

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

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PRIT Fund Snapshot

As of March 31, 2022

PRIT FUND FACTS

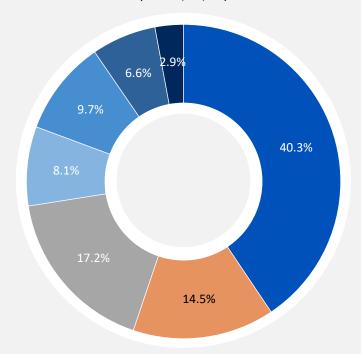
- \$101.5 billion AUM
- 56 public markets portfolios
- 16 real estate, timber and REIT portfolios
- 100+ private equity managers;
 200+ partnerships
- 34 portfolio completion strategies managers

OVERSIGHT AND STAFFING

- 9 appointed and elected trustees
- 4 advisory committees, consisting of 35 industry professionals and Board members
- Staff of over 50 professionals
 - 2 PhDs
 - 25 Masters
 - 14 CFAs
 - 6 CPAs
 - 2 CAIAs
 - 1 FRM
 - 1 CRE
 - 19 CFA Investment Foundations Program Certificate Holders

ASSET ALLOCATION

(as of 3/31/22)



TARGET RANGES

(approved 2/17/22)

- Global Equities 33% 43%
- Core Fixed Income 12% 18%
- Private Equity 12% 18%
- Porfolio Completion Strategies 7% 13%
- Real Estate 7% 13%
- Value-Added Fixed Income 5% 11%
- Timberland 1% 7%



About PRIM



\$101.5 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

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



6

Project SAVE

PRIM Board



Chair DEBORAH B. GOLDBERG

State Treasurer and
Receiver General,
Commonwealth of Massachusetts



Ruth Ellen Fitch

Appointee of the State
Treasurer



James B.G. Hearty

Designee of the Governor, Ex Officio Member



Peter Monaco

Appointee of the Governor, Non-State Employee or Official



Carly Rose

Appointee of the Governor, Public Safety



Theresa F.
McGoldrick,
Esquire

State Retirement Board Member (SRB)



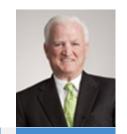
Dennis J. Naughton

Teachers' Retirement Board Member (TRB)



Robert L. Brousseau

Elected Representative State Teachers' Retirement System



Paul E. Shanley, Esquire

Elected Representative State Employees Retirement System



PRIM Advisory Committees

Investment Committee

Real Estate 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

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





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



Recent Recognition

Institutional Investor's Public Plan of the Year Award Finalist

MassPRIM's Portfolio Completions Strategies team was one of six finalists for "Plan of the Year" at their Allocators' Choice Awards. This is the seventh time MassPRIM has been recognized for outstanding innovation by Institutional Investor, as nominated by industry peers and colleagues, including "Partnership of the Year" – finalist, 2021, "Plan of the Year" – winner, 2016, "Plan of the Year" – nominee 2017, 2018, 2019, 2020, and Michael Trotsky, CFA, Executive Director and Chief Investment Officer of MassPRIM "Lifetime Achievement Award" in 2019. (April 2022)

Founding Signatory – CFA Institute's Diversity, Equity, and Inclusion Code

MassPRIM became a founding signatory to the CFA Institute's first-ever Diversity, Equity, and Inclusion Code for the Investment Profession. DEI Code signatories commit to six metrics-based Principles and to accelerate and amplify the impact of their commitment by making the economic, business, and moral case for diversity, equity, and inclusion. (March 2022)

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)

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

PRIM has joined with the MIT Sloan Sustainability Initiative as the founding member of the Aggregate Confusion Project. The groundbreaking collaboration seeks to create more reliable and transparent ESG data and benchmarks for Investors. (September 2020)

GIPS Compliance

For the 4th consecutive year, MassPRIM has completed the CFA Institute's Global Investment Performance Standards of Integrity and transparency. MassPRIM is one of only a handful of large public pension plans to comply with the GIPS standards. Additionally, Matt Liposky, MassPRIM'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

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

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

MassPRIM'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. MassPRIM 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)



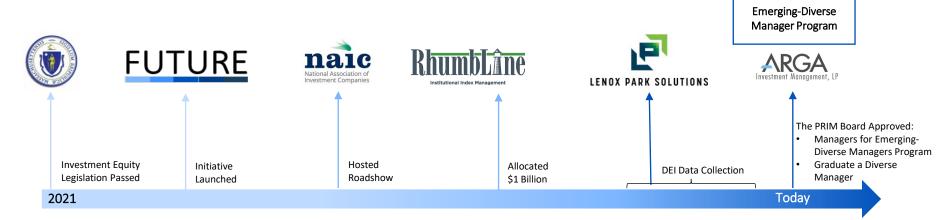
PRIM's FUTURE Initiative

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:

Utilize **Unbiased Transparent Expand** Resources **Technology** PRIM will remain PRIM will expand the Continuation of PRIM's PRIM will be fully PRIM will utilize PRIM will employ transparent as to the technology to firmwide commitment unbiased when conversation about additional internal and evaluating and selecting to diversity and progress toward our successfully track and external resources as diversity and inclusion in inclusion and diversity investment managers or goals, as well as our manage the amount of the asset management required to accomplish of thought. other vendors. successes and data this initiative industry by being at the our goals. forefront of meaningful challenges. requires. change.



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 25th.

Improved Sourcing

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

Allocated Capital to Diverse Managers

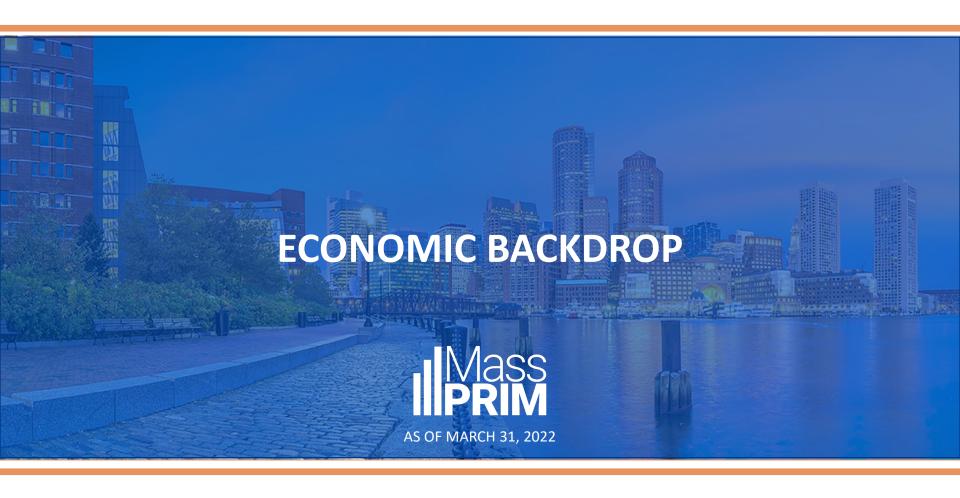
In 2021, PRIM committed \$2.2 billion to diverse managers.

Graduate Managers

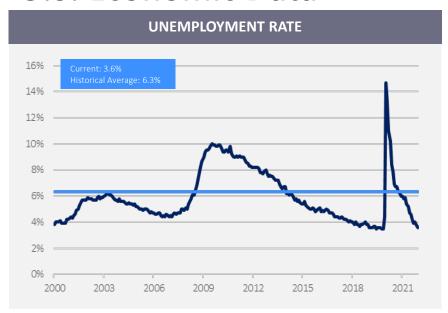
 In December, the PRIM Board voted to graduate a diverse manager (Arga) from the Xponance manager-ofmanagers portfolio.

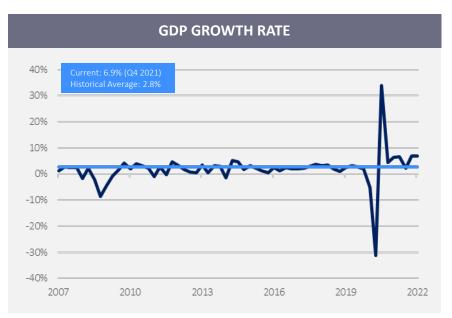
PRIM staff continues to meet, discuss and partner with industry leaders on DEI.

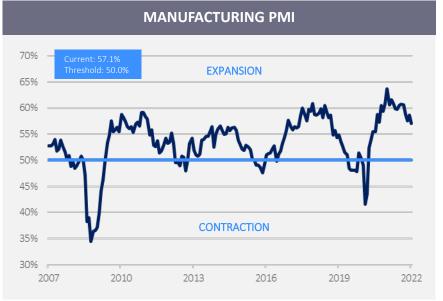


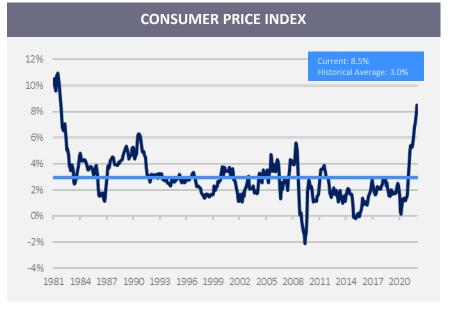


U.S. Economic Data



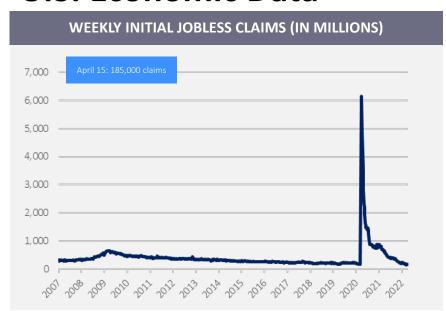


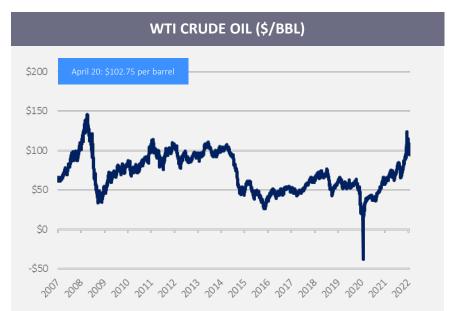




16 Source: FactSet, PRIM Staff. All data as of March 31, 2022, or most recent report.

U.S. Economic Data







 $17 \, \mathsf{Source} \colon \mathsf{FactSet}, \mathsf{PRIM} \, \mathsf{Staff}. \, \mathsf{All} \, \mathsf{data} \, \mathsf{as} \, \mathsf{of} \, \mathsf{April} \, \mathsf{20}, \mathsf{2022}, \mathsf{or} \, \mathsf{most} \, \mathsf{recent} \, \mathsf{report}.$



Changes to Target Ranges – PRIT Fund Asset Allocation

Approved February 17, 2022

Increase in Allocation Range

Private Equity:

Target Band moves up 1%

Same Allocation Range

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

Portfolio Completion Strategies:

Target Band stays the same

Decrease in Allocation Range

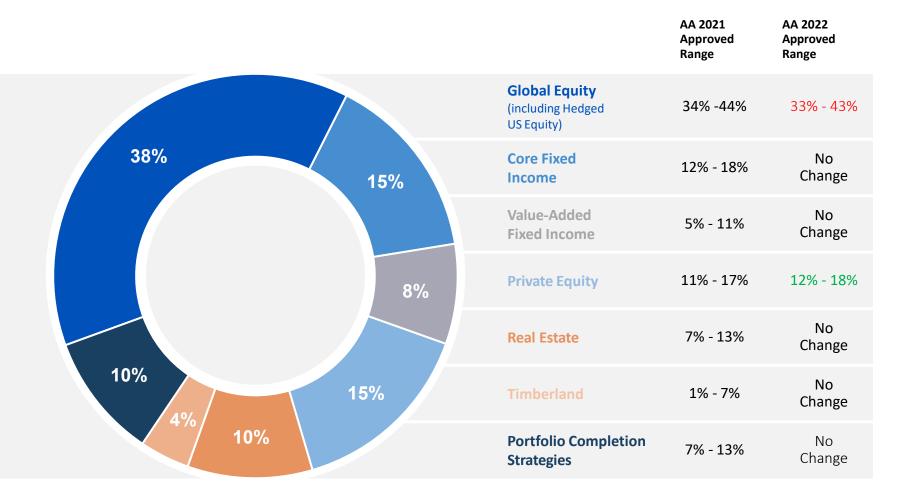
Global Equity:

Target Band moves down 1%



PRIT Asset Allocation

Approved February 17, 2022



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 2022 Asset Allocation Recommendations

NEPC Capital Market Assumptions with PE and Global Equity Changes

12/31/21 Asset Class Assumptions

Asset Classes	Target Range	10 Yr. Expected Return	30 Yr. Expected Return
US Equity ¹		4.6%	6.3%
International Equities ²		5.4%	6.4%
Emerging International Equities ³		8.3%	8.7%
Hedged Equity ⁴		4.2%	5.7%
Global Equity	33% - 43%		
Core Bonds		2.0%	3.1%
Short-Term Fixed Income ⁵		1.4%	2.4%
20+ Yr. Treasury STRIPS		1.0%	2.1%
TIPS/ILBs		1.2%	2.3%
Core Fixed Income	12% - 18%		
Value-Added Fixed Income ⁶	5% - 11%	5.2%	6.4%
Private Equity	12% - 18%	9.1%	10.1%
Real Estate ⁷	7% - 13%	5.0%	6.0%
Timberland ⁸	1% - 7%	5.3%	6.6%
Portfolio Completion (PCS) ⁹	7% - 13%	4.2%	5.4%
Total Fund Expected Return ¹⁰		5.7%	6.9%

- 1. Blended allocation to large-cap equity, small-cap equity, micro-cap equity
- 2. Blended allocation to large-cap equity and small-cap equity
- 3. Blended allocation to large-cap equity and small-cap equity
- 4. Modeled as US LIBOR, US large-cap equity, and US small-cap equity
- 5. Modeled as Short-Term Treasury

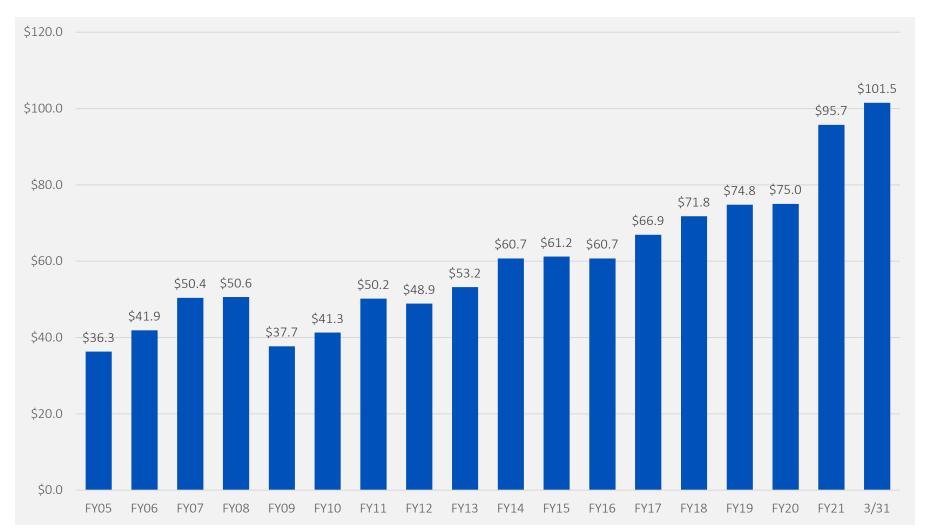
- 6. Blended allocation to high yield, bank loans, EMD, private debt
- 7. Blended allocation to Private Real Estate and REITs
- 8. Timberland is modeled as Private Real Assets Infrastructure/Land
- 9. Modeled as equal weighted blend of Hedge Fund Equity, Credit, and Macro
- 10. Asset classes modeled at the midpoint of the asset allocation range





Total PRIT Fund Fiscal Year Market Value

Value (\$Billions)

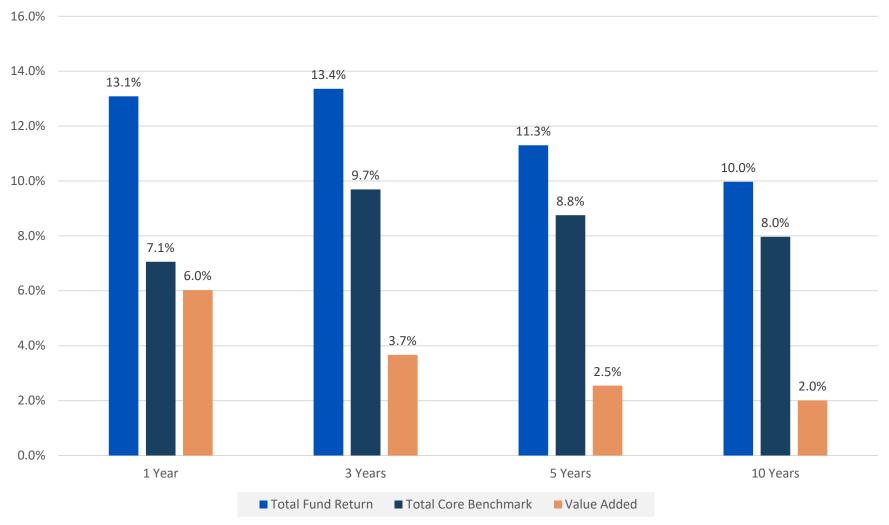


Source: BNY Mellon. As of March 31, 2022.



PRIT Fund Total Returns

Annualized Returns as of March 31, 2022 (Gross of Fees)

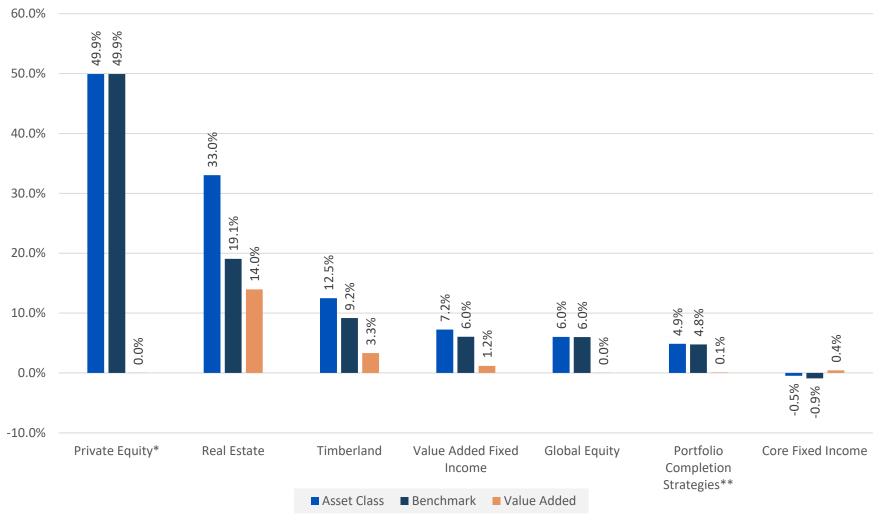






PRIT Asset Class Performance Summary

One-Year Ended March 31, 2022 (Gross of Fees)

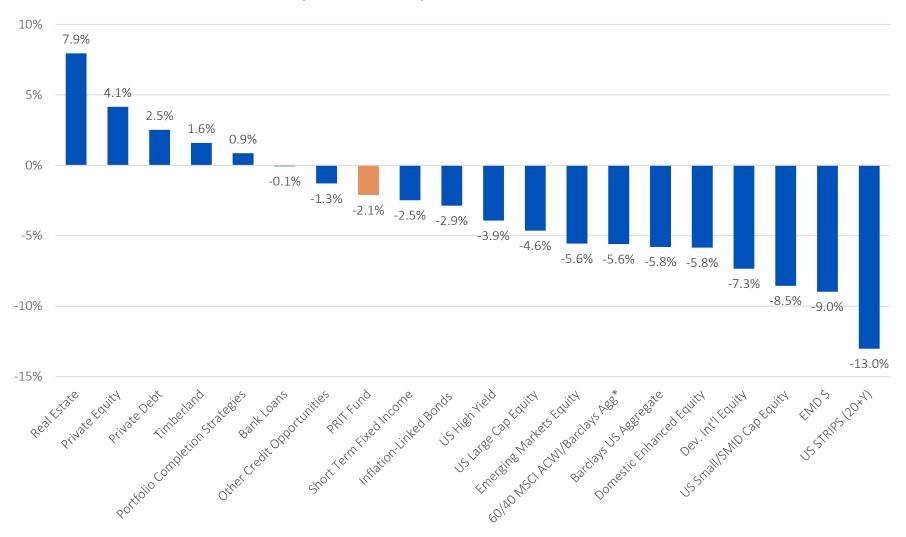






PRIT Performance By Strategy – First Quarter 2022

Quarter Ended March 31, 2022 (Gross of Fees)

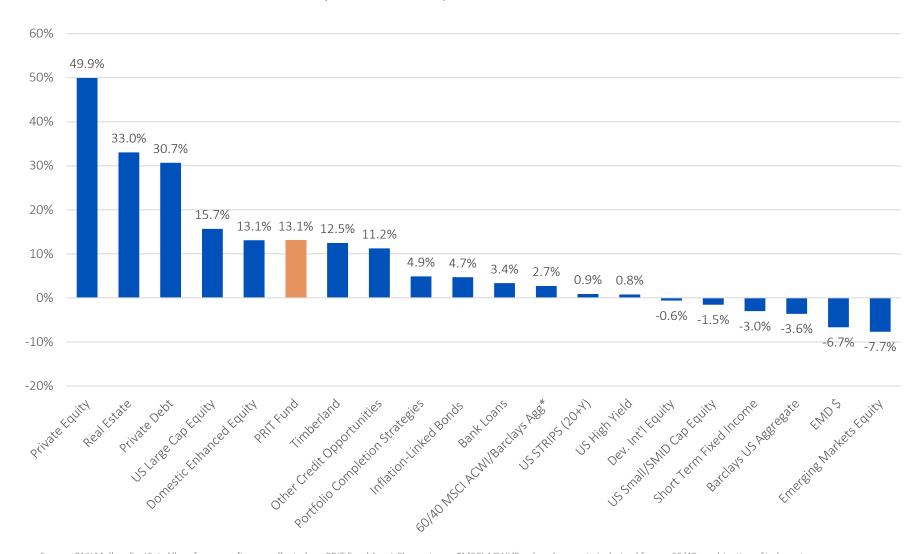


Source: BNY Mellon, FactSet. All performance figures reflected are PRIT Fund Asset Class returns. *MSCI ACWI/Barclays Aggregate is derived from a 60/40 combination of index returns.



PRIT Performance By Strategy – One-Year

One-Year Ended March 31, 2022 (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 March 31, 2022 (Gross of Fees)

1 Year	3 Year	5 Year	10 Year
PRIVATE EQUITY	PRIVATE EQUITY	PRIVATE EQUITY	PRIVATE EQUITY
49.9%	35.8%	29.3%	23.3%
REAL ESTATE	REAL ESTATE	REAL ESTATE	REAL ESTATE
33.0%	14.0%	11.9%	11.6%
TIMBER	GLOBAL EQUITY	GLOBAL EQUITY	GLOBAL EQUITY
12.5%	13.7%	11.7%	10.3%
VALUE-ADDED FIXED INCOME	VALUE-ADDED FIXED INCOME	VALUE-ADDED FIXED INCOME	TIMBER
7.2%	6.6%	5.9%	6.1%
GLOBAL EQUITY	TIMBER	TIMBER	VALUE-ADDED FIXED INCOME
6.0%	5.3%	5.3%	5.5%
PORTFOLIO COMPLETION STRATEGIES	PORTFOLIO COMPLETION STRATEGIES	PORTFOLIO COMPLETION STRATEGIES	PORTFOLIO COMPLETION STRATEGIES
4.9%	4.8%	4.3%	4.8%
CORE FIXED INCOME		CORE FIXED INCOME	CORE FIXED INCOME
(0.5%)		3.9%	4.0%

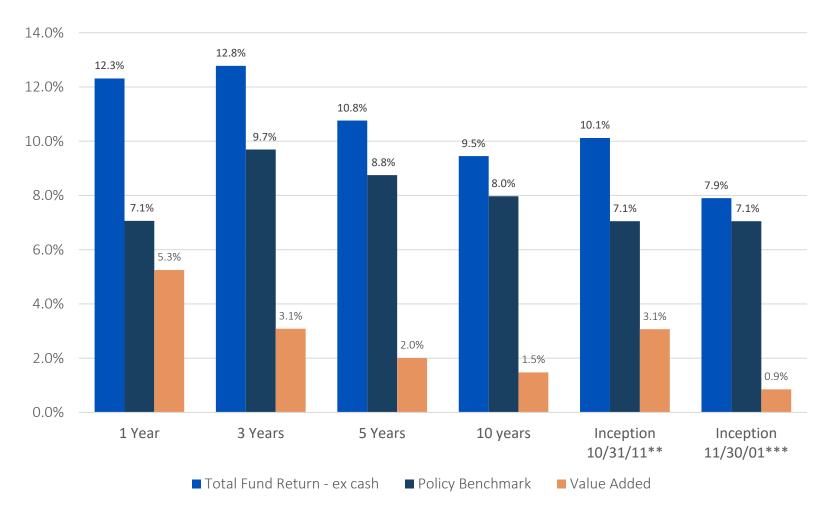
Source: BNY Mellon.





Total SRBT Fund Returns

\$2.96 Billion* One Year Ended March 31, 2022 (Net of Fees)



^{*}Participant assets, excluding Mass State Retirees, were \$947.4 million as of March 31, 2022

^{30 ***} 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.



^{**} 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 10.1% reflects the inception-to-date return for PRIT GA assets only.



- 1. Acton-Boxborough Regional School District
- 2. Andover
- 3. Amherst-Pelham Regional School District
- 4. Andover
- 5. Arlington*
- 6. Ayer Shirley Regional School District
- 7. Belmont
- 8. Bernardston
- 9. Bridgewater
- 10. Cape Cod Regional Transit Authority
- 11. Cape Cod Light Compact (JPE)
- 12. Central Collaborative*
- 13. Chelmsford Water District
- 14. Clinton
- 15. CMWRRDD*
- 16. Concord
- 17. Dartmouth
- 18. Dracut
- 19. Everett
- 20. Freetown
- 21. Foxboro
- 22. Greater Lawrence Sanitary District
- 23. Greenfield
- 24. Gloucester
- 25. Groton
- 26. Halifax
- 27. Hamilton Wenham School District*
- 28. Haverhill
- 29. Hull*
- 30. Lawrence
- 31. Lynn
- 32. Massachusetts Association of Regional Planning Agencies (MARPA)
- 33. Massachusetts Housing Finance Authority
- 34. Medway

- 35. Melrose
- 36. Middlesex Country Retirement System
- 37. Mohawk/Hawlemont Regional School District (Buckland)
- 38. Nauset Regional High School
- 39. Newbury
- 40. Pepperell
- 41. Town of Plymouth*
- 42. Prospect Hill Academy Charter School
- 43. Saugus
- 44. Somerset Berkley Regional*
- 45. Somerville*
- 46. Springfield
- 47. Stoneham
- 48. Sudbury
- 49. Taunton
- 50. Tri-County Educational Collaborative (Franklin, MA)
- 51. Truro
- 52. Waltham
- 53. Watertown*
- 54. Webster*
- 55. West Boylston Municipal Light Department
- 56. Westford
- 57. West Newbury
- 58. Weston
- 59. Weymouth*
- 60. Winthrop
- 61. Woburn*



^{*}Active, New listing

Governmental Entities Participating in the SRBTF

- Town of Acton
- Town of Acushnet
- Town of Amherst
- Town of Aver
- Town of Bedford
- Town of Bellingham
- City of Beverly
- BiCounty Educational Collaborative, Franklin, MA
- Town of Blackstone
- Boston Redevelopment Authority
- Town of Boxford
- Town of Braintree
- Town of Brewster
- Town of Brookline
- Town of Burlington
- **Bvfield Water District**
- Town of Chelmsford
- Concord Area Special Education (CASE) Collaborative
- Town of Cohasset
- Town of Dalton
- Town of Dracut
- Town of Dedham
- Fall River Housing Authority
- City of Fitchburg
- Town of Franklin
- Franklin Regional Council of Governments
- 27. Greater Lowell Regional Technical School

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

- City of New Bedford
- City of Newburyport
- City of Newton
- Town of North Andover
- Town of Northborough
- Town of Northfield
- Old Rochester Regional School District
- Town of Orleans
- Pilgrim Area Collaborative (PAC), Pembroke, MA
- Town of Provincetown
- Quabbin Health District
- Town of Reading
- Reading Municipal Light Department
- Shawsheen Valley Technical High School, Billerica, MA
- Town of Sherborn
- South Essex Sewerage District
- 71. South Hadley Fire District
- Town of Stockbridge
- Town of Tewksbury
- Town of Wakefield
- Wakefield Municipal Gas & Light Department
- Town of Wayland
- Town of Welleslev
- 78. Town of Westwood
- Town of Wilmington
- 80. City of Worcester



