



Real Estate and Timberland Committee Meeting Agenda

Wednesday, November 16, 2022, 9:30 a.m.*

- I. Approval of the Minutes (Voting Item)**
- II. Executive Director/Chief Investment Officer Report**
- III. Performance Review and Market Summary**
- IV. Real Estate Portfolio Debt Update**

Appendices

- A. Minutes of the PRIM Real Estate and Timberland Committee Meeting of August 3, 2022
- B. PRIT Fund Performance Report
- C. BNY Mellon Gross of Fees Performance Report
- D. Real Estate and Timberland Performance Charts
- E. Real Estate Portfolio Debt Update

*This meeting will be held in accordance with the provisions of Massachusetts, "Chapter 22 of the Acts of 2022" which was signed into law on February 15, 2022, and most recently amended on July 16, 2022, that includes an extension until March 31, 2023, of the remote meeting provisions of the March 12, 2020, Executive Order "Suspending Certain Provisions of the Open Meeting Law", and all members of the Committee will participate remotely via audio/video conferencing, and public access to the deliberations of the Committee will likewise be provided via telephone.

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I. Approval of the Minutes (Voting Item)

The minutes of the August 3, 2022, Real Estate and Timberland Committee meeting are attached as **Appendix A**.

II. Executive Director/Chief Investment Officer Report

PRIT Core Fund Performance Reports include:

- The PRIT Fund Performance Report is attached as **Appendix B**.
- The BNY Mellon Gross of Fees Performance Report is attached as **Appendix C**.

III. Performance Review and Market Summary

Performance data for Real Estate and Timberland is attached as **Appendix D**.

Total Real Estate

Through September 30, 2022, gross-of-fees returns for Real Estate over the one-, three-, five- and ten-year periods were as follows:

	PRIM Real Estate	Combined Benchmark*	Over/Under Performance
1-Year	17.4%	18.5%	-1.1%
3-Year	13.0%	9.5%	3.5%
5-Year	11.1%	8.7%	2.5%
10-Year	11.1%	9.3%	1.8%

**Includes NCREIF ODCE Index as of June 30, 2022 (One Quarter Lag). September Index returns were not available in time for month-end performance calculation.*

Private Real Estate Performance

Through September 30, 2022, gross-of-fees returns for Private Real Estate over the one-, three-, five- and ten-year periods were as follows:

	PRIM Private Real Estate	Benchmark*	Over/Under Performance
1-Year	25.7%	26.9%	-1.2%
3-Year	16.4%	11.8%	4.5%
5-Year	13.0%	9.8%	3.1%
10-Year	12.6%	10.2%	2.5%

**NCREIF ODCE Index as of June 30, 2022 (One Quarter Lag). September Index returns were not available in time for month-end performance calculation.*

Real Estate Securities Performance

Through September 30, 2022, gross-of-fees returns for REITs over the one-, three-, five- and ten-year periods were as follows:

	PRIM Private Real Estate	Benchmark*	Over/Under Performance
1-Year	-21.1%	-22.2%	1.2%
3-Year	-3.5%	-5.8%	2.3%
5-Year	1.5%	-0.1%	1.6%
10-Year	4.6%	3.6%	1.0%

** FTSE EPRA NAREIT Developed Net Total Return as of September 30, 2022*

As of September 30, 2022, the Total Real Estate Portfolio was valued at \$10.0 billion, or 11.3% of the PRIT Fund. Core Real Estate assets represent 80.4% of the Total Real Estate portfolio; 5.4% of the portfolio is invested in Non-Core assets; and 11.8% is invested in REITs. The remainder is in cash awaiting deployment.

Timberland

Through September 30, 2022, gross-of-fees returns for Timberland over the one-, three-, five- and ten-year periods were as follows:

	PRIM Timberland	Benchmark*	Over/Under Performance
1-Year	11.7%	12.0%	-0.3%
3-Year	5.7%	5.0%	0.7%
5-Year	5.1%	4.3%	0.8%
10-Year	6.3%	5.7%	0.6%

**NCREIF Timberland Index as of June 30, 2022 (One Quarter Lag). September Index returns were not available in time for month-end performance calculation.*

IV. Real Estate Portfolio Debt Update

PRIM staff will provide an update on Real Estate Portfolio Debt and discuss a pending debt maturity. Staff's presentation is attached as **Appendix E**.

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Appendix A

Minutes of the PRIM Real Estate and Timberland Committee Meeting August 3, 2022

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Real Estate and Timberland Committee Meeting Agenda

Wednesday, August 3, 2022, 9:30 a.m.*

Committee members attending:

- Jill Hatton, CRE, Chair
- Treasurer Deborah Goldberg
- Lydia Chesnick, Esq.
- Robert Gifford
- Anthony Hubbard, Esq.
- Jack Lutz, Ph.D.
- William McCall
- Garlan Morse, Jr., CRE
- Carly Rose

Committee members not attending:

- Peter O'Connell

The PRIM Real Estate and Timberland Committee meeting was called to order at 9:34 a.m. Chair Jill Hatton announced that the meeting was being held by internet and telephone in accordance with the provisions of Massachusetts, "Chapter 22 of the Acts of 2022" which was signed into law on February 15, 2022, and most recently amended on July 16, 2022, that includes an extension until March 31, 2023 of the remote meeting provisions of the March 12, 2020, Executive Order "Suspending Certain Provisions of the Open Meeting Law". Accordingly, all members of the Committee participated remotely via telephone and/or internet enabled audio and video conferencing, and all votes were taken by roll call. Public access to the deliberations of the Committee was likewise provided via telephone, with presentation materials made available on PRIM's website (www.mapension.com). At the start of the meeting, the names of the members participating remotely were announced.

I. Minutes (Voting Item)

The PRIM Real Estate and Timberland Committee approved (unanimously) by roll call vote the minutes of its May 4, 2022, meeting.

II. Executive Director/Chief Investment Officer Report

Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer, made comments to the Committee, including:

Mr. Trotsky noted that PRIM's internally developed investment tools have allowed us to construct a portfolio that performs well in both strong and weak markets, and the heightened volatility of the markets over the last two fiscal years has provided an extraordinary test. Last year, in the strong markets of fiscal year 2021, the PRIT Fund recorded its best performance in PRIM's entire history with a return of 30% (29.5%, net) and was at the top of PRIM's peer group. The Fund also outperformed its benchmark by a record-setting 8.9%. This year, in fiscal year 2022 (FY 2022), during the weakest market since the Global Financial Crisis (GFC) more than thirteen years ago, the PRIT Fund also performed very strongly and was down only 3% (-3.4%, net), outperforming broad market indices by a wide margin and its benchmark by 1.5% (net). Mr. Trotsky believed that the PRIT Fund results for FY 2022 will similarly rank PRIM at the top of the peer group. Performing strongly in both up and down markets is the hallmark of a well-constructed portfolio with proven, skillful managers.

Mr. Trotsky noted many of the challenges during the fiscal year were unusual and unexpected. Continuing

COVID flare-ups with new variants worldwide, rising interest rates, inflation at multi-decade highs, the Russian invasion of Ukraine, supply chain disruptions, food and energy shortages, labor constraints, and economies worldwide that, at best are teetering on the edge of recession, provided a backdrop too great for markets to bear. For the one-year period ending in June of 2022, U.S. stocks were down 10.6%, developed international stocks were down 17.7% and emerging markets stocks were down 25.2%, while diversified bonds were down 10.3%. A 60%/40% mix of global stocks and bonds was down 13.5% in FY 2022. The PRIT Fund return of -3.0% (-3.4%, net) for FY 2022 is a strong result in a weak market. We should expect market declines and economic cycles to impact the PRIT Fund periodically, and we remain pleased with the resiliency of the Fund and its performance over all time periods and throughout several different market environments. The PRIT Fund's trailing 3-, 5-, and 10-year returns remain strong and consistently above benchmarks, and above the required actuarial rate of return.

Mr. Trotsky relayed that our diversifying asset classes such as Private Equity, Real Estate, Timberland, and Hedge Funds helped buffer the downturn in the Public Markets, which were down significantly. Private Equity was up more than 27%, Real Estate was up more than 25%, and Timberland was up more than 11%, while Hedge Funds were essentially flat for the fiscal year. In comparison, Global Equities were down more than 16% and Core Fixed Income was down more than 11%.

Mr. Trotsky described the current investment environment as requiring "all hands-on deck" and noted that we have asked each team to examine every strategy in the portfolio and to increase our communications with each manager. We have assembled a group of highly trained and talented professionals and we are extremely proud that they are attentive to every detail in the portfolio. We believe market downturns, while painful, also create opportunities to improve the portfolio and we continue to identify compelling new investment opportunities. In fact, our deployment of \$6.9 billion of capital to new ideas in FY 2022 was a 58% increase over the prior year. Additionally, during times of increased volatility, we adhere to our monthly rebalancing discipline, which enables us to redeploy capital to areas hit hardest, while maintaining our commitment to staying within our long-term strategic allocation, which we believe has and will continue to serve us well.

Mr. Trotsky continued by stating that during the fiscal year, PRIM hired and onboarded eleven new full-time employees, an increase from seven in the prior year, and eight of the new hires are diverse. We promoted four of our highest-performing staff members who are all female, and sponsored ten interns, all of whom are diverse. PRIM also became a founding signatory to the new *CFA Institute Diversity, Equity, and Inclusion (DEI) Code for the Investment Profession*, a very important step for PRIM and also the investment management industry.

PRIM successfully launched the FUTURE Initiative, a plan to increase the diversity of PRIM's investment managers and vendors to at least 20% by increasing access for minorities, women, disabled investment managers, and business partners. He mentioned the organization is proud of its fast progress. PRIM invested approximately \$3.4 billion with diverse managers over five asset classes during the fiscal year, and an additional \$1 billion to a new Emerging-Diverse Manager Program utilizing five new expert advisors.

Mr. Trotsky continued his report by mentioning that on Environmental, Social and Governance (ESG) issues, following the Treasurer's leadership, PRIM began work on creating the structure and charter of the new and unique ESG advisory committee, which the Board approved in February. This new ESG Committee will advise the Board on ESG-related matters. PRIM voted 11,369 proxy ballots aligned with PRIM's progressive proxy voting guidelines on areas such as board diversity requirements, over-boarded directors, gender pay gaps, labor and human rights, and executive compensation, and adopted a new proxy voting guideline to vote against all directors at companies targeted by the Climate Action 100+. PRIM continues to support the MIT Sloan School of Management's Aggregate Confusion Project (ACP) as its first founding member. The goal of the ACP is to develop tools to address inconsistencies in the measurement of ESG data, which has become widely recognized as a substantial challenge to impactful ESG investing. The ACP welcomed four additional new members: MFS Investment Management, AQR Capital Management, Qontigo, and Asset Management

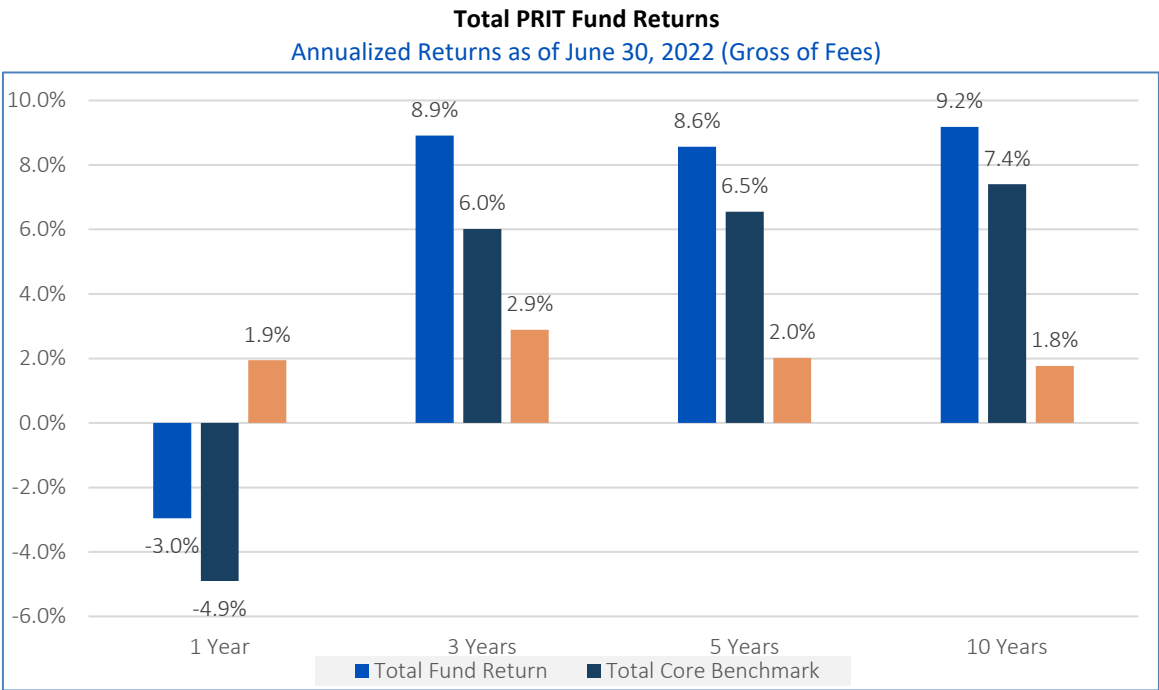
One. These new members represent a range of geographic and professional perspectives in the investment world.

Lastly, PRIM launched a new series of educational seminars during the year, 13 in total, on subjects including: PRIT Fund Leverage Finance Options, Public and Private Crossover Funds, Venture Capital Investing, ESG Landscape, Climate Finance, Cash Transaction Processes and Procedures, Cyber Security, Private Equity Replication, a primer on the Blockchain Ecosystem, a primer on Insider Trading, and a training on external communications protocols. These seminars were provided to PRIM Board and Committee members, staff, and clients.

PRIT Fund Performance Summary

Mr. Trotsky noted the markets were challenged last fiscal year with a confluence of world-wide issues that led to rising inflation, higher interest rates, and slowing growth. After a significant near 20% correction in world-wide equity markets during the first half of the calendar year (the worst first half in more than 50 years), markets thankfully rebounded strongly in the month of July. The rebound in July coincides with an apparent peak in bond yields and some encouraging signs that, just possibly, inflation, recently at 9.1%, has begun to moderate, too. The main risks going forward sound very familiar: in our opinion the risks are that inflation fails to moderate, consumer and business spending falters, and corporate earnings weaken more than anticipated.

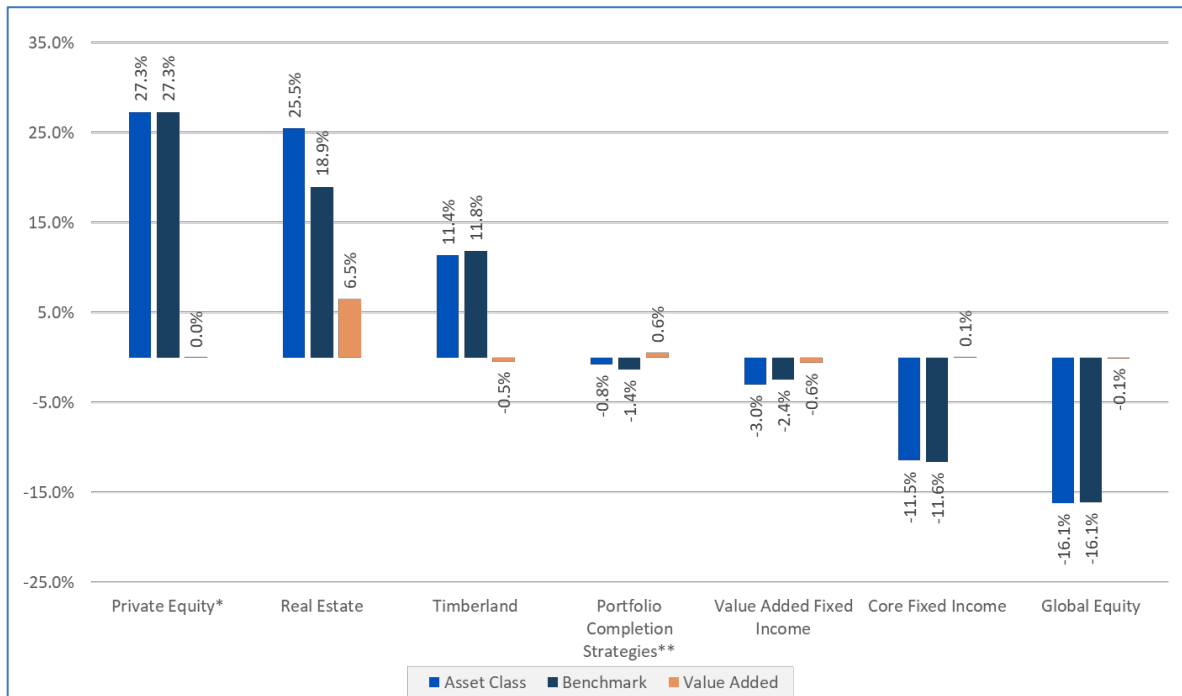
Mr. Trotsky referenced the following charts and graphs:



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

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PRIT Asset Class Performance Summary
One-Year Ended June 30, 2022 (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 Fund Annualized Returns By Asset Class
As of June 30, 2022 (Gross of Fees)

1 Year	3 Year	5 Year	10 Year
PRIVATE EQUITY 27.3%	PRIVATE EQUITY 31.9%	PRIVATE EQUITY 27.1%	PRIVATE EQUITY 22.4%
REAL ESTATE 25.5%	REAL ESTATE 14.1%	REAL ESTATE 11.5%	REAL ESTATE 11.5%
TIMBER 11.4%	GLOBALEQUITY 6.3%	GLOBALEQUITY 7.0%	GLOBALEQUITY 9.1%
PORTFOLIO COMPLETION STRATEGIES (0.8%)	TIMBER 5.8%	TIMBER 5.4%	TIMBER 6.4%
VALUE-ADDED FIXED INCOME (3.0%)	VALUE-ADDED FIXED INCOME 3.6%	VALUE-ADDED FIXED INCOME 4.2%	VALUE-ADDED FIXED INCOME 4.7%
CORE FIXED INCOME (11.5%)	PORTFOLIO COMPLETION STRATEGIES 2.9%	PORTFOLIO COMPLETION STRATEGIES 3.5%	PORTFOLIO COMPLETION STRATEGIES 4.6%
GLOBALEQUITY (16.1%)	CORE FIXED INCOME 0.0%	CORE FIXED INCOME 1.9%	CORE FIXED INCOME 2.9%

Source: BNY Mellon.

III. Performance Review and Market Summary

Timothy V. Schlitzer, CFA, CRE, Director of Real Estate, updated the Committee on performance and markets.

Real Estate

Mr. Schlitzer summarized Real Estate performance. At the end of fiscal year 2022, the Real Estate Portfolio was valued at \$9.8 billion or 10.6% of the PRIT Fund compared to 8.3% at the end of fiscal year 2021, an increase of \$1.9 billion. There were 17 transactions completed during the year, totaling \$1.3 billion, including two dispositions for \$543 million, resulting in net acquisitions of \$731 million. Mr. Schlitzer went on to say that Total Real Estate returned 25.5% for the year, significantly above the long-term private index average of approximately 9%, and unsustainable going forward. PRIM's portfolio return was driven by Private Real Estate at 34.4% (levered), outperforming the NCREIF Open End Diversified Core Equity (ODCE) Index at 28.3%. PRIM's portfolio leverage was accretive during the year, adding 670 basis points of additional return with a conservative loan-to-value (LTV) ratio of 19%. PRIM's REIT Portfolio was down 11.3% for the year, more closely in line with the public markets, but outperforming the REIT benchmark by 150 basis points. There have been no major changes to PRIM's positioning with respect to risk bucketing, sector or geographic exposure. Sector weightings are generally in line with ODCE, with overweights to multi-family and industrial properties, offset by retail and office.

Christina Marcarelli, CAIA, Senior Investment Officer and Director of Real Estate Debt described a recent property acquisition. In late June, PRIM closed on a newly constructed industrial building in the Red Hook area of New York City. The building is leased to Amazon who will use the building for last-mile distribution in Brooklyn. This property is owned in a joint venture with CBRE's Industrial Logistics Fund.

Timberland

Mr. Schlitzer continued with a Timberland Portfolio update. The Timberland Portfolio represents 3.2% of the PRIT Fund compared to 3% at the end of Fiscal Year 2021, an increase in net asset value of approximately \$100 million. Fiscal year performance was strong at 11.4% but slightly below PRIM's benchmark. Timber prices continue to be stronger in the Pacific Northwest than the South due to export optionality and lower overall supply levels. The Southern Portfolio has been negatively impacted by recent weather, mill closures, and heightened labor and trucking costs. Slowing home construction and renovation activity is expected to impact future timber demand.

IV. Real Estate Appraisal Request for Proposals (RFP) Recommendation (Voting Item)

Minching Kao, Investment Officer, provided an overview of the RFP process, including the timeline, selection criteria, and number of responses.

Ms. Kao noted that as one of the largest appraisal services providers, Altus has significant experience servicing institutional investors and investment managers. As PRIM's incumbent appraiser, Altus has demonstrated an in-depth knowledge of valuation and provided high-quality, timely appraisal reports at competitive pricing. Altus' technology capabilities would further allow the PRIM staff to manage the valuation process, analyze appraisal metrics across the portfolio, and use the data to explain property-level drivers of portfolio performance.

The PRIM Real Estate and Timberland Committee unanimously agreed by roll-call vote to make a recommendation to the PRIM Board to approve Altus for Real Estate Appraisal Services.

The PRIM Real Estate and Timberland Committee meeting adjourned at 10:39 a.m.

List of documents and exhibits used during the meeting:

- *Minutes of the PRIM Real Estate and Timberland Committee Meeting of May 4, 2022*
- *PRIT Fund Performance Report*
- *BNY Mellon Gross of Fees Performance Report*
- *Real Estate and Timberland Performance Charts*
- *RFP Recommendation - Real Estate Appraisal Services*

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Appendix B

PRIT Fund Performance Report

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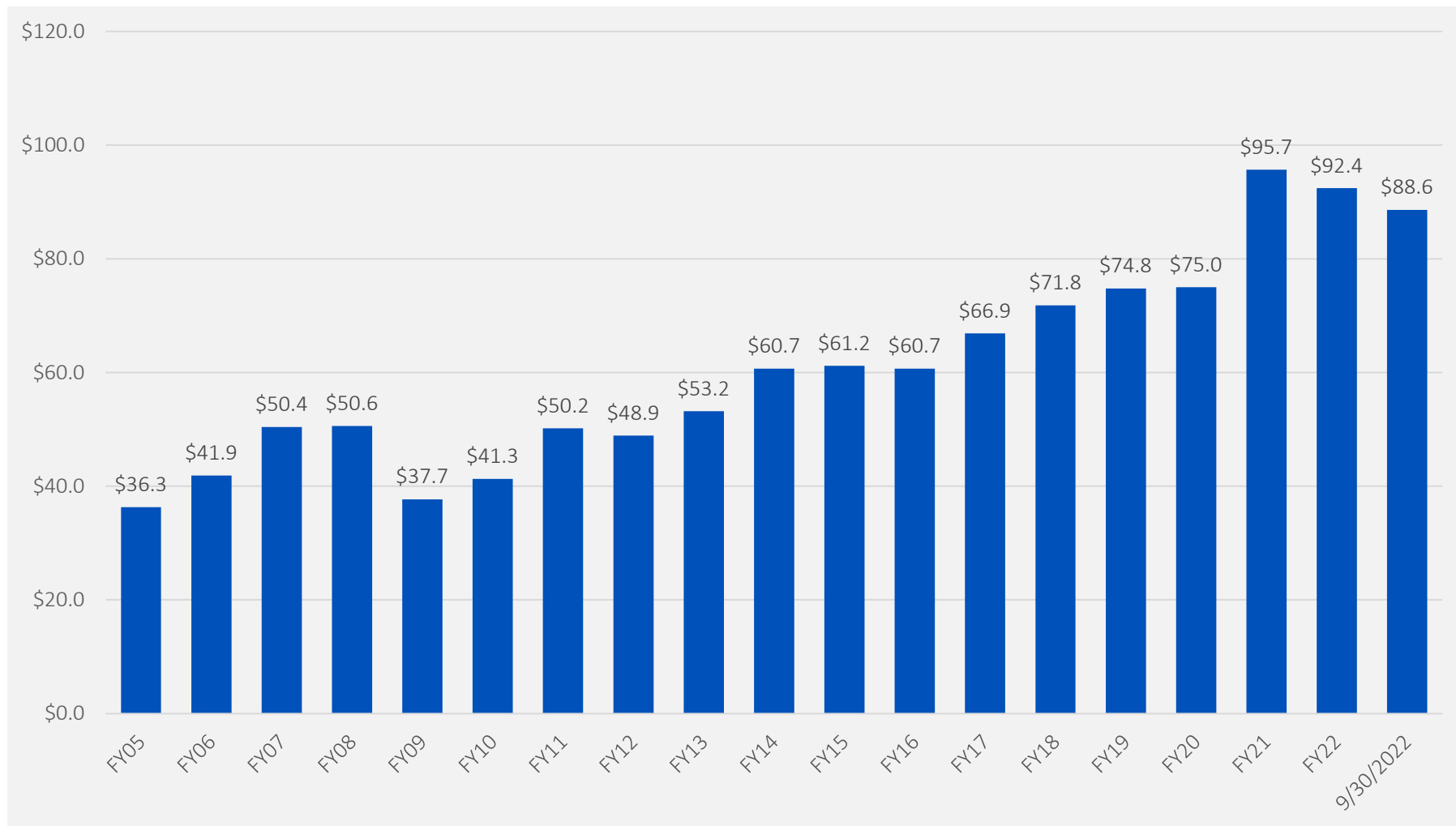
PRIT FUND PERFORMANCE



AS OF SEPTEMBER 30, 2022
GROSS OF FEES

Total PRIT Fund Fiscal Year Market Value

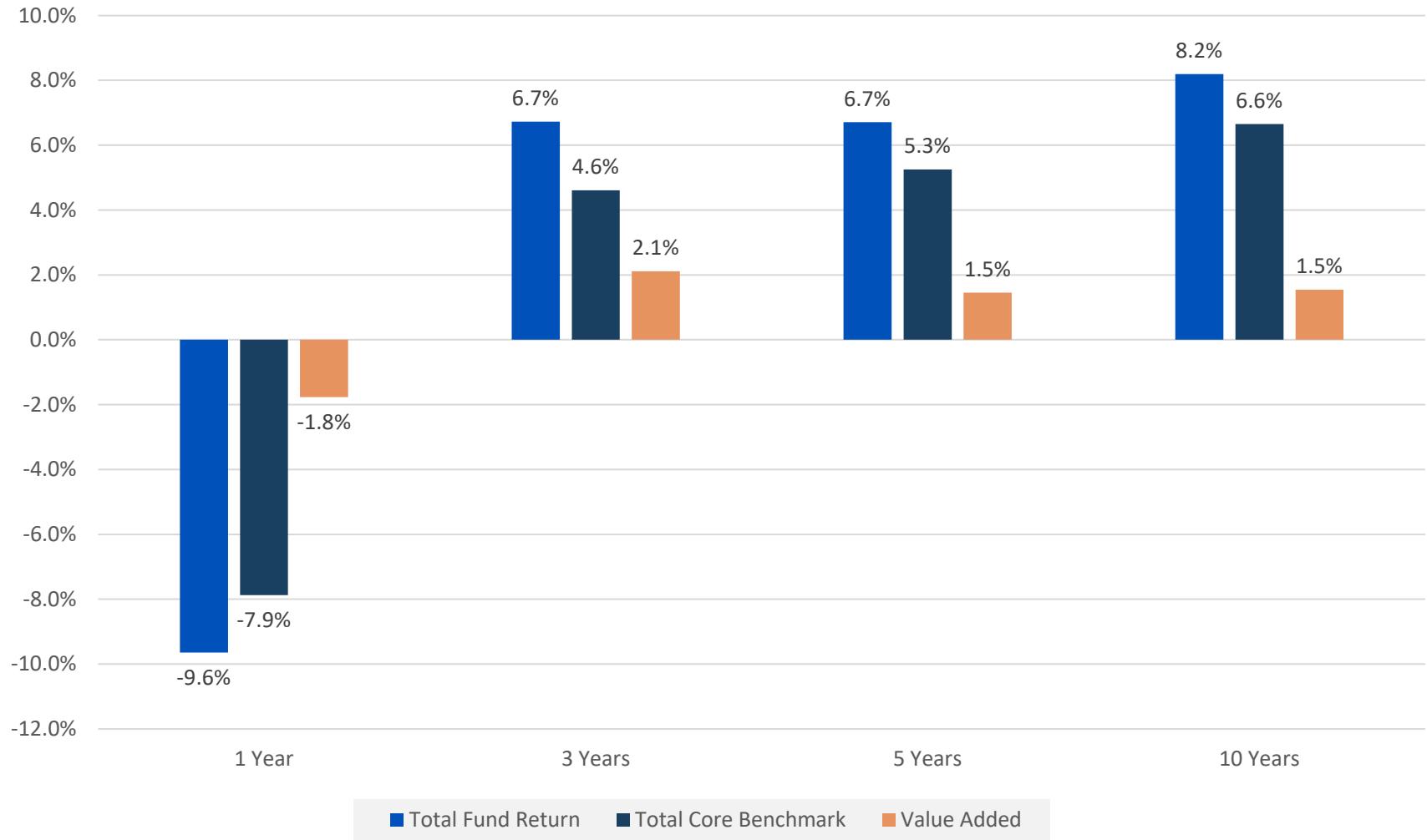
Value (\$Billions)



Source: BNY Mellon. As of September 30, 2022.

PRIT Fund Total Returns

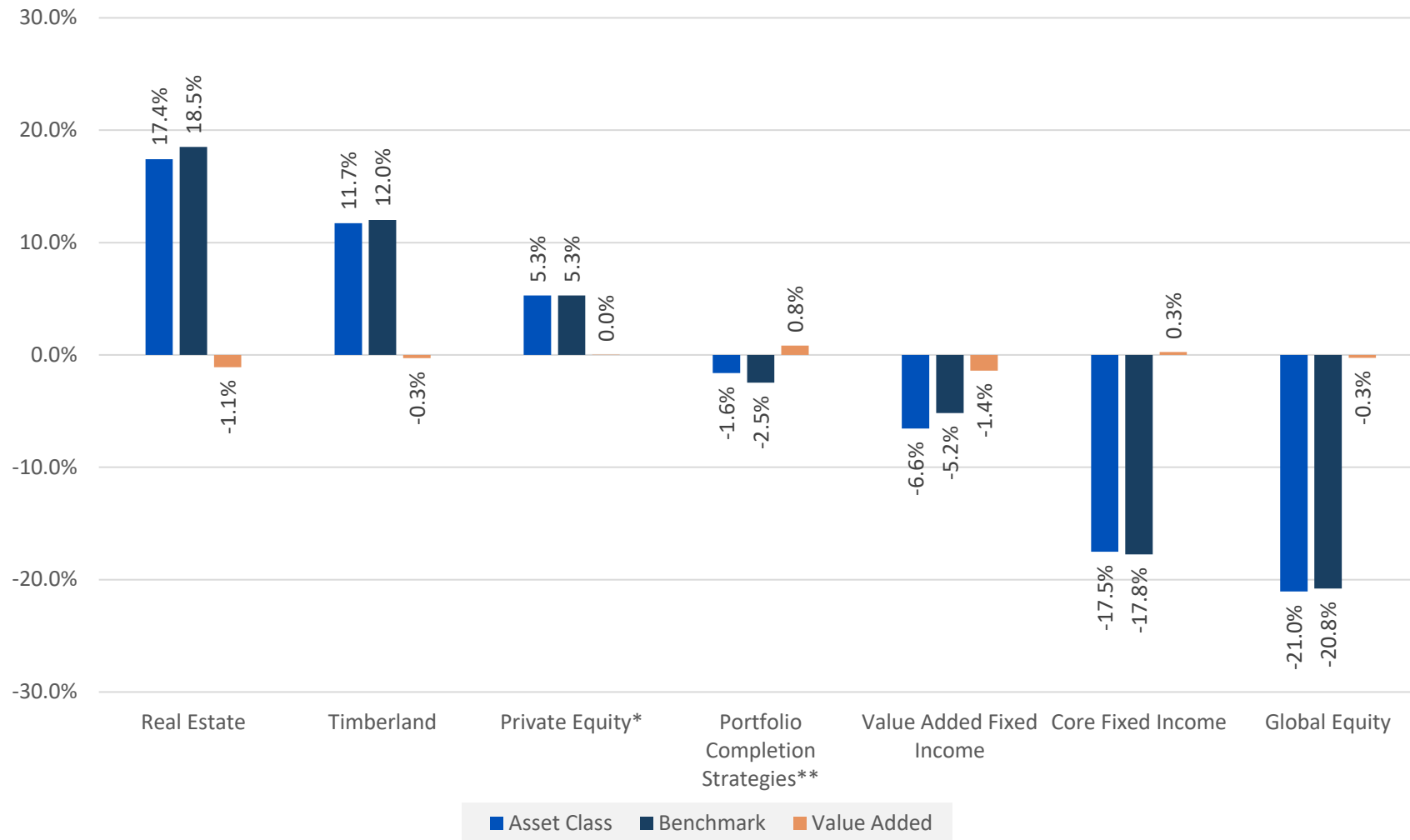
Annualized Returns as of September 30, 2022 (Gross of Fees)



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

PRIT Asset Class Performance Summary

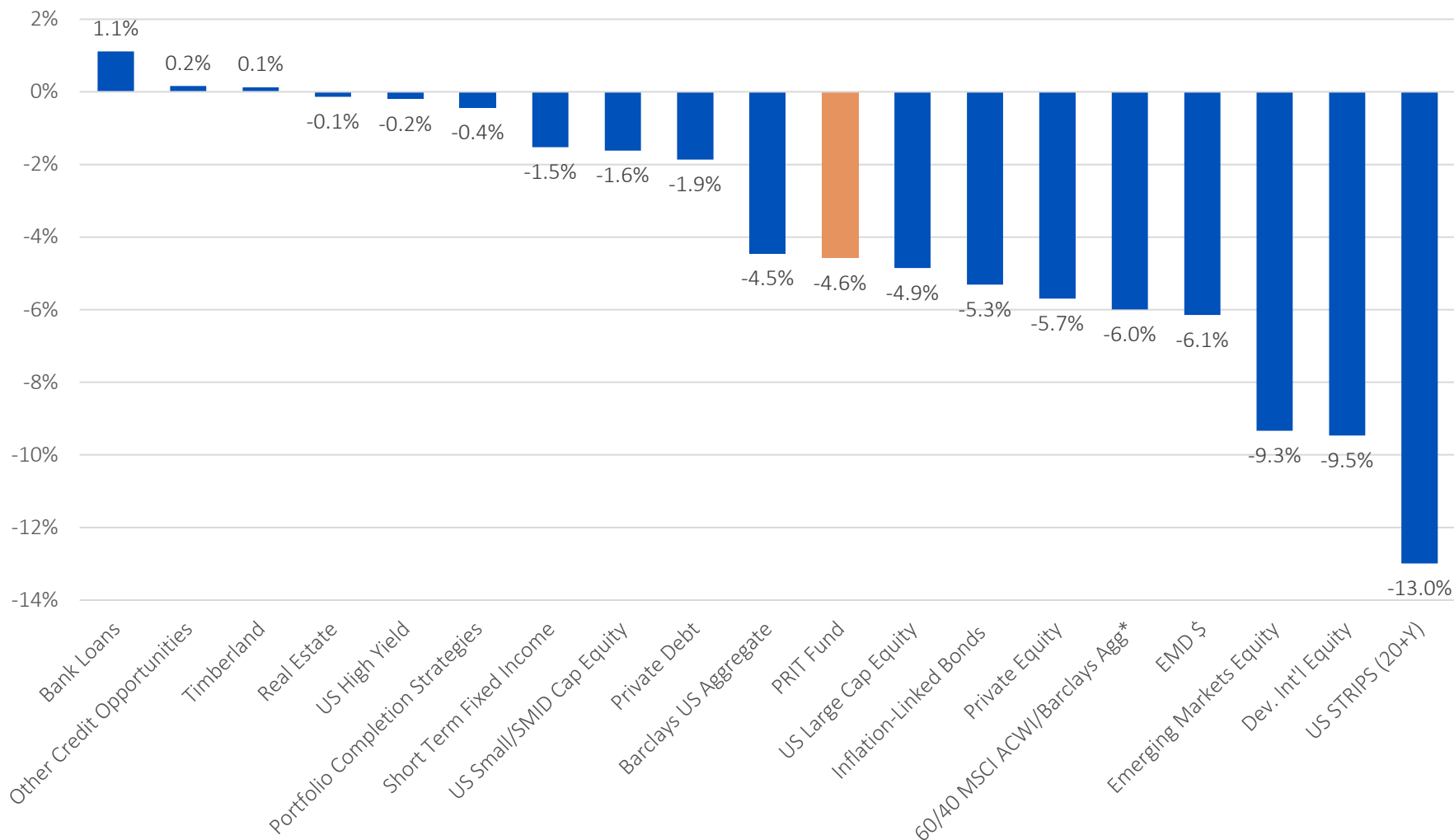
One-Year Ended September 30, 2022 (Gross of Fees)



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 – Third Quarter 2022

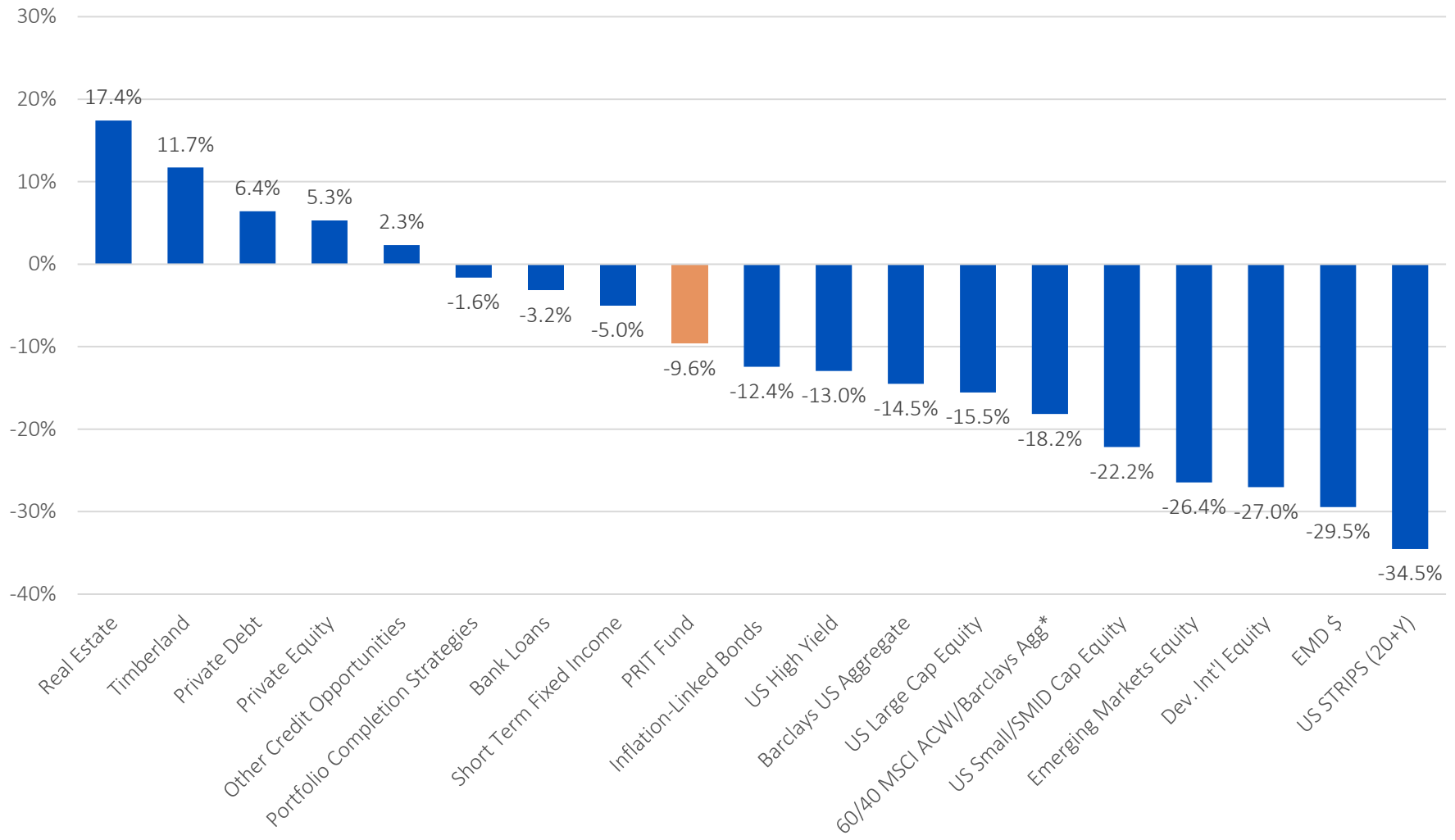
Quarter Ended September 30, 2022 (Gross of Fees)



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 September 30, 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 September 30, 2022 (Gross of Fees)

1 Year	3 Year	5 Year	10 Year
REAL ESTATE 17.4%	PRIVATE EQUITY 27.4%	PRIVATE EQUITY 24.1%	PRIVATE EQUITY 21.5%
TIMBER 11.7%	REAL ESTATE 13.0%	REAL ESTATE 11.1%	REAL ESTATE 11.1%
PRIVATE EQUITY 5.3%	TIMBER 5.7%	TIMBER 5.1%	GLOBAL EQUITY 7.6%
PORTFOLIO COMPLETION STRATEGIES (1.6%)	GLOBAL EQUITY 4.0%	GLOBAL EQUITY 4.3%	TIMBER 6.3%
VALUE-ADDED FIXED INCOME (6.6%)	VALUE-ADDED FIXED INCOME 3.0%	VALUE-ADDED FIXED INCOME 3.6%	PORTFOLIO COMPLETION STRATEGIES 4.3%
CORE FIXED INCOME (17.5%)	PORTFOLIO COMPLETION STRATEGIES 2.6%	PORTFOLIO COMPLETION STRATEGIES 2.9%	VALUE-ADDED FIXED INCOME 4.2%
GLOBAL EQUITY (21.0%)	CORE FIXED INCOME (3.4%)	CORE FIXED INCOME 0.5%	CORE FIXED INCOME 2.0%

Source: BNY Mellon.

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Appendix D

Real Estate and Timberland Performance Charts

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PRESENTATION TO THE **REAL ESTATE AND TIMBERLAND COMMITTEE**

PRESENTED BY

Tim Schlitzer, CRE, CFA, Senior Investment Officer
Director of Real Estate and Timberland Investments

November 16, 2022

Deborah B. Goldberg, Treasurer and Receiver General, Chair

Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer

All figures as of 09/30/2022 unless otherwise noted

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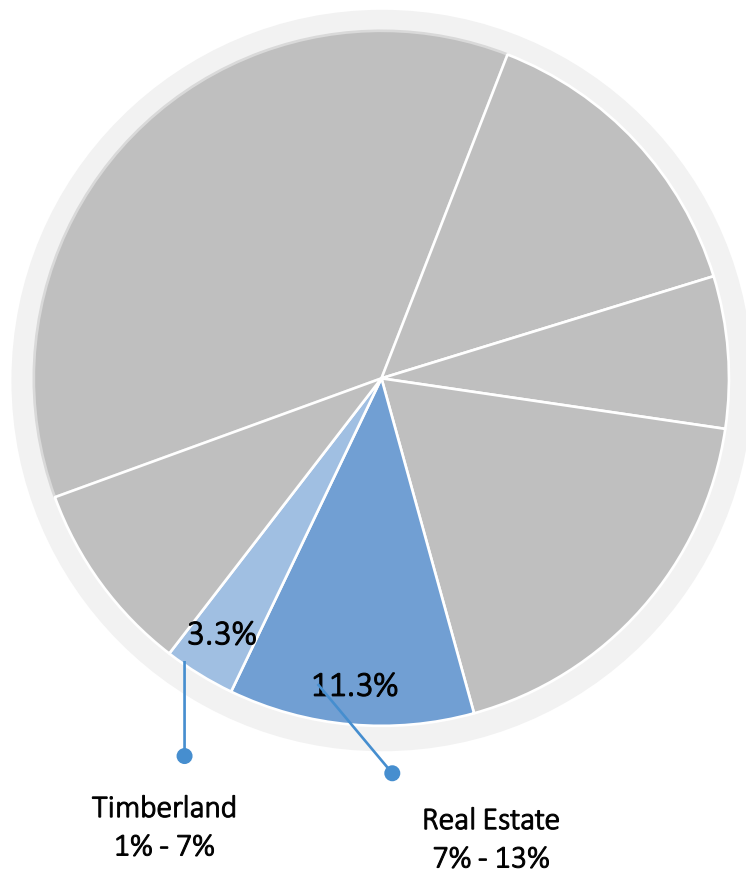


REAL ESTATE PORTFOLIO OVERVIEW

Mass
PRIM

Real Estate and Timberland Portfolios

PRIT FUND TARGET ASSET ALLOCATION



\$12.9 billion, 14.6% of PRIT Fund

- Real Estate: \$10.0 billion, 11.3% of PRIT Fund
- Timberland: \$2.9 billion, 3.3% 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 – 108 properties
- Timberland – 23 properties

118 global real estate securities

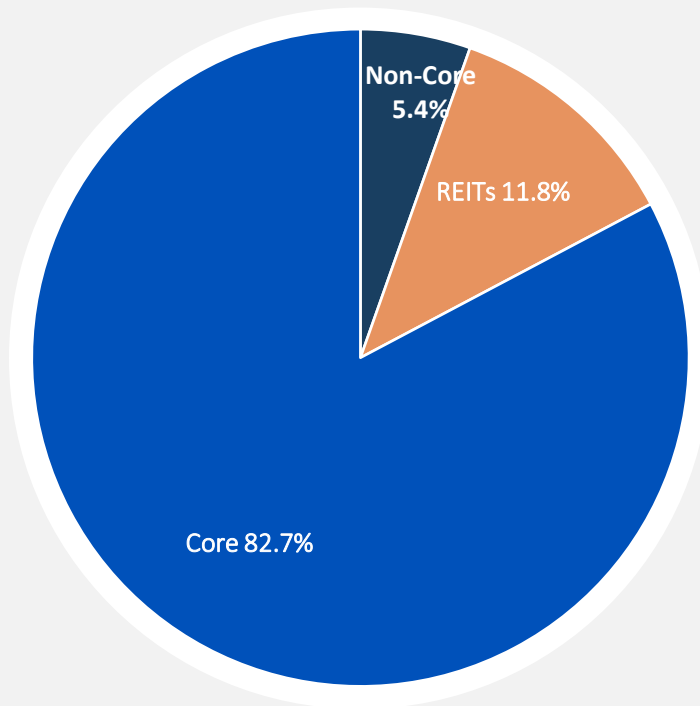
4 primary strategies

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

5 team members

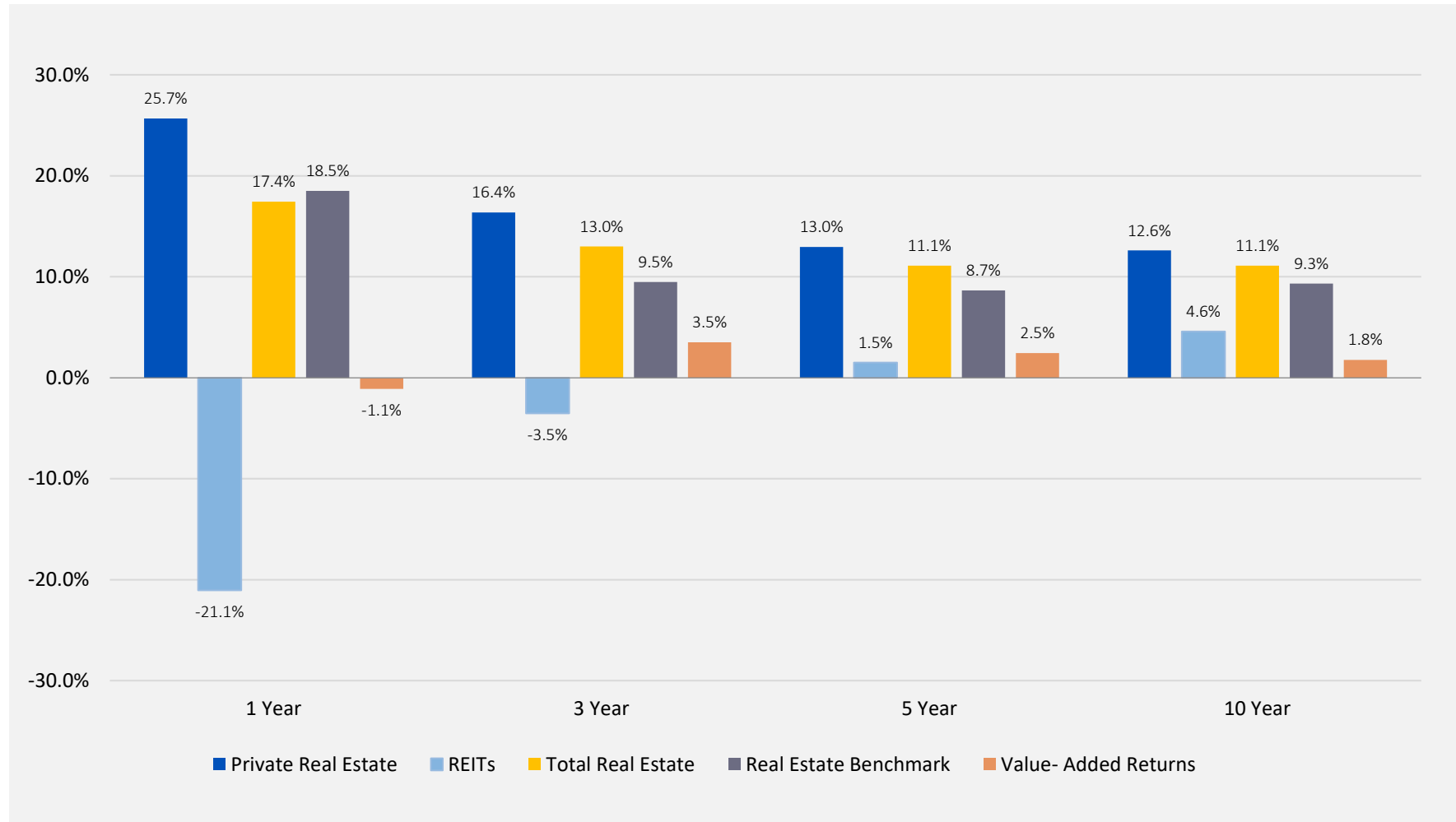
Real Estate Asset Allocation

TARGETS	
Core	70%
Non-Core	10%
REITs	20%



- Equity investments in both directly-owned properties and REIT securities
- Directly-owned core properties make up the majority of the portfolio
- Core properties are typically well-leased, operating properties that provide regular cash flow from rents
- Non-Core investments make up approximately 5% of the real estate portfolio and include properties that are under development

Total Real Estate Performance





PRIVATE REAL ESTATE PORTFOLIO

 Mass
PRIM

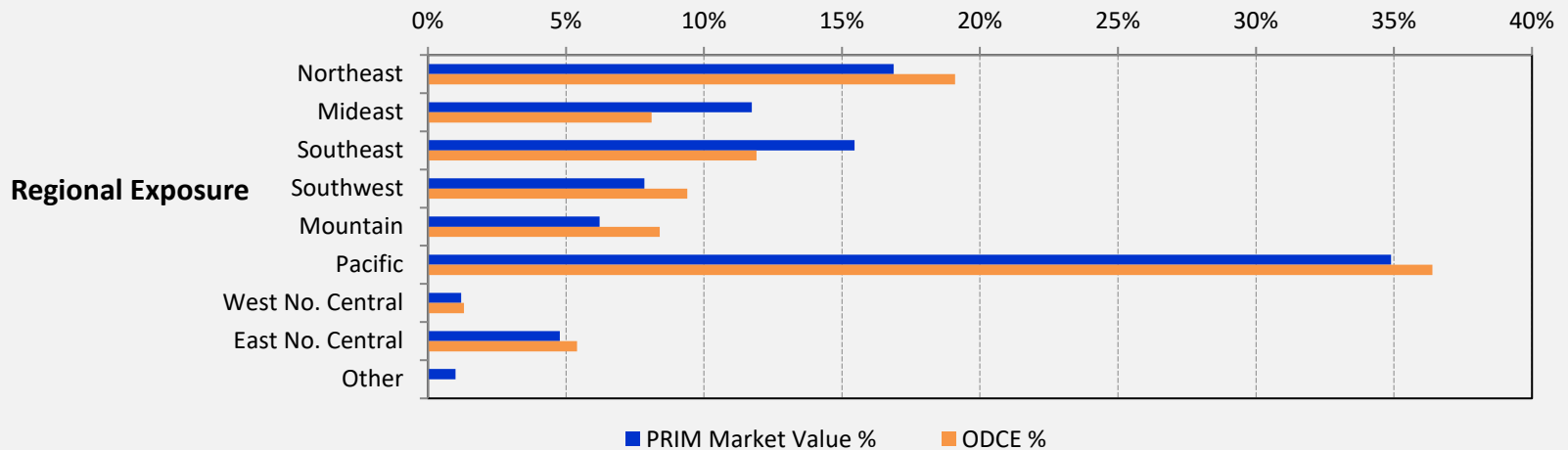
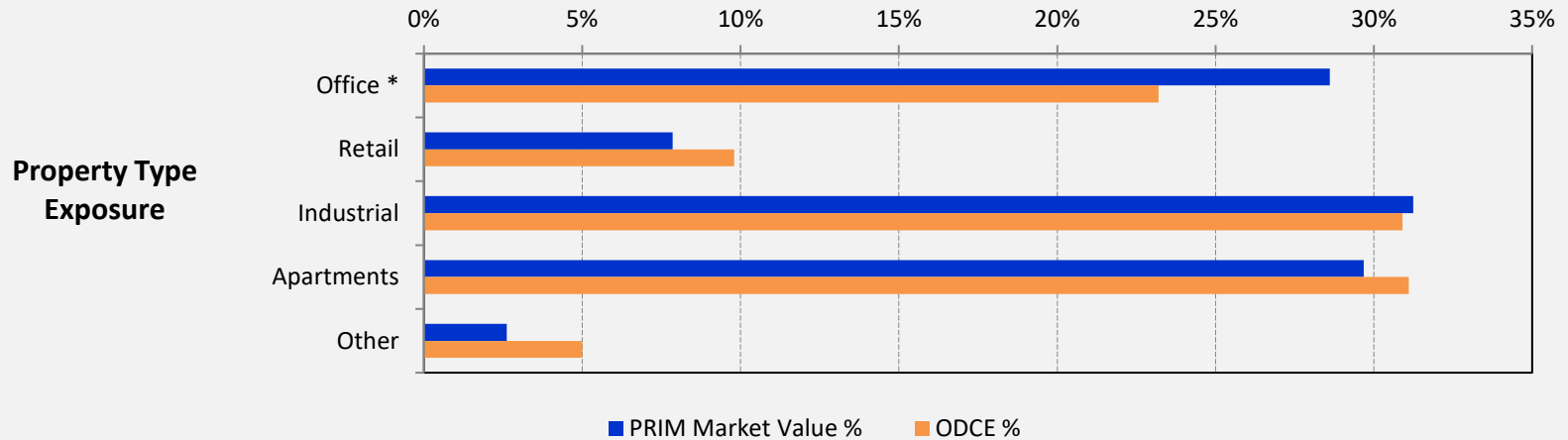
Manager Performance

Separate Accounts	1 year	3 years	5 years	10 years	ITD
AEW	34.1%	18.1%	14.1%	13.3%	13.4%
Excess Return	18.0%	8.1%	5.5%	3.8%	3.1%
AEW Core Transition	-3.3%	1.2%	3.3%		2.5%
Excess Return	-19.4%	-8.7%	-5.3%		-6.4%
CBRE	20.1%	11.0%			10.1%
Excess Return	4.0%	1.1%			0.2%
Invesco	15.3%	13.8%	11.4%	12.2%	10.4%
Excess Return	-0.8%	3.9%	2.8%	2.7%	0.8%
Invesco Transition	2.3%	9.8%			6.6%
Excess Return	-13.8%	-0.1%			-2.8%
LaSalle	15.1%	10.9%	9.0%	10.2%	10.1%
Excess Return	-1.0%	1.0%	0.4%	0.7%	0.6%
Stockbridge	14.8%	11.9%			10.9%
Excess Return	-1.3%	1.9%			1.0%
PRIM Core Real Estate	20.8%	10.0%	10.1%		9.0%
Excess Return	4.8%	0.0%	1.4%		0.2%
Total Core Composite	20.5%	13.6%	11.0%	10.6%	10.0%
Excess Return	4.4%	3.7%	2.3%	1.1%	0.4%
NCREIF Property Index	16.1%	9.9%	8.6%	9.5%	
Total Core Composite Leveraged	25.7%	16.4%	13.0%		12.5%
Excess Return	4.8%	5.0%	3.7%		2.8%
NCREIF NFI - ODCE	21.0%	11.4%	9.3%	9.9%	

* Light Blue Box: Positive Relative Return; Orange Box: Negative Relative Return.

Note: The benchmarks shown above are as of September 30, 2022 (unlagged)

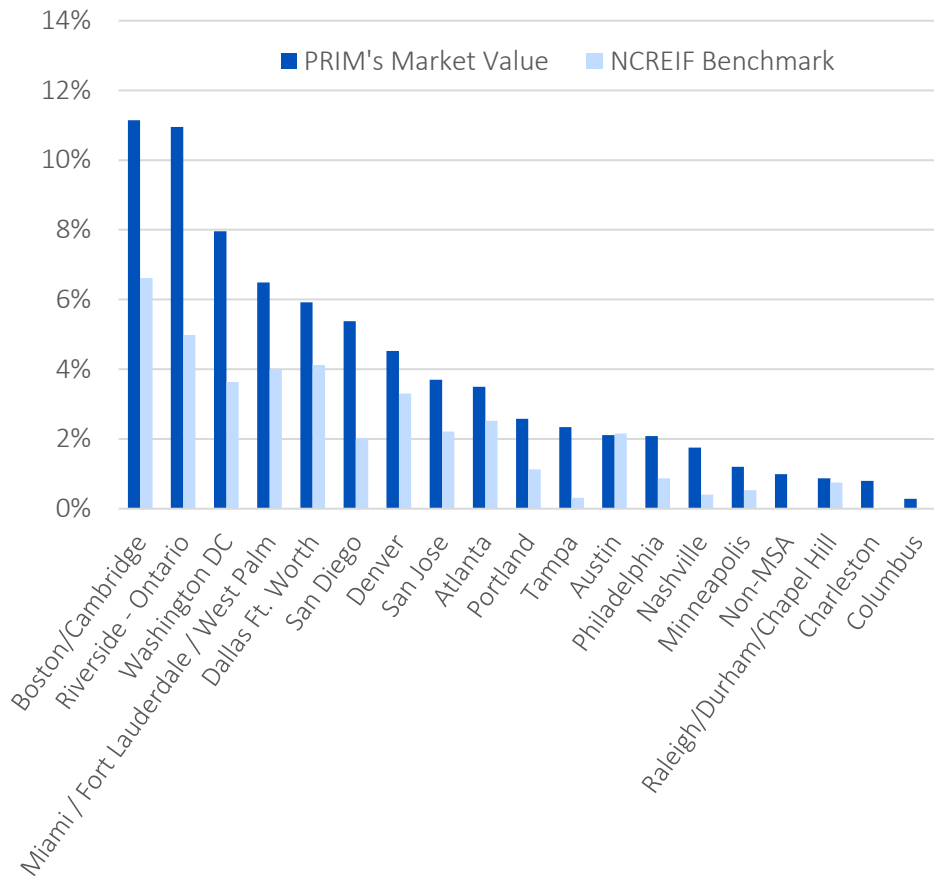
Private Real Estate Portfolio Exposure



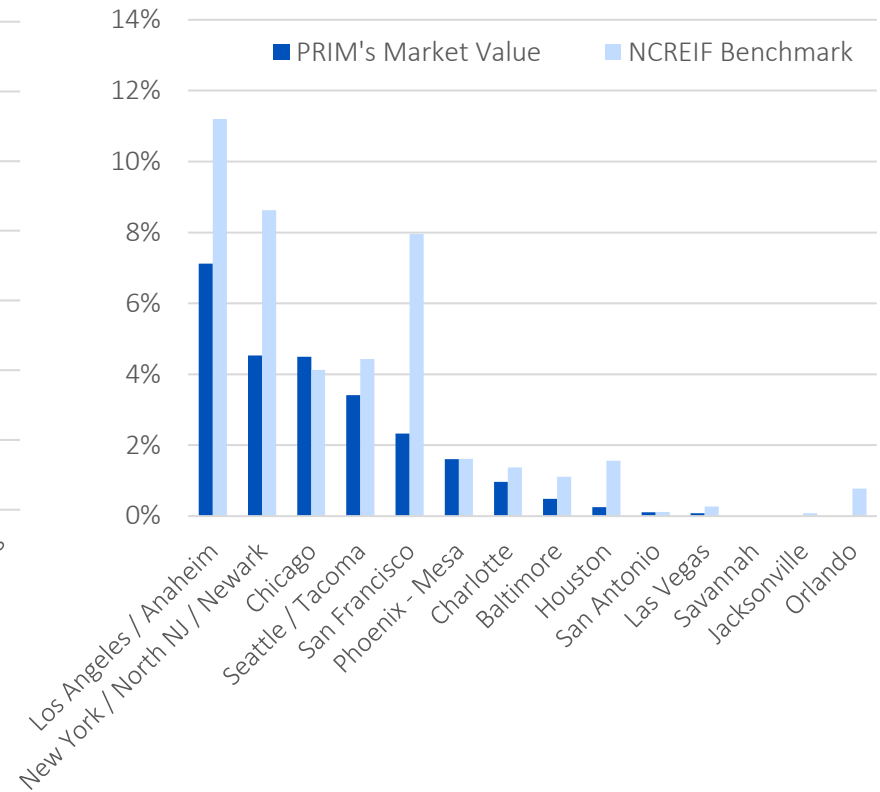
* Office includes life science assets

Private Real Estate Exposure by MSA

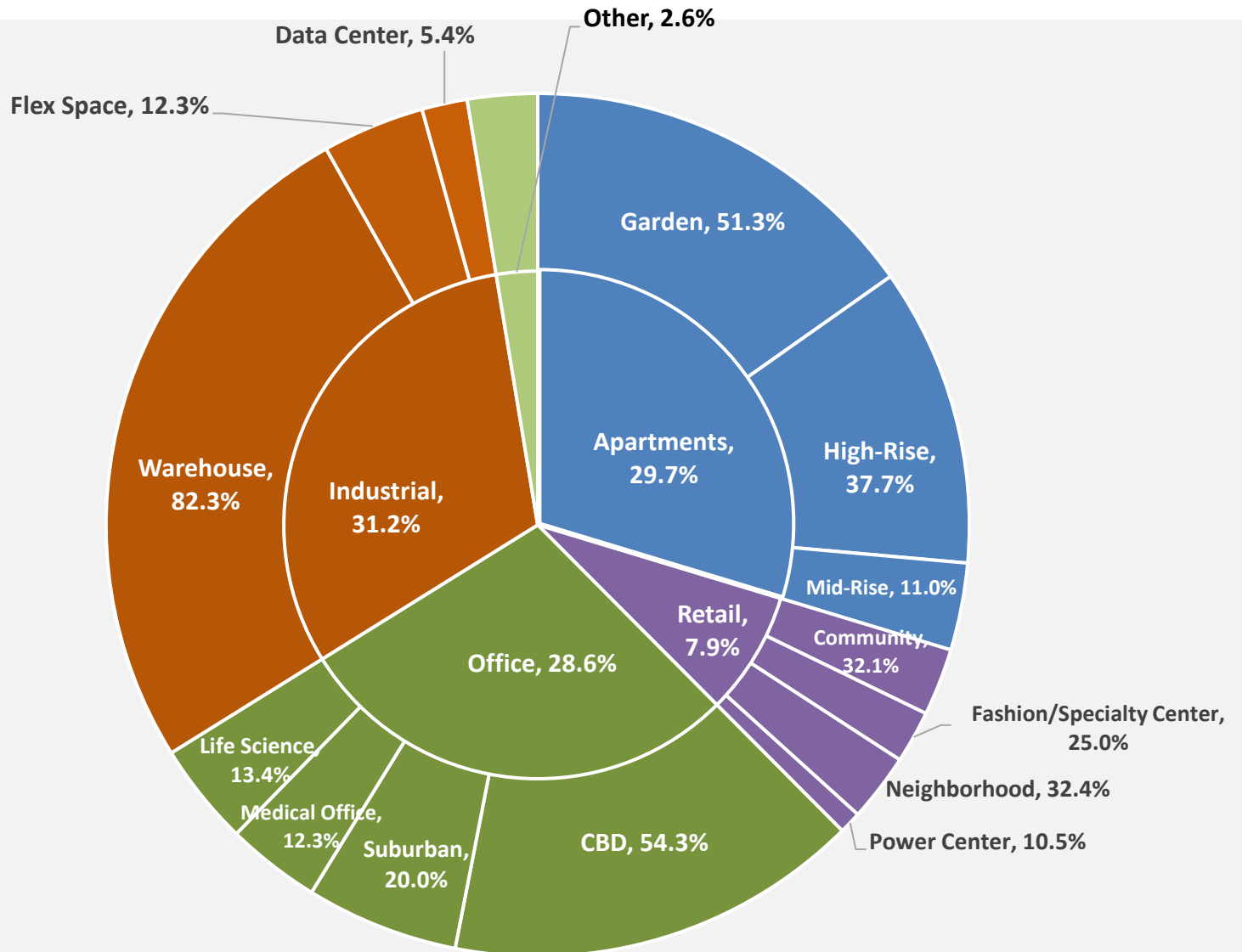
PRIM Overweight vs ODCE



PRIM Underweight vs ODCE



Property Subtype Breakdown



Leverage Summary – Portfolio Level

Portfolio Leverage - External (\$ in thousands)	At Close	9/30/2022	Change
Private Notes Market Value:	\$525,000	\$510,588	(\$14,412)
B Notes (2023) 3.85% Fixed	\$175,000	\$174,572	(\$428)
C Notes (2025) 4.00% Fixed	\$150,000	\$147,914	(\$2,086)
D Notes (2030) 3.07% Fixed	\$200,000	\$188,101	(\$11,899)

Key Covenants	At Close	6/30/2022	Covenant
Total Leverage Ratio	28.36%	17.25%	< 50%
Secured Leverage Ratio	8.61%	3.21%	< 30%
Fixed Charge Ratio	3.76	6.98	> 1.75
Unencumbered Leverage Ratio	37.06%	18.48%	< 50%
Unencumbered Interest Coverage Ratio	4.68	10.34	> 2

Internal Financing (\$ in thousands)	At Close	9/30/2022	Change
Total Internal Financing	\$750,000	\$750,000	\$0
Tranche 1 (2027) 2.43%	\$67,500	\$67,500	\$0
Tranche 2 (2027) 2.14%	\$20,000	\$20,000	\$0
Tranche 3 (2027) 2.22%	\$162,500	\$162,500	\$0
Tranche 4 (2026) 1.07%	\$250,000	\$250,000	\$0
Tranche 5 (2031) 1.32%	\$250,000	\$250,000	\$0
Swap Values (\$250,000 Notional)	(\$2,057)	\$17,076	\$19,133
Tranche 1 (2027) 2.43%	(\$1,146)	\$4,157	\$5,303
Tranche 2 (2027) 2.14%	\$0	\$1,470	\$1,470
Tranche 3 (2027) 2.22%	(\$911)	\$11,448	\$12,359
Swap Values (\$500,000 Notional)	\$0	\$69,509	\$69,509
Tranche 1 (2026) 1.07%	\$0	\$26,331	\$26,331
Tranche 2 (2031) 1.32%	\$0	\$43,179	\$43,179

Leverage Summary – Property Level

Total Private Real Estate (\$ in thousands)

Type	# of Assets	Debt	Gross Value	Equity Value	Cost Basis (Net)	LTV	Rate (Blend)
Office	19	\$395,885	\$2,498,140	\$2,102,255	\$1,896,760	15.8%	4.50%
Apartments	29	\$218,608	\$3,008,588	\$2,789,980	\$2,028,422	7.3%	1.46%
Retail	15	\$0	\$866,328	\$866,328	\$809,317	0.0%	N/A
Industrial	44	\$55,786	\$3,445,139	\$3,389,352	\$1,717,359	1.6%	3.52%
Other	1	\$76,002	\$158,070	\$82,068	\$44,433	48.1%	2.43%
Total	108	\$746,282	\$9,976,265	\$9,229,983	\$6,496,291	7.5%	3.89%

Maturities (\$ in thousands)

Type	2022	2023	2024	2025	2026	>2026	Total
Office	\$73,948	\$0	\$0	\$0	\$0	\$321,937	\$395,885
Apartments	\$0	\$0	\$0	\$64,680	\$51,433	\$102,495	\$218,608
Retail	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Industrial	\$0	\$0	\$0	\$0	\$0	\$55,786	\$55,786
Other	\$0	\$0	\$0	\$0	\$0	\$76,002	\$76,002
Total	\$73,948	\$0	\$0	\$64,680	\$51,433	\$556,221	\$746,282



NON-CORE REAL ESTATE

Mass
PRIM

Non-Core Performance

	1 year	3 years	5 years	10 years	ITD	Inception Date
Total Non Core *	25.1%	16.0%	13.6%	13.6%	4.5%	5/31/2005
Excess Return	-1.8%	4.1%	3.8%	3.4%	-4.2%	
NCREIF NFI-ODCE (Quarter lag)	26.9%	11.8%	9.8%	10.2%		

Prior to 9/1/2011, the non-core portfolio was solely comprised of three “Economically Targeted Investments (ETI).” All three funds have liquidated and experienced negative absolute performance through the fund life.

Notes:

Light Blue Box: Positive Relative Return; Orange Box: Negative Relative Return

Non Core accounts include AEW industrial development, DivcoWest Fund series, Carlyle Fund VI, Blackstone Life Science, and Berkshire Multifamily investments

*Reflects J-Curve impact of development projects



PUBLIC REAL ESTATE (REITS) PORTFOLIO

Mass
PRIM

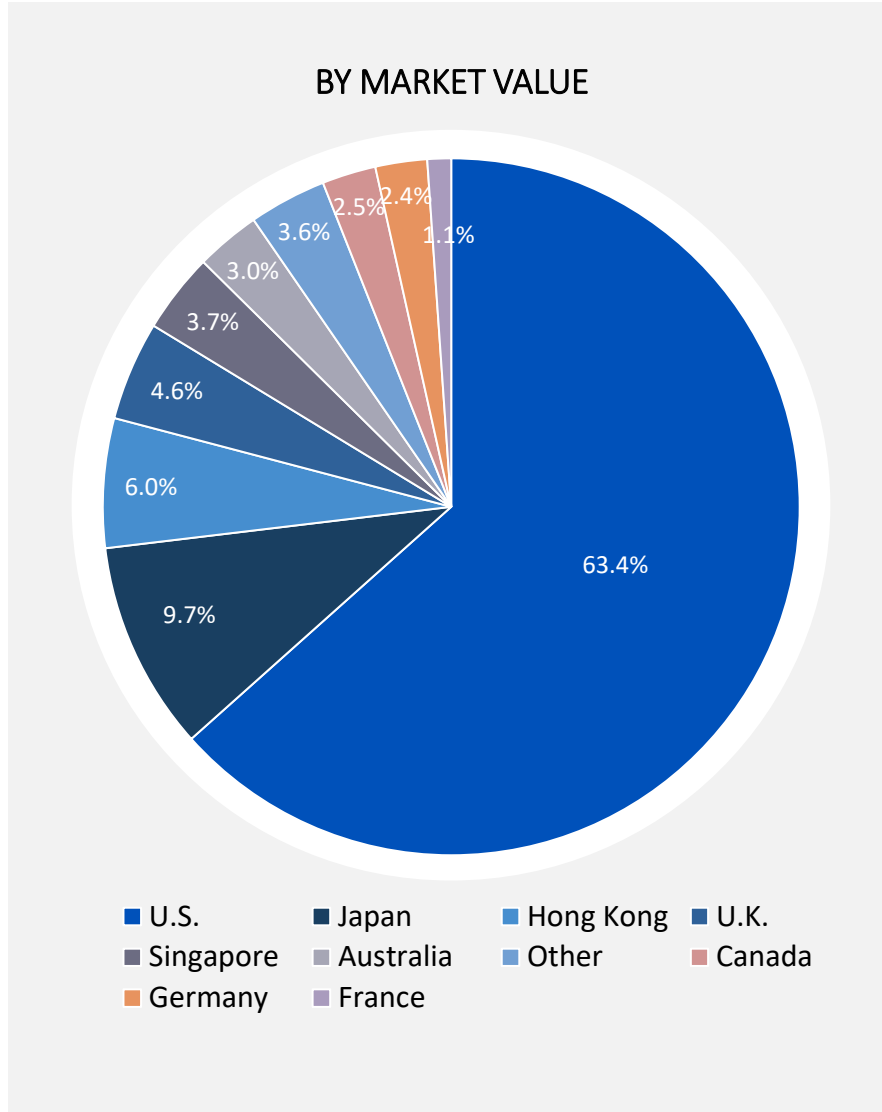
REIT Manager Performance & Top Holdings

REIT Performance					
Global REITs	Qtr	1 year	3 years	5 years	ITD
CenterSquare	-12.0%	-20.7%	-2.3%	2.7%	5.7%
Excess Return	-0.6%	1.5%	3.5%	2.8%	1.8%
Brookfield	-11.2%	-21.7%	-5.6%	-0.5%	3.1%
Excess Return	0.2%	0.5%	0.2%	-0.4%	0.7%
Total REITs	-11.7%	-21.1%	-3.5%	1.5%	7.7%
Excess Return	-0.3%	1.2%	2.3%	1.6%	1.4%
Total REITs Benchmark	-11.4%	-22.2%	-5.8%	-0.1%	

* Light Blue Box: Positive Relative Return; Orange Box: Negative Relative Return.

Top 10 Holdings	
Security	%
 PROLOGIS®	5.6%
 Public Storage	4.2%
 DIGITAL REALTY	3.1%
 EQUINIX	2.8%
 invitationhomes	2.8%
 VENTAS®	2.8%
 UDR	2.6%
 新鴻基地產 Sun Hung Kai Properties	2.5%
 AMERICAN Homes 4 Rent	2.4%
 MITSUI FUDOSAN	2.3%
Total	31.1%

Public Real Estate (REITs) Exposure by Country



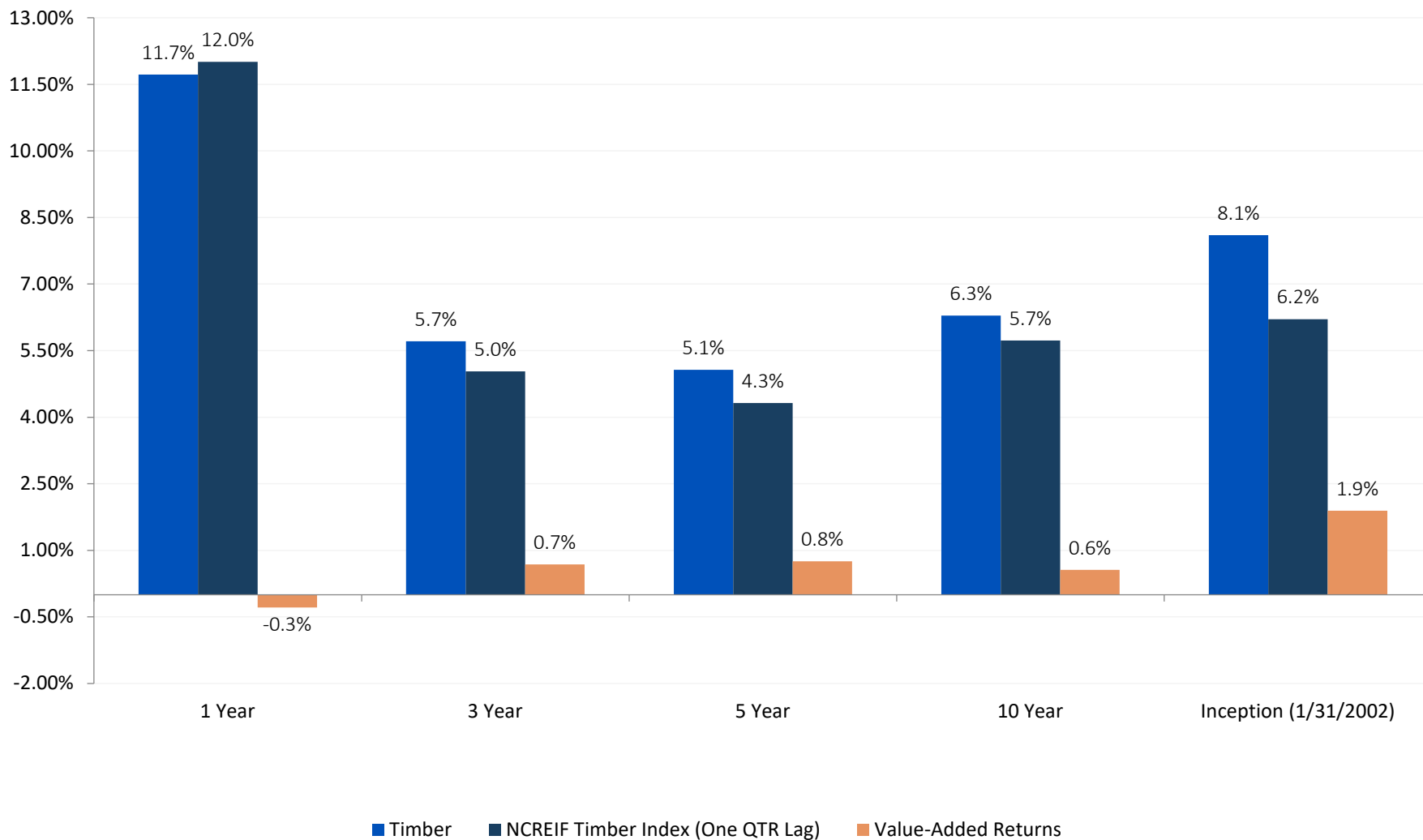
A photograph of a dense forest with tall, thin trees and a thick undergrowth of green ferns and moss. The entire image is covered with a semi-transparent blue overlay. The title "TIMBERLAND PORTFOLIO" is centered in white, bold, sans-serif capital letters.

TIMBERLAND PORTFOLIO



Timberland Performance

Gross of Fees



Manager Performance - Timberland

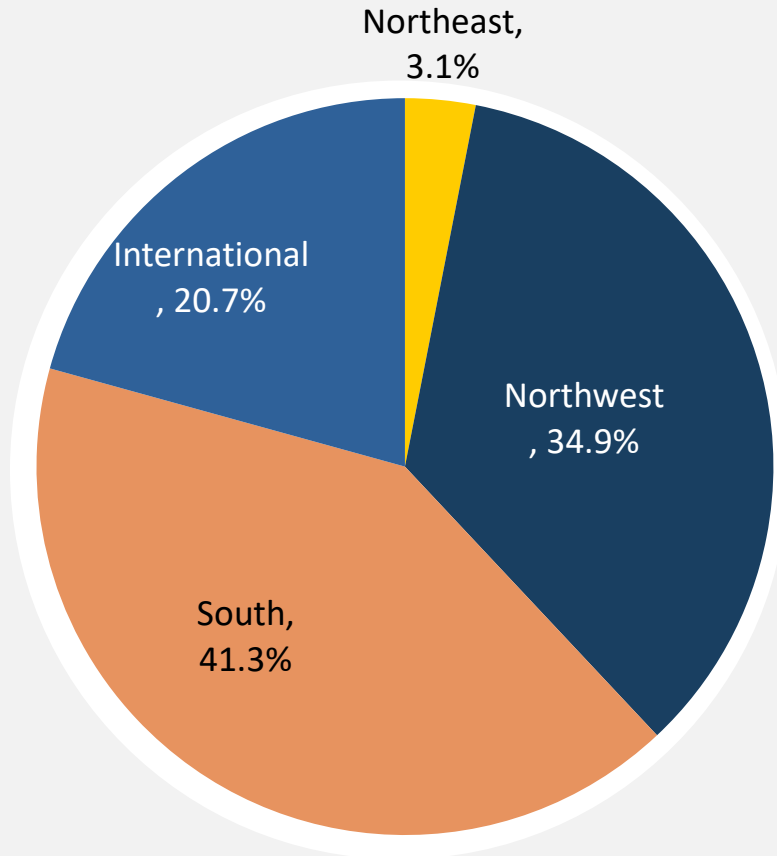
Timberland	1 year	3 year	5 year	ITD
FIA	6.3%	3.1%	1.6%	5.8%
Excess Return vs. NTI	-5.7%	-2.0%	-2.7%	-0.4%
Campbell Global	16.3%	7.9%	8.1%	7.2%
Excess Return vs. NTI	4.3%	2.9%	3.8%	1.9%
Total Timber Composite	11.7%	5.7%	5.1%	8.1%
Excess Return vs. NTI	-0.3%	0.7%	0.8%	1.9%
NCREIF Timber Index (Quarter Lag)	12.0%	5.0%	4.3%	

* Light Blue Box: Positive Relative Return; Orange Box: Negative Relative Return

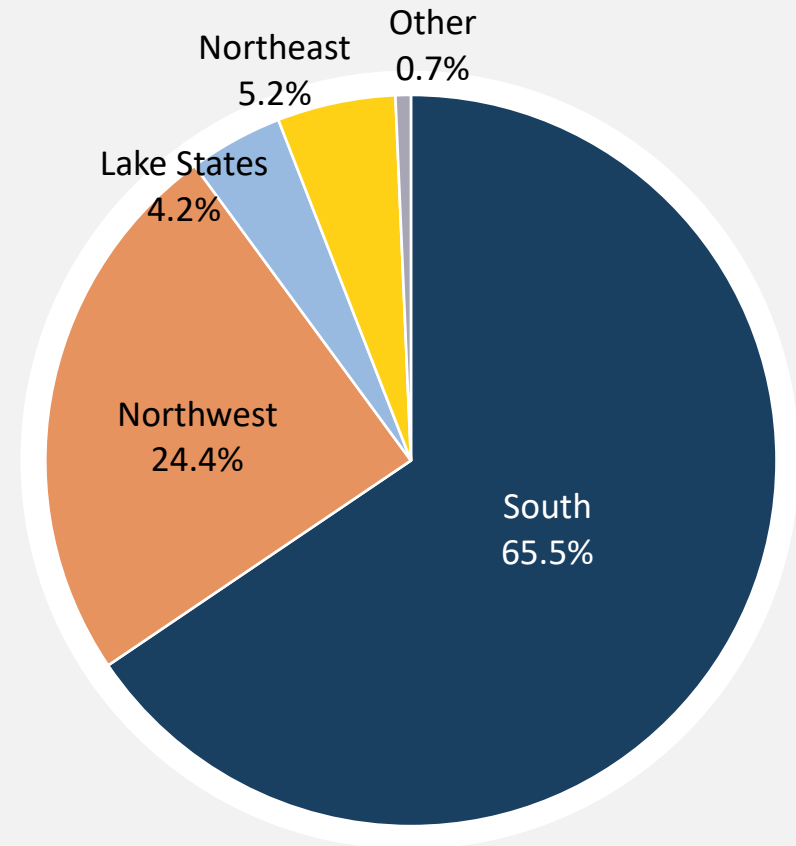
Timberland Exposure by Region vs. Benchmark

Equity Value

PRIM REGION EXPOSURE



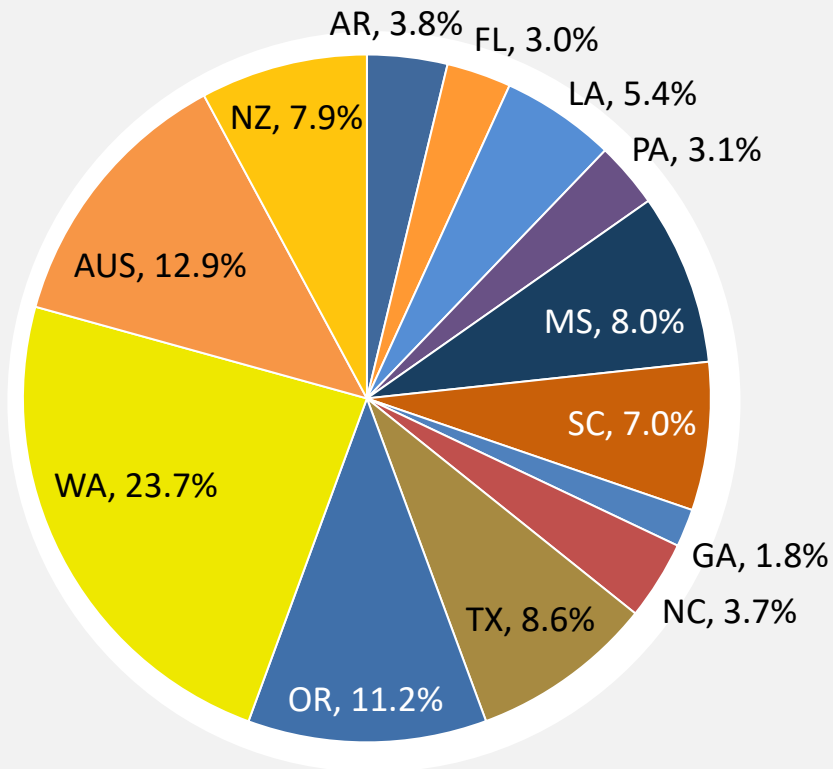
BENCHMARK



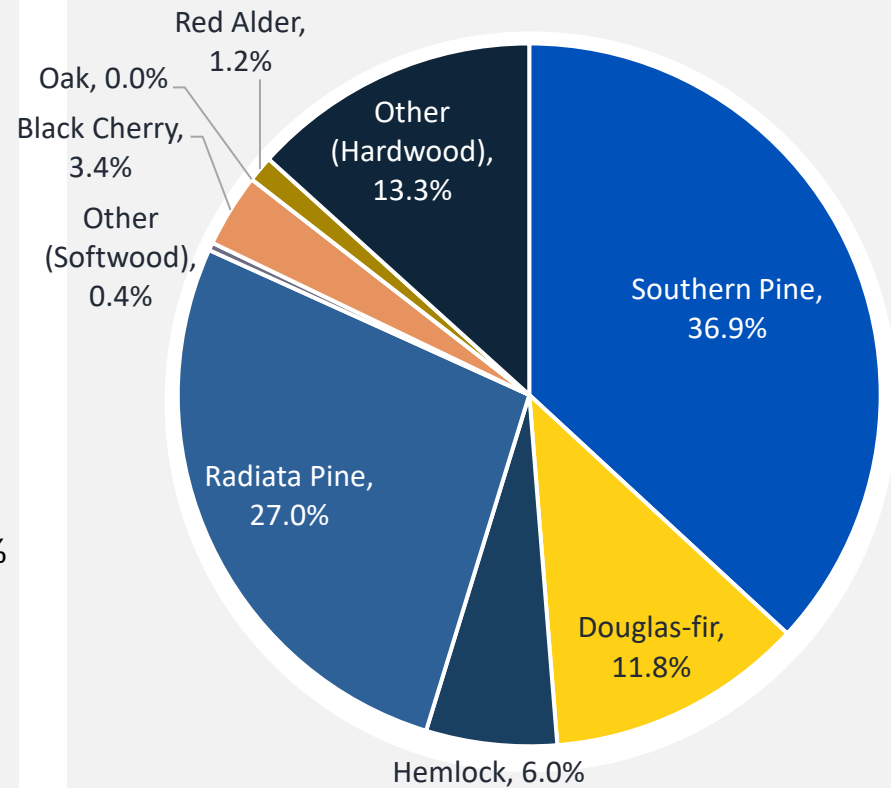
Timberland Exposure by State/Region

Timberland Exposure by Species

BY EQUITY VALUE



BY ACRES



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Appendix E

Real Estate Portfolio Debt Update

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REAL ESTATE AND TIMBERLAND COMMITTEE

Real Estate Portfolio Debt Update

November 16, 2022

Deborah B. Goldberg, Treasurer and Receiver General, Chair

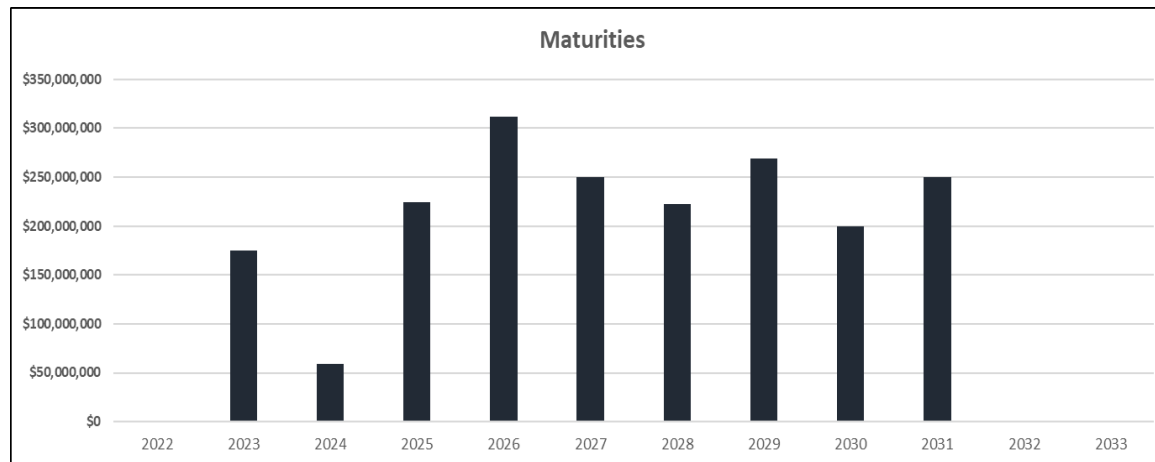
Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer

Real Estate Debt Summary

Real Estate Debt as of September 30, 2022

Type	Notional	Share of Total	Rate	WAM ¹	LTV ²
Total RE Debt:	\$1,968,100	100%	3.0%	5.0	18.6%
Unsecured Fixed	\$1,275,000	64.8%	2.4%	4.9	
Secured Fixed	\$559,745	28.4%	3.9%	5.9	
Secured Floating	\$133,354	6.8%	4.4%	2.6	

\$ in thousands



- ❑ Over one- and five-years, the leverage program added 5.4% and 2.0%, respectively, to private core real estate returns.
- ❑ Internal financing accounts for \$750 million of total debt with an estimated savings of over \$9 million annually in debt cost.

¹WAM – Weighted Average Maturity

²LTV – Loan to Value

PRIT Real Estate Debt vs. ODCE Debt

PRIT Core Realty vs. NCREIF³ ODCE⁴

Metrics	PRIM (Q3 2022)	ODCE (Q2 2022)
LTV	18.6%	22.6%
WAM	5	4.8
Rate	3.0%	3.5%

- ❑ ODCE data as reported by 24 managers accounting for over \$70 billion of outstanding principal that is comprised of 820+ loans.
- ❑ Approximately 27% of ODCE debt is in floating rate loans.
- ❑ Approximately 57% of ODCE debt is secured loans.

³NCREIF – National Council of Real Estate Investment Fiduciaries

⁴ODCE – Open End Diversified Core Equity

Upcoming Maturity and Market Activity

- ❑ \$175 million private note (the “Note”) issued on February 14, 2013, at a coupon of 3.85% for a term of 10-years. At the time, the Note was issued at a credit spread of 200 basis points over the 10-year treasury rate (1.85%).
- ❑ Recent transactions in the private placement market indicate a similar credit spread is available today. Short-term bank loans have recently priced at a spread of 115-150 basis points.

External Financing Activity - Private Note Placements and Bank Loans

Date	Issuer Type	Market	Issuer Rating	Real Estate Type	Term	Amount	Spread	Coupon Estimate
9/28/2022	ODCE Fund	Private Note	NAIC-1	Core	7	\$50 million	UST + 155	5.6%
9/28/2022	ODCE Fund	Private Note	NAIC-1	Core	10	\$50 million	UST + 180	5.7%
9/28/2022	ODCE Fund	Private Note	NAIC-1	Core	12	\$50 million	UST + 190	5.7%
9/22/2022	ODCE Fund	Private Note	NAIC-1	Core	10	\$125 million	UST + 170	5.2%
9/22/2022	ODCE Fund	Private Note	NAIC-1	Core	12	\$75 million	UST + 180	5.3%
8/26/2022	ODCE Fund	Bank Loan	NA	Core	3+1+1	\$150 million	SOFR + 115	3.6%
8/20/2022	ODCE Fund	Private Note	NAIC-1	Core	7	\$90 million	UST + 300	6.0%
8/20/2022	ODCE Fund	Private Note	NAIC-1	Core	10	\$30 million	UST + 320	6.1%
7/30/2022	ODCE Fund	Private Note	NAIC-2	Core	7	\$75 million	UST + 180	4.5%
7/30/2022	ODCE Fund	Private Note	NAIC-2	Core	10	\$145 million	UST + 190	4.6%
7/15/2022	ODCE Fund	Bank Loan	NA	Core	5	\$150 million	SOFR + 150	3.7%
7/14/2022	Public REIT	Private Note	NAIC-2/Baa2	Industrial	11	\$75 million	UST + 200	4.9%
7/14/2022	Public REIT	Private Note	NAIC-2/Baa2	Industrial	12	\$75 million	UST + 205	5.0%

As of 11-4-2022: 10-year U.S. Treasury Rate = 4.13% and One-month Term SOFR = 3.81%

Considerations

- ❑ Pay off the Note and wait to refinance until rate and market uncertainty subsides. Including pending transactions, LTV would temporarily drop to ~ 17%.
- ❑ Refinance the Note and increase LTV to match ODCE. This would require a total issuance of \$325 - \$450 million.
- ❑ Refinance the Note and maintain LTV. Be patient and increase to match ODCE at a later date.
- ❑ Consider all financing mechanisms (internal and external) available to PRIM.