



#### \$98.5 billion investment fund that invests public employee pension benefits

- PRIM has a professional, experienced and focused investment staff.
- PRIM does not administer benefits.

PRIM's mission is to relieve the pension funding burden on the taxpayer

- Self-funded agency which generates asset returns for the Massachusetts pension system.
- PRIM's Project SAVE initiative is achieving over \$250 million annualized value enhancing activities for the fund annually.

PRIM is independent and governed by a nine-member Board of Trustees

- Massachusetts State Treasurer is the Chair of the PRIM Board.
- A robust committee structure lends investment and operational expertise to the decision-making process.





### **PRIM Core Beliefs**

We believe that any investment must be evaluated on three equally important parameters: return, risk and cost.

We don't make tactical asset allocation decisions or investment decisions based on market or economic predictions. Instead, we engineer a strategic, long-term asset allocation strategy that we hope will stand the test of a long-time horizon.

We value a basis point of cost reduction more than a basis point of return. Because we can count on cost savings every year, but nobody ever really knows what the markets will deliver.

### **PRIM Top 10 Accomplishments**

1	Stable organization: Exceptional staff with low turnover supported by a strong, stable Board and Committee structure	7	<ul> <li>Re-engineered Hedge Fund program –</li> <li>Portfolio Completion Strategies</li> <li>Direct hedge funds</li> <li>Hedge fund replication</li> </ul>
2	National recognition for PRIM and its staff		<ul> <li>Emerging manager direct hedge fund</li> <li>Hedge fund and other credit fund co- investment</li> </ul>
3	Strong relative and absolute investment performance	8	Enhanced manager search and selection process
4	Sophisticated risk management platform and framework	9	Private Equity co-investment
5	Methodical asset allocation decisions	10	Direct Real Estate Program
6	Project SAVE		



### **PRIM Board**



Ruth Ellen Fitch	James B.G. Hearty	Example 2 Constraints of the second s	Carly Rose	Theresa F.         McGoldrick,         Esquire	Dennis J. Naughton	Robert L. Brousseau	Paul E. Shanley, Esquire
Appointee of the State Treasurer	Designee of the Governor, Ex Officio Member	Appointee of the Governor, Non-State Employee or Official	Appointee of the Governor, Public Safety	State Retirement Board Member (SRB)	Teachers' Retirement Board Member (TRB)	Elected Representative State Teachers' Retirement System	Elected Representative State Employees Retirement System



### **PRIM Advisory Committees**

#### **Investment Committee**

The Committee advises the Board with respect to the asset allocation policy of PRIM and related investment policies and assist the Board in overseeing the investment program. The mandate of the Investment Committee does not include real estate and timber. Members include:

- 1. Deborah B. Goldberg, Chair, Treasurer and Receiver General of Massachusetts, PRIM Board Chair (Ex Officio)
- 2. Joseph C. Bonfiglio, Massachusetts & Northern New England Laborers' District Council
- 3. C. LaRoy Brantley, Investment Consultant
- 4. Michael Even, Former President and CEO, Numeric Investors
- 5. Constance M. Everson, CFA, Managing Director, Capital Markets Outlook Group
- 6. Ruth Ellen Fitch, Esq., Board Member, Former President and CEO, the Dimock Center
- 7. James B. G. Hearty, Board Member, Former Partner, Clough Capital (Ex Officio)
- 8. Peter Monaco, Board Member, Managing Director, Raptor Group
- 9. Phillip H. Perelmuter, Former Managing Partner, Wellington Management
- 10. Philip Rotner, Chief Investment Officer, Boston Children's Hospital
- **11.** Paul E. Shanley, Esq., Board Member, Director of Professional Liability, Amity Insurance
- 12. Glenn P. Strehle, CFA, Treasurer Emeritus, MIT
- 13. Timothy L. Vaill, Former Chairman and CEO, Boston Private Holdings

#### **Real Estate Committee**

The Committee advises the Board in setting investment policy within the real estate and timber portfolios and assist the Board in overseeing these portfolios. Members include:

- 1. Jill S. Hatton, CRE, Chair, Real Estate Investment Professional
- 2. Deborah B. Goldberg, Treasurer and Receiver General of Massachusetts, PRIM Board Chair (Ex Officio)
- 3. Lydia Chesnick, Esq., Partner, Bernkopf Goodman LLP
- 4. Robert Gifford, RGA Corp.
- 5. Anthony E. Hubbard, Esq., CVS Health
- 6. Jack Lutz, PhD., Forest Research Group
- 7. William F. (Bill) McCall, Jr., CRE, McCall & Almy, Inc.
- 8. Garlan Morse, Jr., CRE, Morris and Morse Company, Inc.
- 9. Peter F. O'Connell, Marina Bay Company
- 10. Carly Rose, Board Member, Public Safety Union Member



### **PRIM Advisory Committees**

#### **Administration and Audit Committee**

The Committee assists the Board in overseeing all issues related to the governance, administration, and audit functions of PRIM, and to provide recommendations for the Board's consideration. Members include:

- 1. Robert L. Brousseau, Chair, Board Member, Retired Teacher, Town of Wareham School System
- 2. Deborah B. Goldberg, Treasurer and Receiver General of Massachusetts, PRIM Board Chair (Ex Officio)
- 3. Patrick E. Brock, Chairman, Hampshire County Retirement Board
- 4. Karen E. Gershman, CPA, Former Partner and Chief Operating Officer, Health Advances
- 5. James B. G. Hearty, Board Member, Former Partner, Clough Capital (Ex Officio)
- 6. Theresa F. McGoldrick, Esq., Board Member, National Executive Vice President, National Association of Government Employees (NAGE)
- 7. Dennis J. Naughton, Board Member, Retired Educator, Millis Public Schools
- 8. Michele A. Whitham, Esq., Founder & Principal, Whitham Law LLC

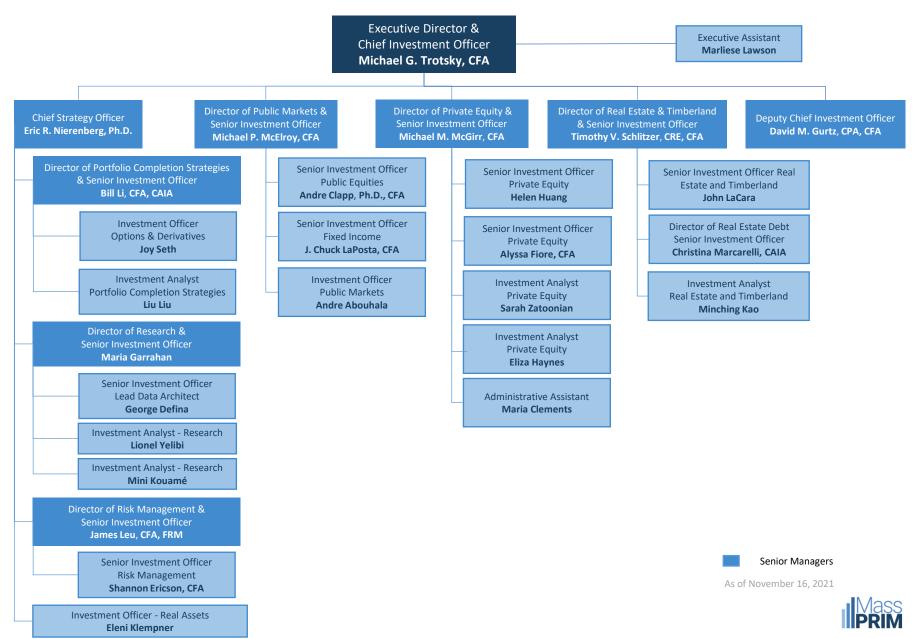
#### **Compensation Committee**

The Committee assists the Board in overseeing staff compensation and benefit policies. The Administration and Audit Committee is responsible for assisting the Board on other human resource matters. Members include:

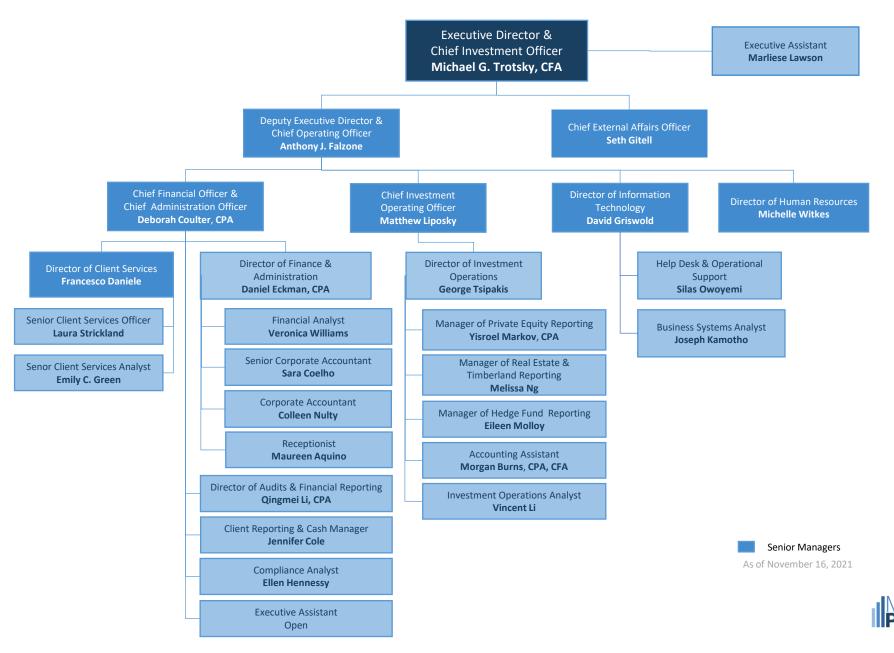
- 1. Michele A. Whitham, Esq., Chair, Founder & Principal, Whitham Law LLC
- 2. Deborah B. Goldberg, Treasurer and Receiver General of Massachusetts, PRIM Board Chair (Ex Officio)
- 3. Robert L. Brousseau, Board Member, Retired Teacher, Town of Wareham School System
- 4. Patrick E. Brock, Chairman, Hampshire County Retirement Board



### **PRIM Investment Team**



### **PRIM Finance and Operations Team**



### **Recent Recognition**

#### PRIM's Private Equity Portfolio ranked #4 by the American Investment Council

PRIM's Private Equity Portfolio has been ranked #4 among 176 U.S. public pension funds based on 10-year performance by the American Investment Council's Public Pension Study. PRIM is the only fund that has been in the top five every year the study has been conducted, including #1 rankings in 2019, 2018, 2015, and 2013. (July 2021)

#### Institutional Investor's Partnership of the Year Award Finalist

PRIM's Portfolio Completions Strategies team was one of four finalists for "Partnership of the Year" at their Allocators' Choice Awards. This is the sixth time PRIM has been recognized for outstanding innovation by *Institutional Investor*, as nominated by industry peers and colleagues, including "Plan of the Year" – winner, 2016, "Plan of the Year" – nominee 2017, 2018, 2019, and Michael Trotsky, CFA, Executive Director and Chief Investment Officer of MassPRIM "Lifetime Achievement Award" in 2019. (June 2021)

#### **GIPS Compliance**

For the 4<sup>th</sup> consecutive year, PRIM has completed the CFA Institute's Global Investment Performance Standards of Integrity and transparency. PRIM is one of only a handful of large public pension plans to comply with the GIPS standards. Additionally, Matt Liposky, PRIM's Chief Investment Operations Officer, was selected to the CFA Institute's GIPS Standards Asset Owner Subcommittee. (August 2021)

#### Certificate of Achievement for Excellence in Financial Reporting – Government Finance Officer Association

PRIM was awarded the Government Finance Officer Association's Certificate of Achievement for Excellence in Financial Reporting for the 16<sup>th</sup> consecutive year. (June 2021)

#### MIT Sloan/PRIM Collaboration on Environmental, Social, and Governance Ratings Research

Asset Managers MFS Investment Management, AQR Capital Management, Asset Management One, and solutions provider Qontigo have joined with PRIM and the MIT Sloan Sustainability Initiative as founding members of the Aggregate Confusion Project. The groundbreaking collaboration seeks to create more reliable and transparent ESG data and benchmarks for Investors. (October 2021)

#### **PRIM FUTURE Initiative on Diversity & Inclusion**

PRIM launched the FUTURE initiative, which is designed to implement the newly created Investment Equity law, the law created and championed by Treasurer Goldberg and signed into law in January 2021. The new law will help PRIM create an enhanced pathway for diverse investment mangers and vendors to compete successfully for contracts. (May 2021)

#### **Commonwealth's Citation for Outstanding Performance**

Deb Coulter, PRIM's Chief Financial Officer and Chief Administration Officer, and Matt Liposky, PRIM's Chief Investment Operations Officer, were each awarded the Commonwealth's Citation for Outstanding Performance by the Treasurer for great work in their respected areas (November 2021)

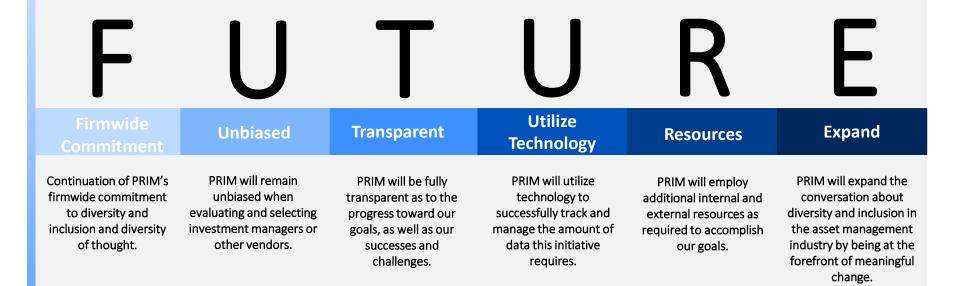


# PRIM'S FUTURE INITIATIVE



### **PRIM's FUTURE Initiative**

PRIM believes that diversity of thought and investment equity is critical to the FUTURE success of PRIM and the asset management industry. To successfully implement and accomplish these goals, PRIM must plan for the FUTURE:





### **FUTURE Initiative Update**



#### **Investment Equity Legislation Passed**

 Investment Equity Legislation passed that sets goals for PRIM to reduce barriers and increase the use of diverse investment managers and vendors.

#### **Reduced Barriers**

 Identified, researched and recommending managers for PRIM's Emerging-Diverse Manager Program.

#### Enhance Diversity, Equity & Inclusion (DEI) Reporting

 Hired Lenox Park Solutions (Lenox Park) to survey, measure and track comprehensive DEI information for all of PRIM's investment managers and vendors. Survey launched on October 25<sup>th</sup>.

#### **Improved Sourcing**

- Hosted a NAIC Roadshow of diverse managers. (July 15<sup>th</sup>)
- Received 60+ diverse manager submissions on new PRIM webpage.

#### **Allocated Capital to Diverse Managers**

 In 2021, PRIM committed \$2.2 billion to diverse managers.

#### **Graduate Managers**

 In December, the PRIM Board voted to graduate a diverse manager (Arga) from the Xponance manager-ofmanagers portfolio.

#### PRIM staff continues to meet, discuss and partner with industry leaders on DEI.



# **ECONOMIC BACKDROP**



### **U.S. Economic Data**

#### **UNEMPLOYMENT RATE**

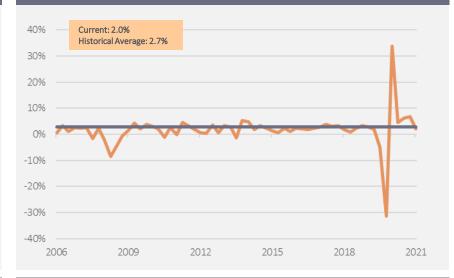


#### MANUFACTURING PMI



#### 18 Source: FactSet, PRIM Staff. All data as of September 30, 2021, or most recent report.

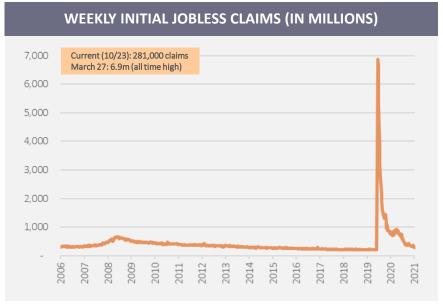
#### **GDP GROWTH RATE**



#### **CONSUMER PRICE INDEX**



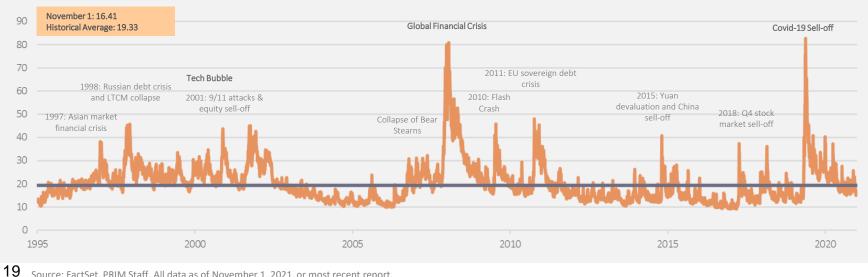
### **U.S. Economic Data**



#### WTI CRUDE OIL (\$/BBL)



#### **CBOE MARKET VOLATILITY INDEX (VIX)**



## PRIT FUND ASSET ALLOCATION TARGETS



### **Changes to Target Ranges – PRIT Fund Asset Allocation**

Approved February 24, 2021

Increase in Allocation Range

**Private Equity:** Target Band moves up 1% Same Allocation Range

**Global Equity:** Target Band stays the same

Core Fixed Income: Target Band stays the same

Value-Added Fixed Income: Target Band stays the same

**Real Estate:** Target Band stays the same

**Timberland:** Target Band stays the same Decrease in Allocation Range

**Portfolio Completion Strategies:** Target Band moves down 1%



### **PRIT Asset Allocation**

Approved February 24, 2021

		AA 2020 Approved Range	AA 2021 Approved Range	Within Range
	<b>Global Equity</b> (including Hedged US Equity)	34% -44%	No Change	Yes
39%	Core Fixed Income	12% - 18%	No Change	Yes
	Value-Added Fixed Income	5% - 11%	No Change	Yes
10% 4%	Private Equity	10% - 16%	11% - 17%	Yes
	Real Estate	7% - 13%	No Change	Yes
	Timberland	1% - 7%	No Change	Yes
10%	Portfolio Completion Strategies	8% - 14%	7% - 13%	Yes

The ranges in the PRIM asset allocation reflect the long-standing use of bands around a midpoint. Managing the asset allocation to a particular midpoint in the range is not always possible, practical or advisable.



### **PRIM 2021 Asset Allocation Recommendations**

NEPC Capital Market Assumptions with PE and PCS Changes

			12/31/20 Asset Class Assumption				
Asset Classes	Proposed Asset Allocation Range		10 Yr. Expected Return	30 Yr. Expected Return			
US Equity <sup>1</sup>	21.2%		5.5%	6.4%			
International Equities <sup>2</sup>	11.8%		5.9%	6.6%			
Emerging International Equities <sup>2</sup>	5.0%		7.6%	8.4%			
Hedged Equity <sup>3</sup>	1.0%		4.8%	5.7%			
Global Equity		34% - 44%					
Core Bonds	7.0%		1.4%	2.7%			
Short-Term Fixed Income <sup>4</sup>	1.0%		1.0%	2.0%			
20+ Yr. Treasury STRIPS	3.0%		0.4%	1.7%			
TIPS/ILBs	4.0%		1.0%	2.1%			
Core Fixed Income		12% - 18%					
Value-Added Fixed Income <sup>5</sup>		5% - 11%	4.8%	6.2%			
Private Equity		11% - 17%	9.6%	10.2%			
Real Estate <sup>6</sup>		7% - 13%	4.8%	6.0%			
Timberland <sup>7</sup>		1% - 7%	5.4%	6.6%			
Portfolio Completion (PCS) <sup>8</sup>		7% - 13%	4.0%	5.2%			
Total Fund Expected Return <sup>9</sup>			5.8%	6.8%			

1. Blended allocation to large-cap equity (85%) and small-cap equity (15%)

2. Blended allocation to large-cap equity (90%) and small-cap equity (10%)

3. Modeled as US LIBOR, US large-cap equity, and US small-cap equity

4. Modeled as short-term Treasury

5. Modeled as 50% High Yield and 50% Private Debt

6. Real Estate is modelled as 80% Private Real Estate and 20% REITs

7. Timberland is modeled as Private Real Assets Infrastructure/Land

8. Modeled as equal weighed blend of Hedge Fund Equity, Credit and Macro

9. Asset classes modeled as the midpoint of the asset allocation range

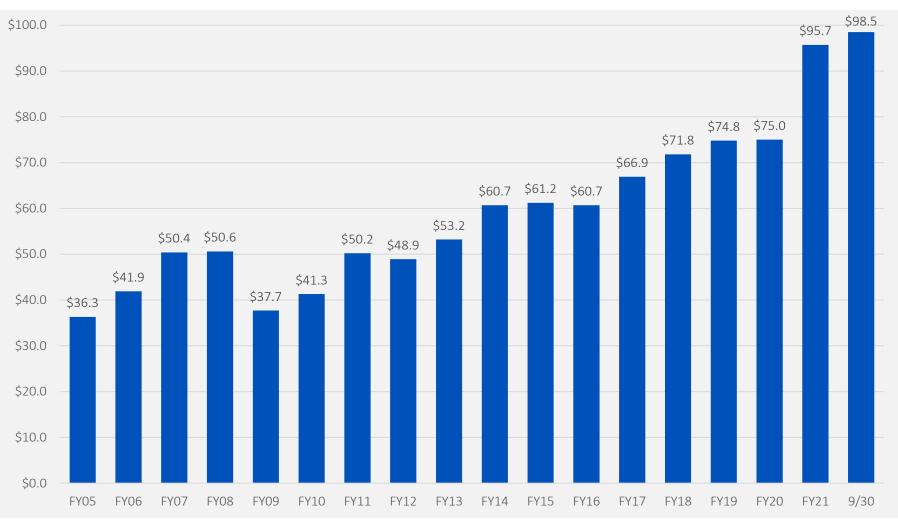


# PRIT FUND PERFORMANCE



### **Total PRIT Fund Fiscal Year Market Value**

Value (\$Billions)

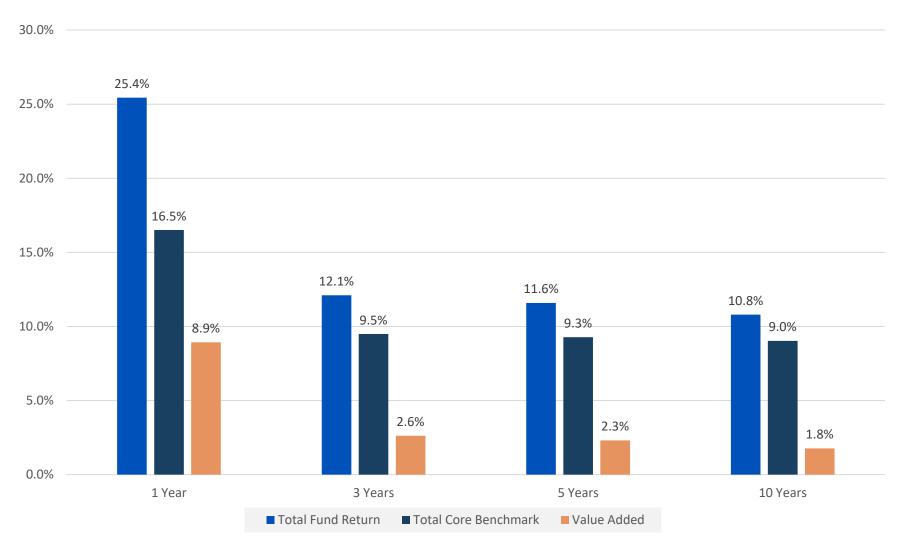


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Source: BNY Mellon. As of September 30, 2021.

### **PRIT Fund Total Returns**

Annualized Returns as of September 30, 2021 (Gross of Fees)

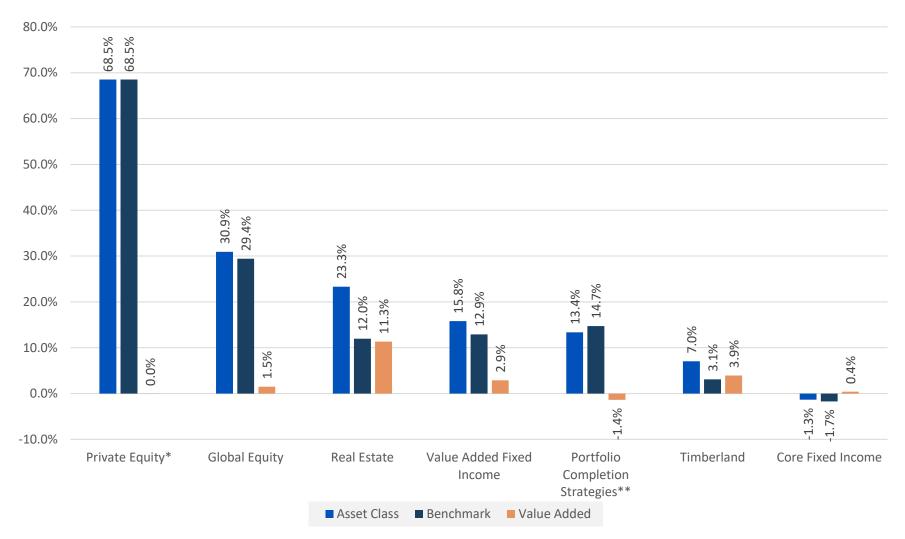


Source: BNY Mellon. Totals may not add due to rounding. Total Core Benchmark includes private equity benchmark.



### **PRIT Asset Class Performance Summary**

One-Year Ended September 30, 2021 (Gross of Fees)

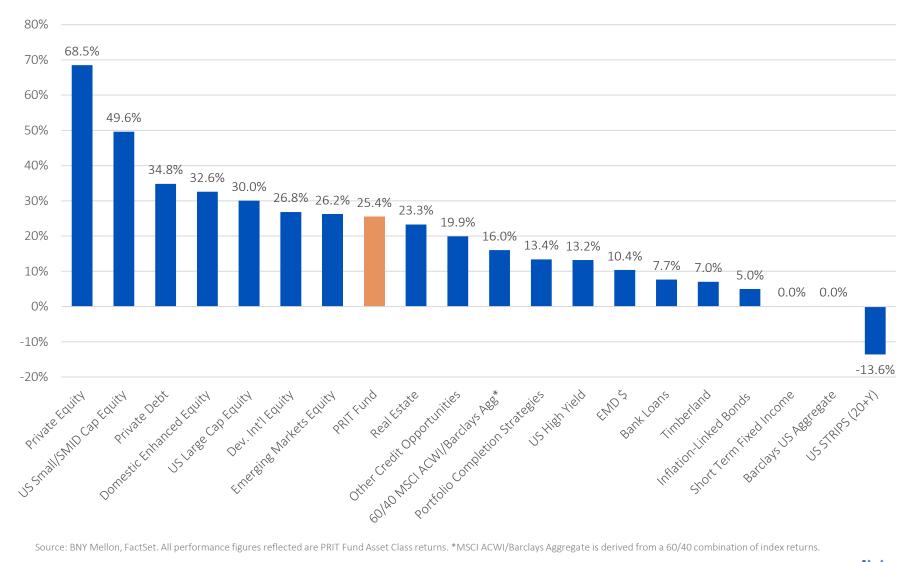


Source: BNY Mellon. Totals may not add due to rounding. \*Benchmark is actual performance. \*\*Hedge Fund returns are net of fees.



### **PRIT Performance By Strategy – One-Year**

One-Year Ended September 30, 2021 (Gross of Fees)

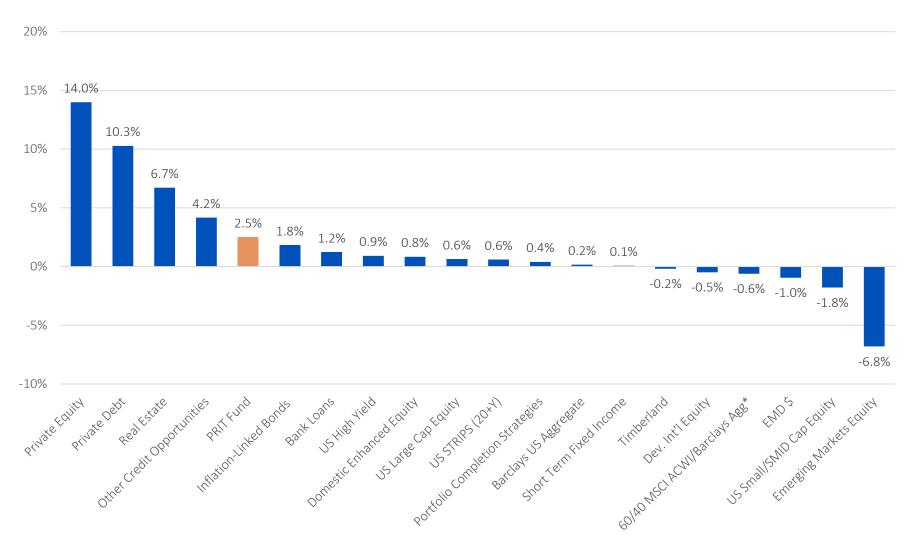


Source: BNY Mellon, FactSet. All performance figures reflected are PRIT Fund Asset Class returns. \*MSCI ACWI/Barclays Aggregate is derived from a 60/40 combination of index returns.



### PRIT Performance By Strategy – Third Quarter 2021

Quarter Ended September 30, 2021 (Gross of Fees)



Source: BNY Mellon, FactSet. All performance figures reflected are PRIT Fund Asset Class returns. \*MSCI ACWI/Barclays Aggregate is derived from a 60/40 combination of index returns.



### **PRIT Fund Annualized Returns By Asset Class**

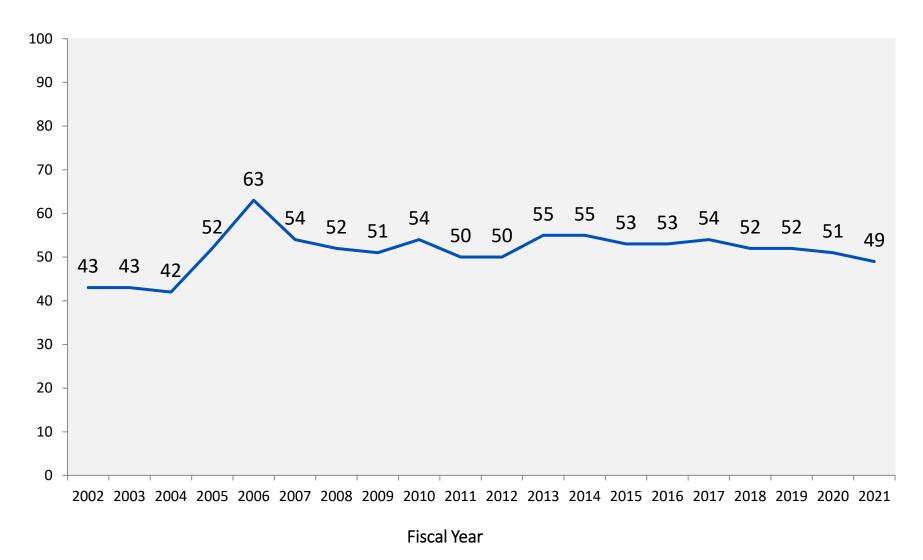
As of September 30, 2021 (Gross of Fees)

1 Year	3 Year	5 Year	10 Year
PRIVATE EQUITY	PRIVATE EQUITY	PRIVATE EQUITY	PRIVATE EQUITY
68.5%	31.0%	28.1%	21.9%
GLOBAL EQUITY	GLOBAL EQUITY	GLOBAL EQUITY	GLOBAL EQUITY
30.9%	12.7%	13.5%	12.4%
REAL ESTATE	REAL ESTATE	REAL ESTATE	REAL ESTATE
23.3%	9.6%	8.8%	10.9%
VALUE-ADDED FIXED INCOME		VALUE-ADDED FIXED INCOME	VALUE-ADDED FIXED INCOME
15.8%		6.8%	6.0%
PORTFOLIO COMPLETION STRATEGIES	VALUE-ADDED FIXED INCOME	PORTFOLIO COMPLETION STRATEGIES	PORTFOLIO COMPLETION STRATEGIES
13.4%	7.3%	4.8%	5.1%
TIMBER	PORTFOLIO COMPLETION STRATEGIES	TIMBER	TIMBER
7.0%	3.1%	4.5%	4.9%
CORE FIXED INCOME	TIMBER	CORE FIXED INCOME	CORE FIXED INCOME
(1.3%)	2.4%	3.4%	4.8%

Source: BNY Mellon.



### **Total PRIT Fund - Ratio of Expenses in Basis Points**





### STATE RETIREE BENEFITS TRUST FUND (SRBTF)



### **Composition of the SRBTF Board of Trustees**

Michael Heffernan Secretary of Administration & Finance or designee Frank Gervasio serves as Secretary Heffernan's Designee State Treasurer & Receiver-General or designee Deborah B. Goldberg Nicola Favorito serves as Treasurer Goldberg's Designee and is SRBTF Board Chair State Comptroller or designee William McNamara Executive Director, Group Insurance Commission or designee Matthew Veno James Rust serves as Mr. Veno's designee Executive Director, Public Employee Retirement Administration John W. Parsons **Commission or designee** Michael C. Tow, CFP **Treasurer's Appointee** President & Founder, New Boston Financial **Theresa Flynn Governor's Appointee** Principal, Strategic Benefit Advisors

*Five of the seven Trustees are Ex Officio Members. The two appointed Trustees serve five-year terms.* 



### **Governmental Entities Participating in the SRBTF**

- 1. Town of Acton
- 2. Town of Acushnet
- 3. Town of Amherst
- 4. Town of Ayer
- 5. Town of Bedford
- 6. Town of Bellingham
- 7. City of Beverly
- 8. BiCounty Educational Collaborative, Franklin, MA
- 9. Town of Blackstone
- 10. Boston Redevelopment Authority
- 11. Town of Boxford
- 12. Town of Braintree
- 13. Town of Brewster
- 14. Town of Brookline
- 15. Town of Burlington
- 16. Byfield Water District
- 17. Town of Chelmsford
- 18. Concord Area Special Education (CASE) Collaborative
- 19. Town of Cohasset
- 20. Town of Dalton
- 21. Town of Dracut
- 22. Town of Dedham
- 23. Town of East Bridgewater
- 24. Fall River Housing Authority
- 25. City of Fitchburg
- 26. Town of Franklin
- 27. Franklin Regional Council of Governments

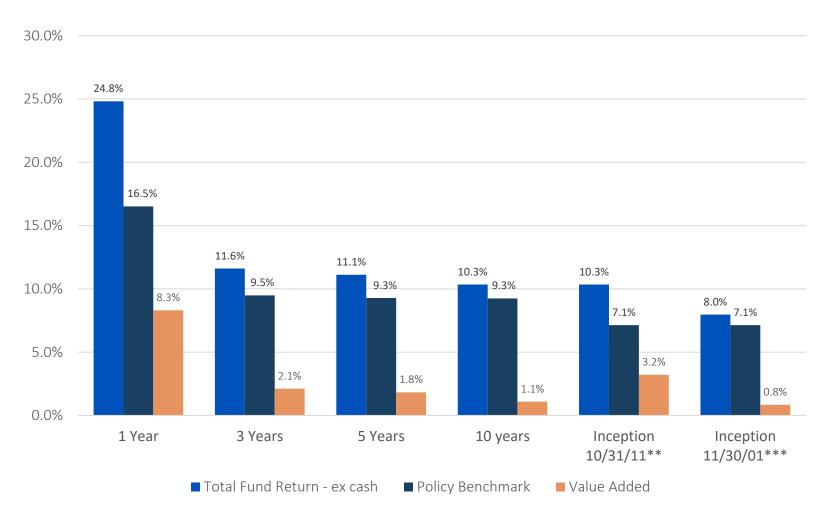
- 28. Greater Lowell Regional Technical School
- 29. Town of Harvard
- 30. Town of Hingham
- 31. Town of Holliston
- 32. Town of Ipswich
- 33. Town of Lancaster
- 34. Lawrence Housing Authority
- 35. Town of Lenox
- 36. City of Leominster
- 37. Town of Lincoln
- 38. Lincoln-Sudbury Regional School District
- 39. Town of Longmeadow
- 40. Lowell Regional Transit Authority (LRTA)
- 41. Lower Pioneer Valley Educational Collaborative
- 42. Town of Manchester-By-The-Sea
- 43. Manchester Essex Regional School District
- 44. Town of Marblehead
- 45. Marblehead Municipal Light Department
- 46. Massachusetts School Building Authority
- 47. Mass State Retirees (SRBTF)
- 48. Mass Water Resources Authority
- 49. Town of Medfield
- 50. Town of Middleton
- 51. Town of Milton
- 52. Town of Montague
- 53. Nashoba Regional School District
- 54. Town of Needham

- 55. City of New Bedford
- 56. City of Newburyport
- 57. City of Newton
- 58. Town of North Andover
- 59. Town of Northborough
- 60. Town of Northfield
- 61. Old Rochester Regional School District
- 62. Town of Orleans
- 63. Pilgrim Area Collaborative (PAC), Pembroke, MA
- 64. Town of Provincetown
- 65. Quabbin Health District
- 66. Town of Reading
- 67. Reading Municipal Light Department
- 68. Shawsheen Valley Technical High School, Billerica, MA
- 69. Town of Sherborn
- 70. South Hadley Fire District
- 71. Town of Stockbridge
- 72. Town of Tewksbury
- 73. Town of Wakefield
- 74. Wakefield Municipal Gas & Light Department
- 75. Town of Wayland
- 76. Town of Wellesley
- 77. Town of Westwood
- 78. Town of Wilmington
- 79. City of Worcester



### **Total SRBT Fund Returns**

\$2.82 Billion\* One Year Ended September 30, 2021 (Net of Fees)



\*Participant assets, excluding Mass State Retirees, were \$894.2 million as of June 30, 2021

\*\* The inception date for the SRBTF's investment in the PRIT Fund General Allocation Account (PRIT GA) was 10/31/2011, when 82% of the fund was transitioned from separate accounts to PRIT GA. The remaining 18% of separate account assets were transitioned over the following 14 months with 100% of assets invested in PRIT GA by 12/31/2012. This ITD value of 10.3% reflects the inception-to-date return for PRIT GA assets only.

35 \*\*\* The inception date for the TOTAL FUND was 11/30/2001. This ITD value reflects the true inception-to-date return for all SRBTF assets including legacy separate account investments as well as the PRIT GA investments.



### **City of Newton OPEB Assets in SRBTF**

#### Net of Fees Returns as of September 30, 2021

	МКТ \$ (000)	%	Month	QTR		Calendar YTD	1 Year	3 Year	5 Year	10 Year Inception
CITY OF NEWTON	24,204	100%	0.27	2.32	2.32	13.71	24.70	11.51	11.02	8.96
SRBTF CASH	304	1%	0.00	0.02	0.02					
SRBTF OPEB MASTER TRUST	23,900	99%	0.27	2.32	2.32	13.79	24.79	11.59	11.09	
POLICY BENCHMARK			-1.55	0.44	0.44	7.68	16.51	9.49	9.28	

Inception date is July 31, 2014



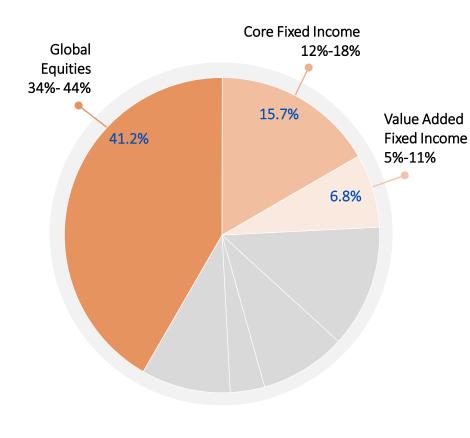
# APPENDIX PRIT FUND ASSET CLASS DETAIL



# **Public Market Portfolios**

### PRIT FUND TARGET ASSET ALLOCATION

Actual Allocation as of September 30, 2021



Source: BNY Mellon and PRIM Staff. \*Excludes Private Debt allocation.

### \$61.4 billion 62.4% of PRIT Fund

- Global Equities: \$40.6 billion, 41.2% of PRIT Fund
- Public Fixed Income: \$20.9 billion, 21.2% of PRIT Fund\*

#### 45% Active / 55% Passive

- Global Equities: 39% Active / 61% Passive
- Public Fixed Income: 56% Active / 44% Passive

### 53 Portfolios

- 27 equity portfolios
- 26 fixed income portfolios

### 15 Asset Classes

- U.S. Large Cap Equity
- U.S. Small/SMID Cap Equity
- Developed International Equity
- Developed International Small Cap Equity
- Emerging Markets Equity
- Emerging Markets Small Cap Equity
- Core Bonds
- 20+ Year STRIPS
- Short Term Fixed Income
- U.S. TIPS
- Global Inflation-Linked Bonds
- High Yield Bonds
- Bank Loans
- EMD \$
- Other Credit Opportunities



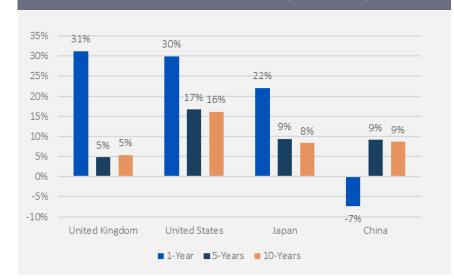


# Public Markets – Key Initiatives

- Continue to source and allocate to diverse investment managers.
- Review Public Markets Benchmarks with Verus.
- Continue to identify Other Credit Opportunities investments, including co-investment opportunities.
- Conduct routine review and update of the Investment Policy Statement.
- Collaborate with Real Estate team to review and implement an improved Real Estate Debt program.
- Continue to upgrade analytical tools to improve investment research/analysis.

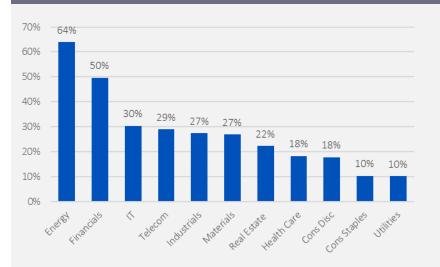


## **Public Equity Review**



**MAJOR COUNTRY RETURNS (MSCI ACWI)** 

#### **GLOBAL ONE-YEAR RETURN BY SECTOR (MSCI ACWI)**

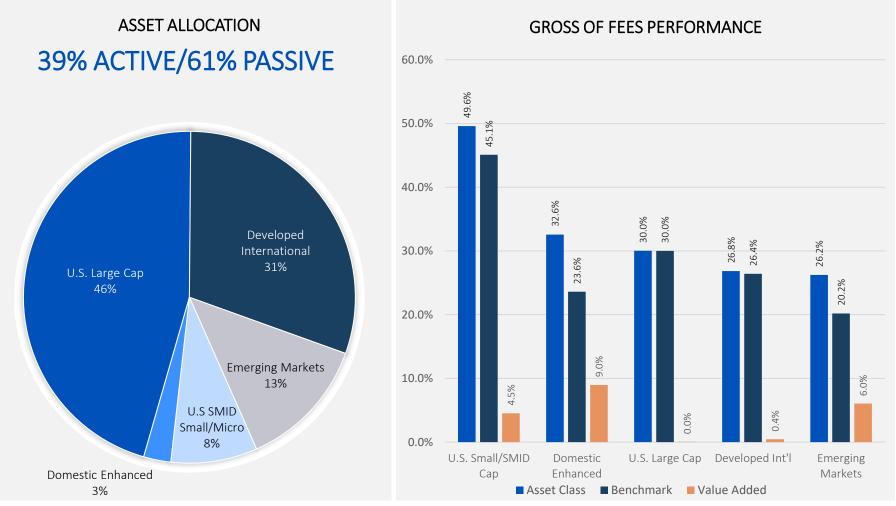


VALUE VS. GROWTH: RELATIVE RETURNS VS. RUSSELL 3000 (CUMULATIVE)



# **Global Equity**

As of September 30, 2021, \$40.6 Billion – 41.2% of PRIT Fund (Target 34%-44%)

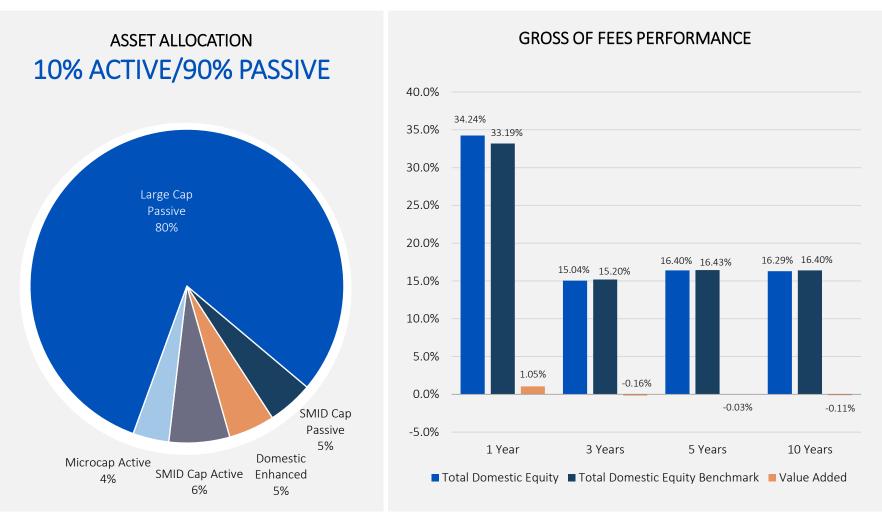


Source: BNY Mellon, PRIM Staff. As of September 30, 2021.



## **Domestic Equity**

As of September 30, 2021, \$23.0 Billion - 23.3% of PRIT Fund



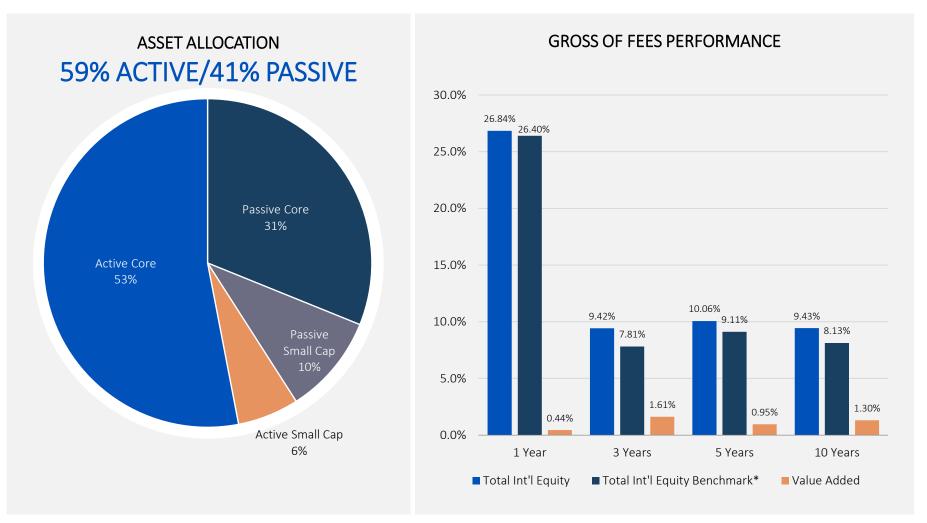
\*Total Domestic Equity Benchmark: Currently the Total Domestic Equity benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the total domestic equity portfolio.



# **Developed International Equity**

43

As of September 30, 2021, \$12.5 Billion – 12.7% of PRIT Fund

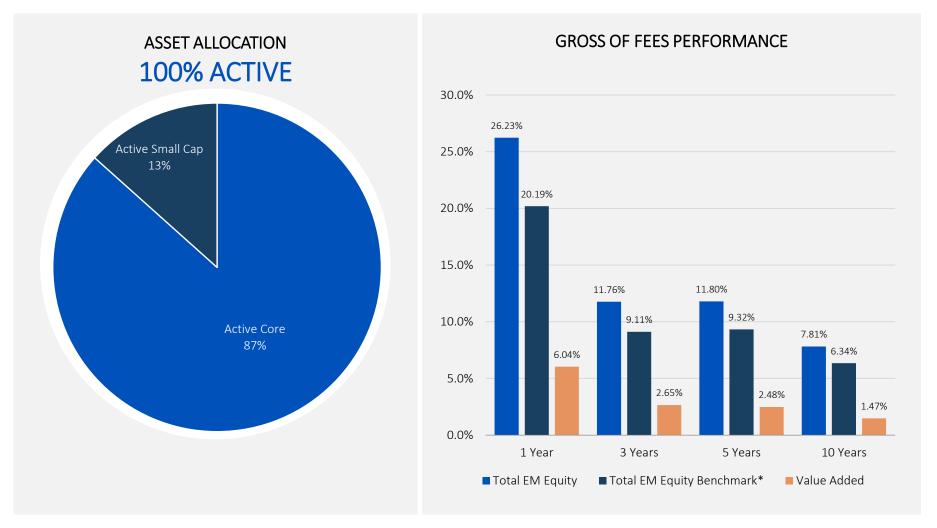


\*Total International Equity Benchmark: Custom MSCI World Ex-US IMI Net Divs, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities (blend is maintained by MSCI).



### **Emerging Markets Equity**

As of September 30, 2021, \$5.1 Billion – 5.2% of PRIT FUND

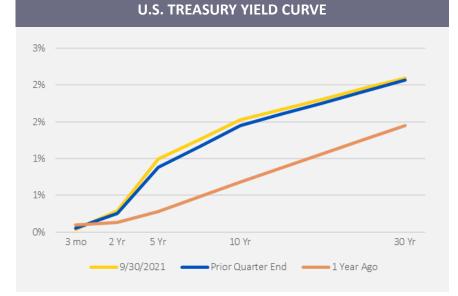


\*Total Emerging Markets Equity Benchmark: currently Custom MSCI Emerging Markets IMI Net Divs, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities (blend is maintained by MSCI).

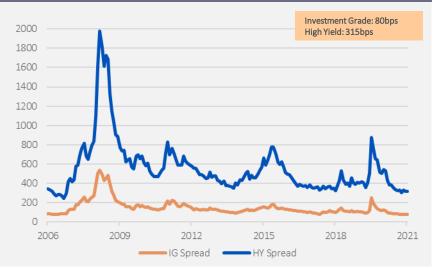


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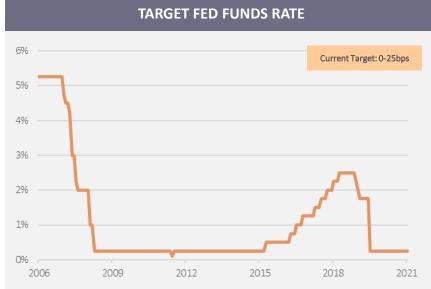
### **Public Fixed Income Review**



**U.S. CREDIT SPREADS** 





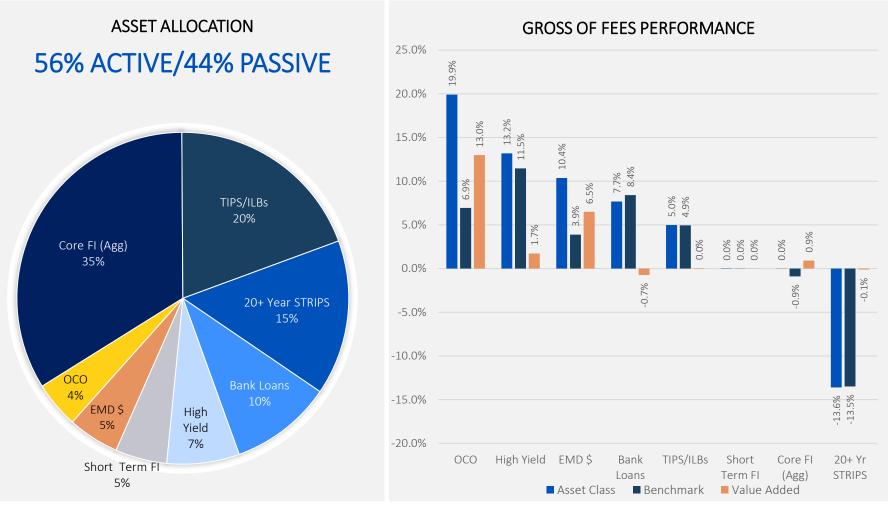


#### EMERGING MARKETS DEBT SPREAD



# **Core & Value-Added Fixed Income**

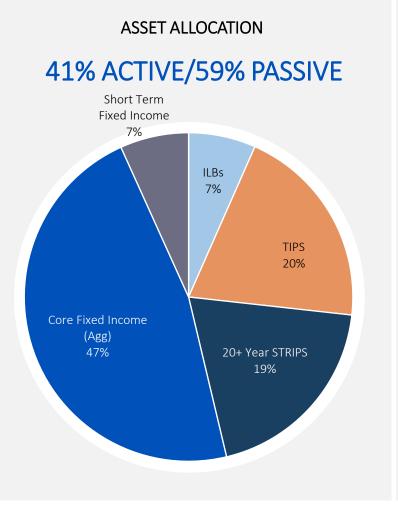
As of September 30, 2021, \$20.9 Billion – 21.2% of PRIT Fund\* (Target 17%-29%)



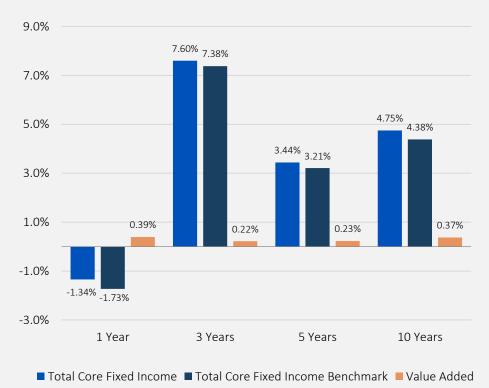
Source: BNY Mellon, PRIM Staff. \*Excludes Private Debt allocation.

### **Domestic Investment Grade & Inflation-Linked Fixed Income**

As of September 30, 2021, \$15.5 Billion – 15.7% of PRIT Fund (Target 12%-18%)



#### GROSS OF FEES PERFORMANCE

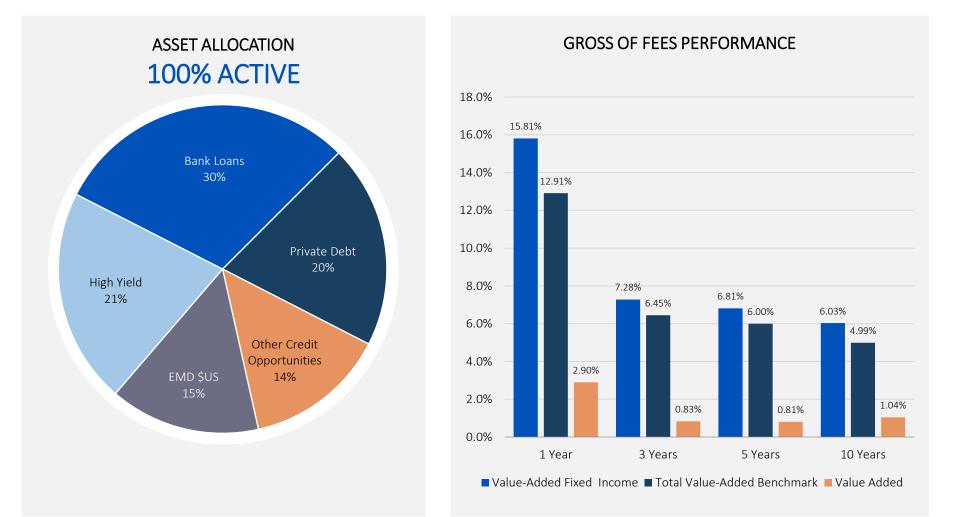


\*Core Fixed Income Benchmark: Currently 46.66666% BC Aggregate/20% BC US TIPS/6.6667% BC ILB US\$ Hedged/20% BC STRIPS 20+/6.6667% Bloomberg **47** Barclays US Treasury 1-3 Year Index.



### Value-Added Fixed Income

As of September 30, 2021, \$6.7 Billion – 6.8% of PRIT Fund (Target 5%-11%)



\*The Value-Added benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the value-added fixed income portfolio, Private Debt component is using actual Private Debt Returns. These weightings will be automatically adjusted on a monthly basis.



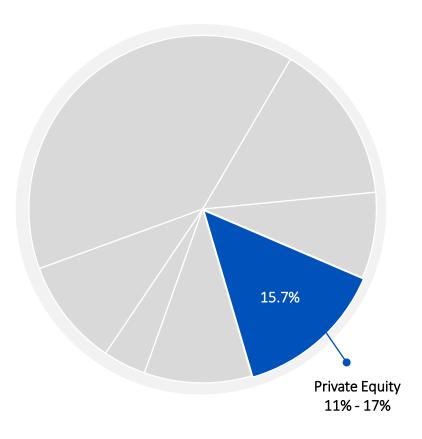
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# PRIVATE EQUITY PORTFOLIO

# **Private Equity Portfolio**

### PRIT FUND TARGET ASSET ALLOCATION

Actual Allocation as of September 30, 2021



**Private Equity** \$15.5 billion, 15.7% of PRIT Fund

**Private Debt** \$1.3 billion, 1.4% of PRIT Fund

114 investment managers

6 team members

~ 30 investment decisions/year

#### 5 core investment strategies:

- Large buyouts
- Small and mid cap buyouts
- Growth equity
- Venture capital
- Distressed debt

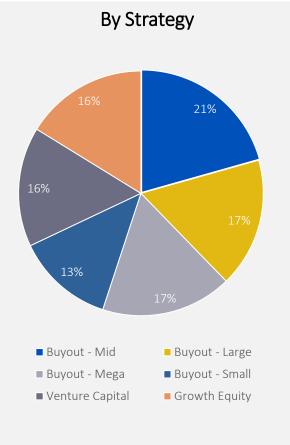


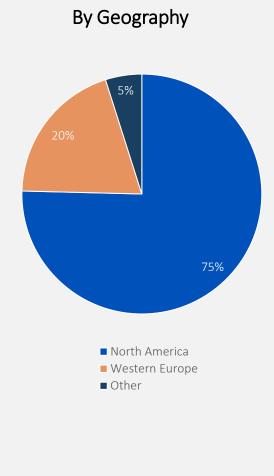


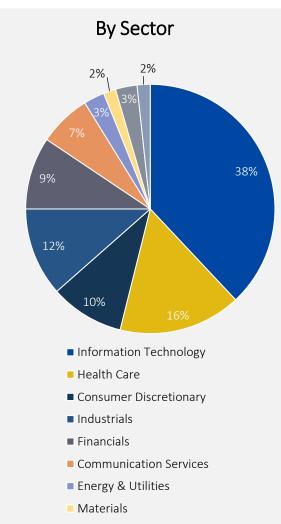
### Private Equity Key Initiatives

- Execute successful Private Equity Investment strategy.
  - Increase Private Equity target allocation range to PRIT Fund to 11% to 17%.
  - Commitment goal of \$2.1 billion to \$2.7 billion to funds.
  - Raise co-investment capacity to \$480 million, 20% of 2021 commitments.
- Continue to source and allocate to diverse investment managers.
- Research new Private Equity Strategies.
  - Private Equity replication.
  - Scale co-investments.
  - Improve governance terms to benefit limited partners.
  - Improve LP/GP relationship balance with selected investment managers.
- Build the team's expertise and capacity.
  - Increase collaboration with other PRIM teams.

# **Private Equity Diversification**





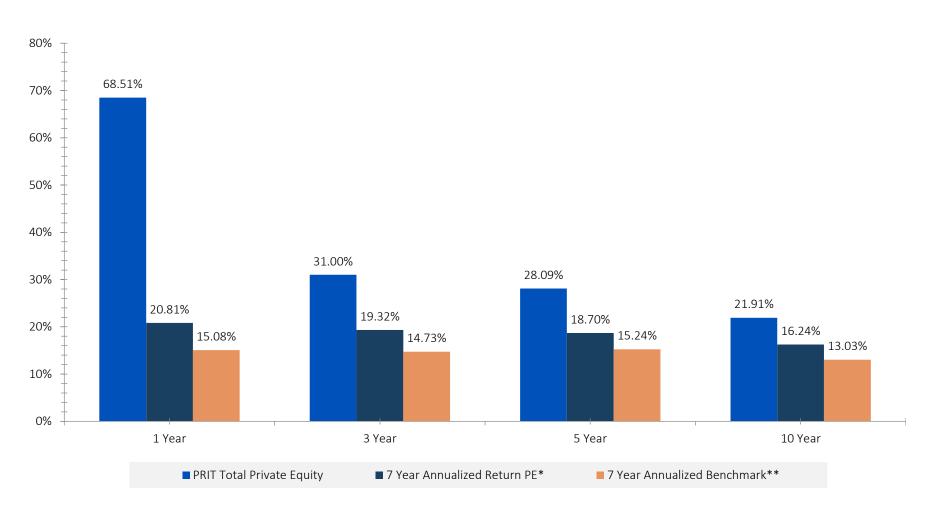


- Consumer Staples
- Other



# **Private Equity**

Annualized Returns as of September 30, 2021 (Gross of Fees)



\* The 7 Year Annualized performance is used in the Policy Return and Policy Benchmark.

\*\*The 7 Year Annualized Benchmark: Currently 7-year annualized return of a blend of the 85.9% Russell 3000 + 3% / 14.1% MSCI Europe IMI + 3%.



# **Private Equity Performance by Vintage Year**

Performance Summary By Vintage Year as of June 30, 2021

Private Equity Vintage Year	Capital Committed	Paid-In Capital	Percentage Contributed	Capital Distributed	Percentage Distributed	Reported Market Value	τνρι	Net IRR 6/30/2021	Cambridge Median IRR
1986	\$77,680,426	\$79,264,625	102.04%	\$238,804,549	\$3	-	3.01x	15.58%	9.47%
1987	216,385,228	215,372,662	99.53%	420,456,645	195.22%	-	1.95x	11.34%	15.15%
1988	93,451,860	89,954,995	96.26%	184,708,592	205.33%	-	2.05x	14.99%	11.77%
1989	61,340,193	59,296,115	96.67%	126,898,769	214.01%	-	2.14x	20.38%	13.55%
1990	218,931,380	225,129,257	102.83%	516,114,811	229.25%	-	2.29x	13.51%	20.16%
1991	1,000,000	1,000,000	100.00%	796,310	79.63%	-	0.80x	(4.22%)	20.26%
1992	28,010,702	27,694,264	98.87%	51,950,840	187.59%	-	1.88x	23.29%	18.47%
1993	151,028,336	150,975,841	99.97%	282,602,309	187.18%	-	1.87x	18.20%	19.17%
1994	15,000,000	15,024,279	100.16%	28,813,938	191.78%	-	1.92x	19.98%	18.46%
1995	251,103,041	215,034,991	85.64%	414,254,435	192.65%	88,011	1.93x	17.23%	16.16%
1996	64,257,593	67,485,450	105.02%	110,478,819	163.71%	-	1.64x	12.65%	10.33%
1997	380,791,347	399,674,317	104.96%	744,523,311	186.28%	-	1.86x	17.37%	11.08%
1998	564,974,028	550,291,977	97.40%	812,234,939	147.60%	2,395,920	1.48x	7.76%	8.15%
1999	413,881,039	411,160,285	99.34%	373,455,602	90.83%	319,711	0.91x	(1.60%)	(0.54%)
2000	1,084,468,703	1,064,412,630	98.15%	1,793,938,818	168.54%	19,899,685	1.70x	12.66%	3.10%
2001	591,461,874	582,099,003	98.42%	1,217,495,749	209.16%	8,602,470	2.11x	26.09%	8.57%
2002	128,587,392	129,710,425	100.87%	225,832,446	174.11%	13,219,373	1.84x	12.20%	8.10%
2003	521,790,693	534,068,384	102.35%	979,813,908	183.46%	4,910,729	1.84x	17.53%	9.77%
2004	400,000,000	394,951,529	98.74%	929,438,584	235.33%	13,530,491	2.39x	23.32%	7.73%
2005	726,272,967	738,108,629	101.63%	1,168,249,630	158.28%	17,052,458	1.61x	9.53%	7.95%
2006	1,911,214,850	1,968,249,415	102.98%	3,084,659,481	156.72%	92,255,576	1.61x	8.60%	7.21%
2007	941,901,672	1,021,242,912	108.42%	1,619,387,400	158.57%	105,235,377	1.69x	11.68%	9.14%
2008	1,457,101,057	1,529,774,845	104.99%	2,696,730,229	176.28%	199,523,279	1.89x	14.61%	9.23%
2009	548,354,341	572,888,437	104.47%	1,002,515,485	174.99%	114,385,703	1.95x	18.91%	13.37%
2010	381,250,000	404,509,052	106.10%	811,022,706	200.50%	647,567,793	3.61x	24.05%	12.99%
2011	1,504,629,658	1,647,181,500	109.47%	2,642,377,109	160.42%	989,726,818	2.21x	18.68%	16.21%
2012	710,106,425	803,252,497	113.12%	1,205,976,776	150.14%	680,469,497	2.35x	23.59%	15.77%
2013	524,804,424	546,791,775	104.19%	595,687,305	108.94%	611,570,065	2.21x	19.72%	17.22%
2014	1,216,246,577	1,222,088,270	100.48%	1,245,265,196	101.90%	1,910,487,777	2.58x	26.62%	22.96%
2015	954,020,262	1,019,047,316	106.82%	778,640,918	76.41%	1,663,783,295	2.40x	28.91%	21.05%
2016	1,662,595,955	1,590,359,962	95.66%	688,569,929	43.30%	2,518,382,853	2.02x	27.95%	22.99%
2017	701,251,919	570,429,290	81.34%	154,050,512	27.01%	843,872,943	1.75x	26.77%	29.48%
2018	1,885,141,510	1,463,120,648	77.61%	346,613,394	23.69%	2,068,124,411	1.65x	34.33%	29.67%
2019	2,052,233,327	1,149,572,566	56.02%	189,519,870	16.49%	1,618,388,241	1.57x	53.45%	37.93%
2020	2,987,697,382	870,478,423	29.14%	25,665,714	2.95%	1,029,917,825	1.21x	41.74%	23.67%
2021	2,202,964,026	281,867,541	12.79%	-	0.00%	291,436,225	1.03x	6.91%	(2.90%)
Total Private Equity:	\$27,631,930,187	\$22,611,564,105	81.83%	\$27,707,545,028	122.54%	\$15,465,146,525	1.91x	14.46%	



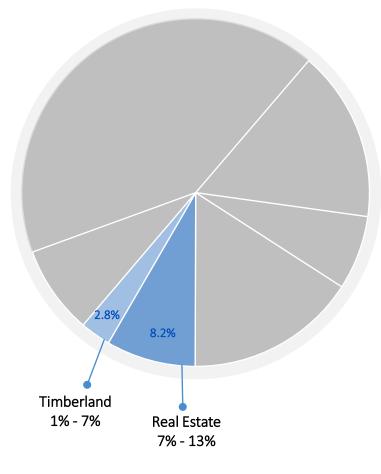
# REAL ESTATE AND TIMBERLAND PORTFOLIO

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# Real Estate and Timberland Portfolios

### PRIT FUND TARGET ASSET ALLOCATION

Actual Allocation as of September 30, 2021



### \$10.9 billion, 11.0% of PRIT Fund

- Real Estate: \$8.1 billion, 8.2% of PRIT Fund
- Timberland: \$2.8 billion, 2.8% of PRIT Fund

### 16 portfolios

- 6 core portfolios (including 3 new in 2019)
- 5 non-core portfolios
- 2 global REIT portfolios
- 2 timberland portfolios
- 1 direct investment portfolio

### Property investments

- Real estate 100 properties
- Timberland 23 properties

### 140 global real estate securities

### 4 primary strategies

- Core U.S. private real estate
- Non-core U.S. private real estate
- Global real estate securities
- Global timberland
- 4 team members



### Real Estate and Timberland Key Initiatives

### **Real Estate**

#### • Investments

- Continue to source and allocate to diverse investment managers.
- Emphasize non-core and direct investment sourcing.
- Office and retail assets: Maintain an asset level focus. Re-evaluate manager assignments as needed.
- Implement project consulting model.
- Continue to increase PRIM's knowledge of non-traditional Real Estate sectors.
- Continue to use REITs as liquidity for acquisitions.
- Evaluate new technology for customized asset management solutions.

#### Real Estate portfolio debt

- Refinance \$500 million maturity.
- 57 Re-evaluate PRIM's capital structure.

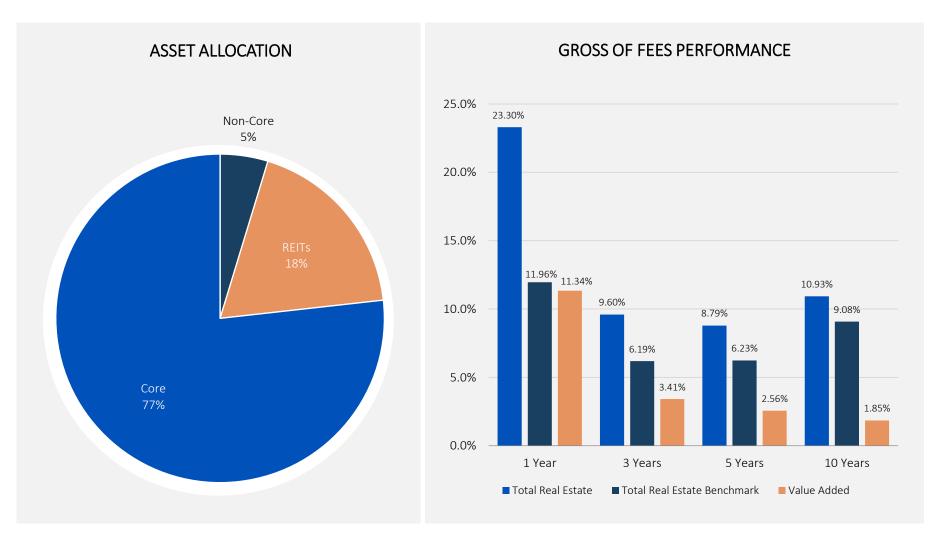
### Timberland

- Review PRIM's long-term investment thesis.
- Monitor implementation of Real Estate and Timberland operating and disposition plans.
- Collaboration with other PRIM teams.
  - Review asset class with Research team.
  - Review benchmark with Risk team.



### **Real Estate**

As of September 30, 2021, \$8.1 Billion – 8.2% of PRIT Fund (Target 7%-13%)

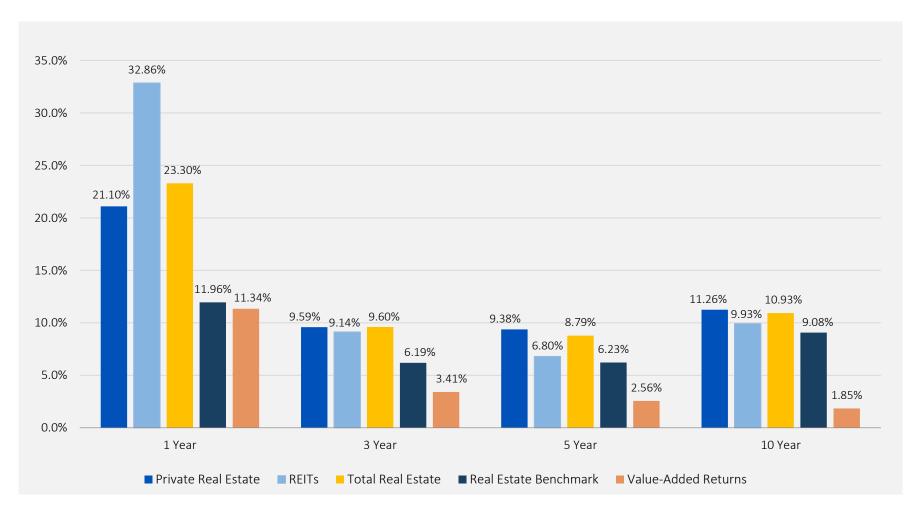


\*Total Real Estate Benchmark: Currently 80% NCREIF PROPERTY ONE QTR LAG/20% FTSE EPRA NAREIT Developed Net Total Return



### **Total Real Estate Performance**

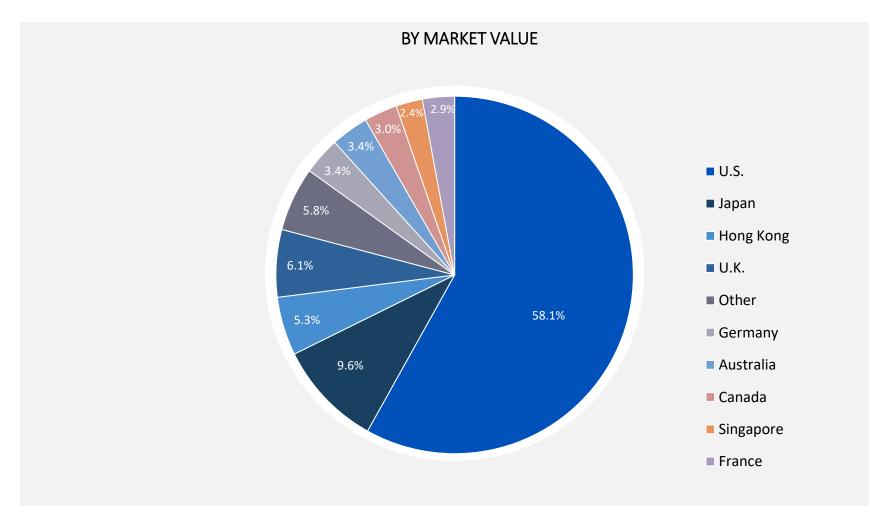
Annualized Returns as of September 30, 2021 (Gross of Fees)



Benchmark: Currently 80% NCREIF PROPERTY ONE QTR LAG/20% FTSE EPRA NAREIT Developed Net Total Return.

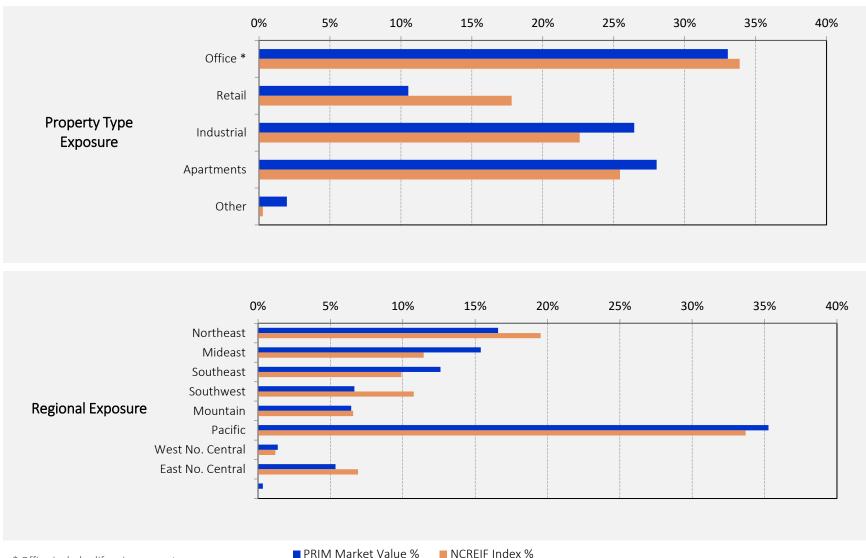


### Public Real Estate (REITs) Exposure by Country



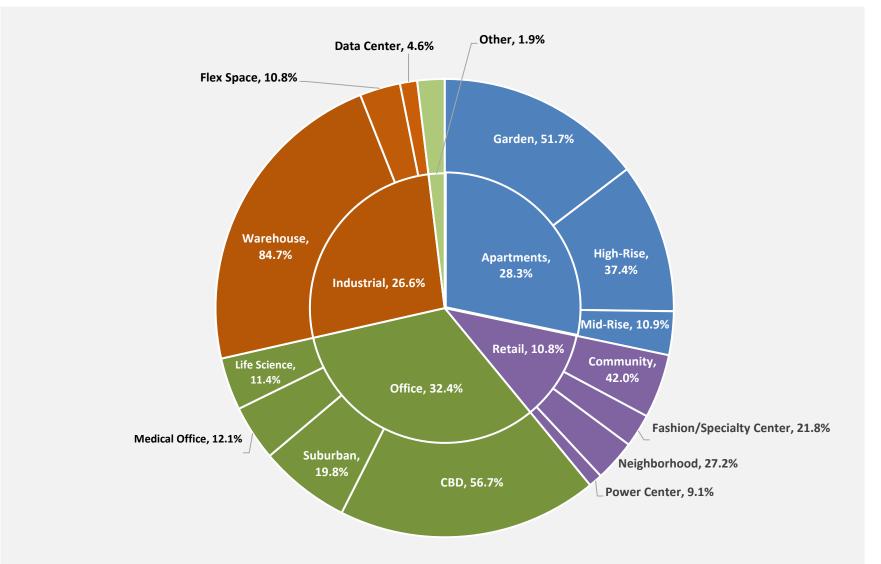


### **Private Real Estate Portfolio Exposure**





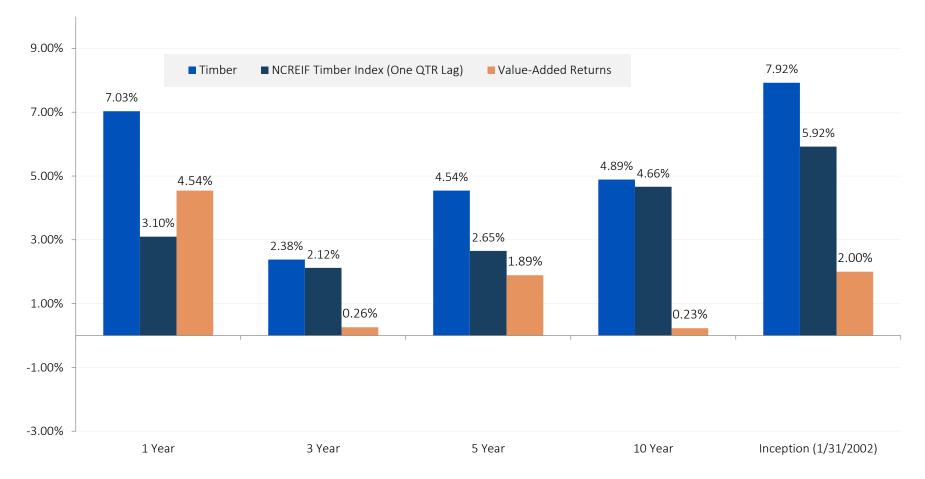
## **Property Subtype Breakdown**





## Timberland

### Annualized Returns as of September 30, 2021 (Gross of Fees)

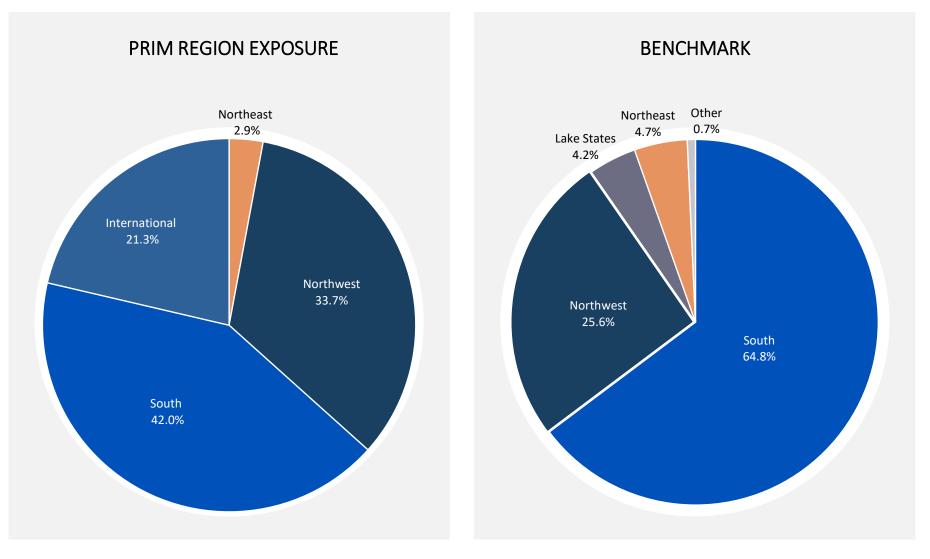




Benchmark: Currently NCREIF Timberland Index.

## **Timberland Exposure by Region vs. Benchmark**

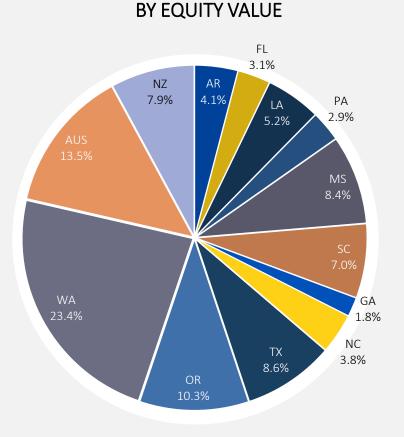
As of September 30, 2021, \$2.8 Billion – 2.8% of PRIT Fund (Target 1%-7%)

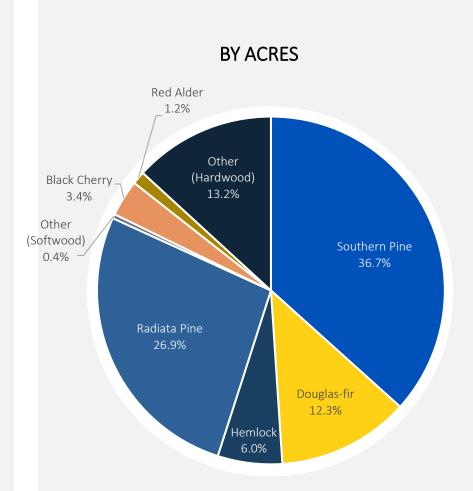




### Timberland Exposure by State/Region

### Timberland Exposure by Species







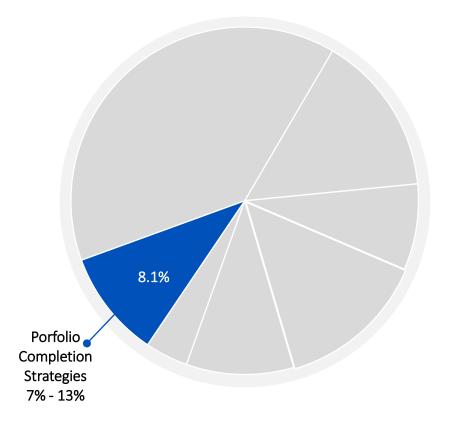
# PORTFOLIO COMPLETION STRATEGIES



# **Portfolio Completion Strategies (PCS)**

### PRIT FUND TARGET ASSET ALLOCATION

Actual Allocation as of September 30, 2021



#### PCS \$7.9 billion, 8.1% of PRIT Fund

- Direct Hedge Funds: \$6.4 billion, 81% of PCS
- Hedge Fund of Funds: \$0.6 billion, 8% of PCS
- Real Assets: \$0.9 billion, 11% of PCS

#### 27 Hedge Fund managers:

- 1 FoHF Manager
- 26 direct hedge fund managers

6 PCS managers

11 team members Collaboration across all PRIM teams



### Portfolio Completion Strategies Key Initiatives

#### **Portfolio Completion Strategies**

- Continue to source and allocate to diverse investment managers.
- Continue implementing carveout of Hedge Fund portfolio into "Stable Value" and "Directional" components.
- Continue collaboration with PRIM teams on investment and coinvestments opportunities.
- Finalize analytic infrastructure to better research and monitor derivative-based strategies.
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#### Risk

- Conduct comprehensive benchmark review in 2021.
- Develop risk management "best practices"- procedures, policies, and measures from a risk perspective related to the stages of investment due diligence and ongoing manager monitoring.
- Evaluate risk management platform and internal vendors.
- Identify and implement lower cost borrowing alternative for the Real estate sleeve.

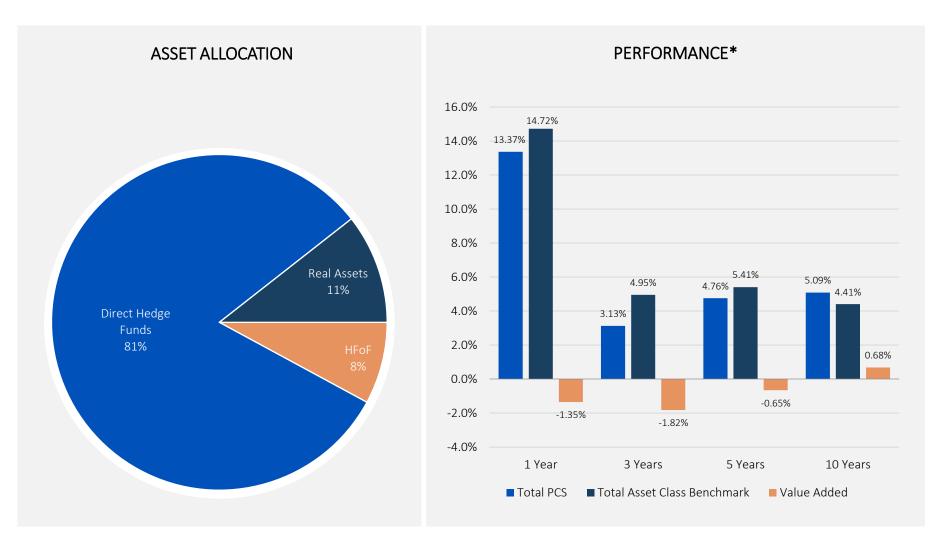
#### Research

- Build out supplemental asset allocation research to refine optimal asset class ranges and further increase model robustness.
- Conduct Private Equity replication research.
- Collaborate with MIT and other prospective members of the Aggregate Confusion Project: An ESG Research consortium.
- Further refine the Diverse-owned Investment Management

# **Portfolio Completion Strategies**

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As of September 30, 2021, \$7.9 Billion – 8.1% of PRIT Fund (Target 7%-13%)

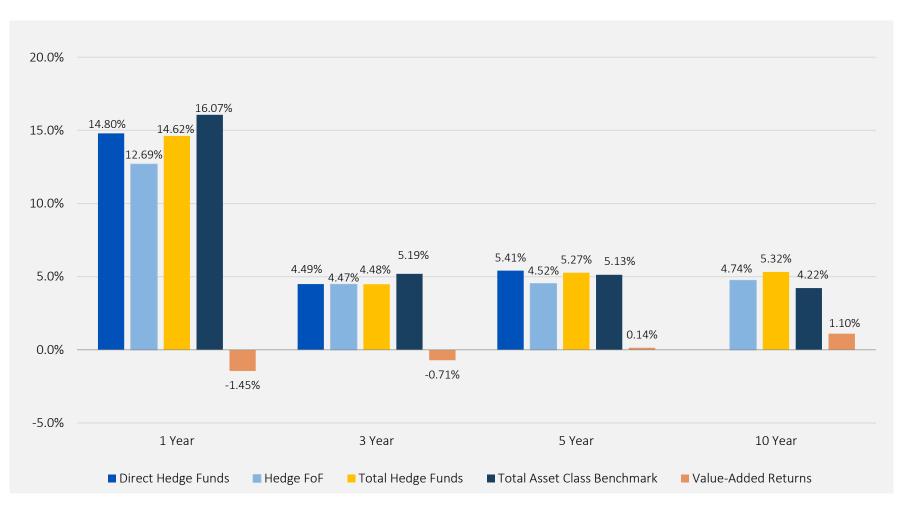


Benchmark: Total Portfolio Completions Composite Index was formed on April 1, 2017 by combining the prior Portfolio Completion Strategies with Total Hedge Funds. Total Portfolio Completion Strategies Composite Index is calculated by applying the underlying benchmark return for each sub asset class to the asset class's weight within the Total Portfolio Completion Strategies Composite. These weights are based on the beginning adjusted monthly market value of each sub asset. *\*Hedge Funds returns, 89% of the PCS Portfolio, are net of fees.* 



### **Hedge Funds Performance**

### Annualized Returns as of September 30, 2021 (Net of Fees)

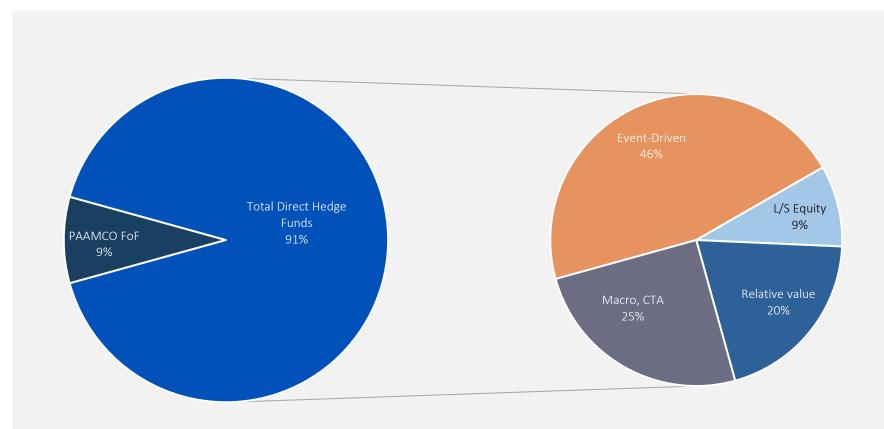


Benchmark: Currently using a composite of several HFRI sub-indices. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change.)



## **PRIM Hedge Fund Portfolio Snapshot**

As of September 30, 2021, \$7.1 Billion – 7.2% of PRIT Fund

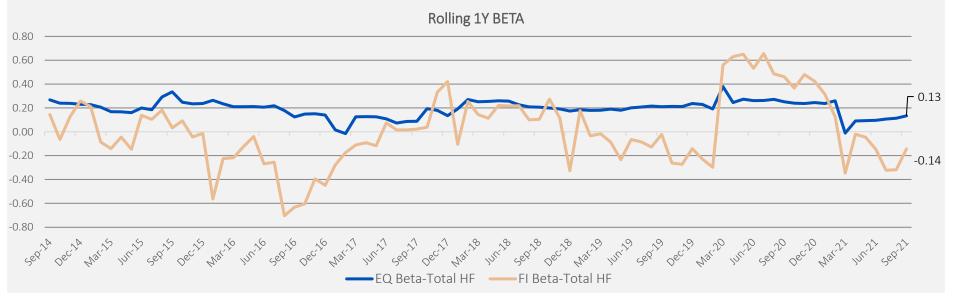




### **Sharpe Ratio and Market Beta Performance**

As of September 30, 2021 (Net of Fees)

		Total Fund	Total HF	Direct HF	Directional	Stable Value	HFRI FOF	SP500	Barclays Agg
1 Year	Return	24.9%	14.5%	14.6%	23.0%	12.3%	14.4%	30.0%	-0.9%
	Vol	6.9%	4.1%	4.0%	9.5%	2.3%	5.6%	13.9%	3.1%
	Sharpe Ratio	3.61	3.56	3.62	2.42	5.29	2.55	2.15	-0.31
у Үеа	Return	11.6%	4.4%	4.3%	1.5%	4.2%	6.5%	16.0%	5.4%
	Vol	8.9%	6.3%	6.4%	16.9%	5.4%	7.3%	18.8%	3.5%
	Sharpe Ratio	1.19	0.53	0.52	0.03	0.60	0.76	0.79	1.26
уеа	Return	11.1%	5.1%	5.3%	9.0%	4.8%	5.8%	16.9%	2.9%
	Vol	7.2%	5.1%	5.1%	14.5%	4.4%	5.8%	15.2%	3.3%
	Sharpe Ratio	1.37	0.80	0.80	0.55	0.82	0.80	1.04	0.57





### **PRIM Hedge Fund and PCS Performance Breakdown**

As of September 30, 2021 (Net of Fees)

	1 Year		2 Y	′ear	3 Year		
	Avg. Weight	Performance	Avg. Weight	Performance	Avg. Weight	Performance	
Stable Value Funds	55%	12%	59%	5%	57%	4%	
Directional Funds	25%	23%	19%	-1%	15%	2%	
ΡΑΑΜCΟ	8%	13%	9%	8%	9%	4%	
Real Assets	11%	3%	12%	-2%	11%	-7%	



# **Glossary of PRIT Fund Investment Terms**

Active Management – Refers to a portfolio management strategy where the manager makes specific investments with the goal of outperforming an investment benchmark index.

Barclays Capital Aggregate Bond Index – An index that replicates the investment grade bond market. The index is comprised of corporate, government, and mortgage-backed securities.

Core Fixed Income Portfolio - Investments in investment grade bonds (see definition of Barclays Capital Aggregate Bond Index).

**Domestic Equity Portfolio** - Investments in shares of publicly-traded U.S. companies utilizing a large capitalization strategy (large cap) and small and middle capitalization equity strategies (small/smid cap).

**Emerging Markets Equity Portfolio** - The primary strategy for this portfolio is investing in companies in developing countries, including, but not limited to, China, Brazil, Russia, South Korea, Taiwan, India and Turkey. These countries typically have less efficient securities markets, and thus there is opportunity for substantial returns.

Hedge Fund Research, Inc. (HFRI) - An organization that specializes in the areas of indexation and analysis of hedge funds.

International Equity Portfolio - The primary strategy for this portfolio is investing in companies in developed markets, industrialized nations outside of the United States, including, but not limited to, Japan, Germany, the United Kingdom, France, Italy, Switzerland, Hong Kong, Canada, and Australia.

MSCI EAFE Index - A stock market index that is designed to measure the equity market performance of developed markets outside of the U.S. & Canada.

MSCI Emerging Markets Index - Captures large and mid cap representation across 24 Emerging Markets (EM) countries

Passive Management - An investing strategy that tracks a market-weighted index or portfolio. The most popular method is to mimic the performance of an externally specified index by buying an index fund.

**Portfolio Completion Strategies (PCS)** – The objective of the PCS portfolio is to provide the PRIT Fund access to broader investment opportunities. Investments selected for the PCS portfolio should enhance the risk/return profile of the PRIT Fund. Investments may include long-term strategic investments or short-term opportunistic investments. Some of these strategies include hedge funds and real assets..

**Private Equity Portfolio** - Two components comprise the PRIT Fund's Private Equity portfolio: venture capital (early-stage and multi-stage) and special equity partnerships (buyout and growth equity). Unlike public markets, where the investor has the ability to "cash out" of positions at any time, these private market investments are illiquid.

**Real Estate Portfolio** – Equity investments in both directly-owned properties and REIT securities. Directly-owned core properties make up most of the portfolio. Core properties are typically well-leased, operating properties that provide regular cash flow from rents. Non-core investments include properties that are under development.

**REIT** – A company that owns, and in most cases operates, income-producing real estate. REITs often trade on major exchanges like other securities and provide investors with a liquid stake in real estate.

**Russell 2500 Index** - Combines a portion of midcap U.S. stocks with small cap U.S. stocks – forming a "SMID" (small/mid) cap segment of stocks from the Russell 3000<sup>®</sup> Index, which is a is a capitalization-weighted U.S. stock market index that seeks to be a benchmark of the entire U.S stock market

Standard & Poor's (S&P) 500 Index – A U.S stock market index based on the market capitalizations of 500 large companies having common stock listed on the NYSE or NASDAQ.

**Timberland Portfolio** – Direct investments in timberland: in the United States timberland markets are divided into three regions, each with distinct economic characteristics: the Pacific Northwest, the Northeast and the Southeast. The Pacific Northwest is a high value softwood market, in which the growing cycle to produce a mature tree is forty to fifty years; in Australia, there is approximately 2 million hectares (4.9 million acres) of plantation timberlands that are almost evenly split between hardwood and softwood species.

**Treasury Inflation-Protected Securities (TIPS)** - Investment grade fixed income investments designed to provide a hedge against rising inflation. The principal of a TIPS increases with inflation and decreases with deflation, as measured by the Consumer Price Index. When a TIPS matures, the investor is paid the adjusted principal or original principal, whichever is greater.

Value Added Fixed Income – A fixed income portfolio consisting of the following strategies: high yield bonds (non-investment grade corporate debt); bank loans (senior secured corporate debt); emerging markets debt (debt issued within the emerging, or developing countries, marketplace, and private debt (investments in private partnerships that invest directly in companies under financial distress).



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# THANK YOU

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