

Fourth Quarter 2022



PRIM Executive Director and Chief Investment Officer Michael G. Trotsky, CFA provided the following information to the PRIM Board at its February 16, 2023, meeting:

Executive Director and Chief Investment Officer Report

We are pleased that the PRIT Fund was up 4% for the December quarter, following three straight quarters of market declines, and the gains have continued into the first quarter of 2023. Returns were negative during the 12-month period ending December 2022 as equity and bond indices were down globally: domestic equities were down 18%, developed international equities were down 14.5%, and emerging equities were down 20%. Normally, we would expect bonds to offer protection from a selloff in equities, but bonds were also down substantially in calendar 2022, down approximately 13%. A 60/40 mix of stocks and bonds was down 16.2%, but the PRIT Fund fared better, down 11.2% net of fees. The loss in calendar year 2022 followed a very strong calendar year 2021. Calendar year 2021 returns were the fourth largest returns ever, and the outperformance of 8% net of fees relative to our benchmark in 2021 was the strongest outperformance in PRIM's entire history.

The PRIT Fund has performed well over the last several years while the financial markets and global economies responded to several disruptive situations. PRIM does not control geopolitical events, slowing economic growth worldwide, monetary policy responses, wars, viruses, supply chain shortages, or the behavior of other investors. We are market takers, and the only thing we can control is the design and composition of the PRIT Fund. We have carefully engineered a diversified portfolio with components that will perform well in a variety of market environments, and we are also very focused on controlling our costs. Our history of strong performance in both strong and weak markets is an indication that our portfolio is well constructed in terms of risk, return, and cost – PRIM's philosophical three pillars of investment. Our alternatives, specifically Hedge Funds, Private Equity, Timberland, and Real Estate helped anchor the PRIT Fund in this very stormy environment, an investment period when both public equities and bonds were down significantly in all markets around the globe.

The silver lining in turbulent markets is that selloffs create attractive buying opportunities. The PRIM team was busy during the year evaluating opportunities and deploying approximately \$5.7 billion in new investments. Another silver lining is that some of the uncertainties are beginning to resolve. Namely, inflation appears to have peaked, the Fed is beginning to taper interest rate increases, and the economy is still growing. For the quarter so far, which includes all of January and half of February, equity markets are up between 6 and 10% globally, with Europe and China leading the way, and bonds are up approximately 2%. We hope the positive trends continue.

The main risks going forward are familiar: that inflation spikes again or remains too high, business spending or corporate earnings could weaken more than anticipated, and unemployment or wages could spike. Any of those conditions could result in an economic slowdown that turns into a severe recession, one that is worse than the current consensus expectations. That scenario would be a headwind for financial markets. There are many moving pieces in the global economy and in the world's geopolitical situation, we can't control any of that, but we do believe the PRIT Fund is well constructed to perform relatively well in any environment.

Customary for this Board cycle, asset allocation recommendations are approved, and annual plans are discussed. The annual plans are consistent with prior years, but this year each functional area includes plans to support the newly formed ESG committee. We believe the ESG Committee will build on the important work we have been doing internally and with our partners in the MIT Sloan School's Aggregate Confusion Project. We are excited to get started with the new committee and have reached out to the new Committee members to schedule our customary on-boarding briefings. We expect The ESG Committee's first meeting will occur at the next Board cycle.

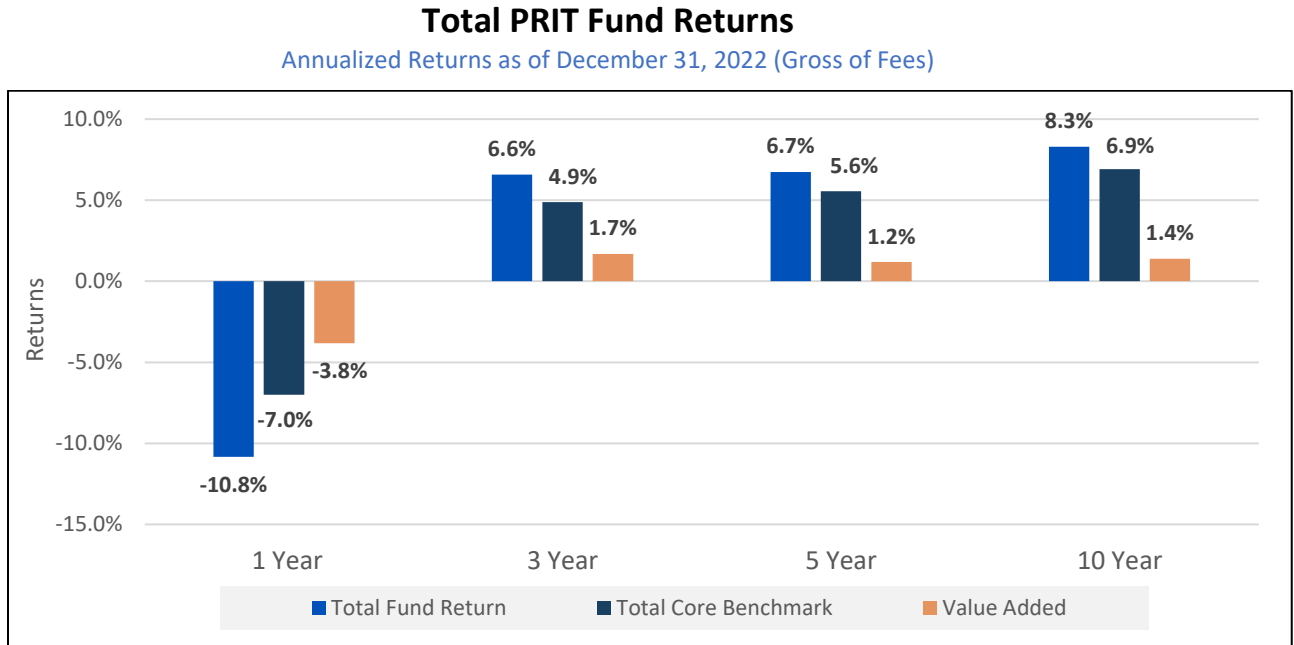
On asset allocation, the Investment Committee approved the recommendation to continue our multi-year effort to gradually increase the PRIT Fund's allocation to Private Equity. Maintaining a consistent pace of Private Equity commitments has been a key contributor to our long term success. We have observed throughout our history that some of our highest performing Private Equity vintage years originate during volatile times like this, when other investors may be cutting their commitments for a variety of reasons. Our Private Equity partners have the proven ability to wait for valuations to become attractive to deploy capital, and investors who provide capital in difficult environments benefit when valuations are cheapest. We have learned that 80% of our peers are currently 4-6% above their ranges for Private Equity, but at 17.7% of PRIT Fund assets, Private Equity is within the current range, and we have room to continue our commitment pace. PRIM's Private Equity team carefully models commitment pacing each year, and the fact that we are still within our range when most others are not, is testimony to the robustness of PRIM's very disciplined process. The recommended increase of 1% to Private Equity continues a multi-year trend consistent with PRIM's asset allocation research findings and will provide extra headroom to maintain an adequate commitment pace.

PRIT Fund Performance

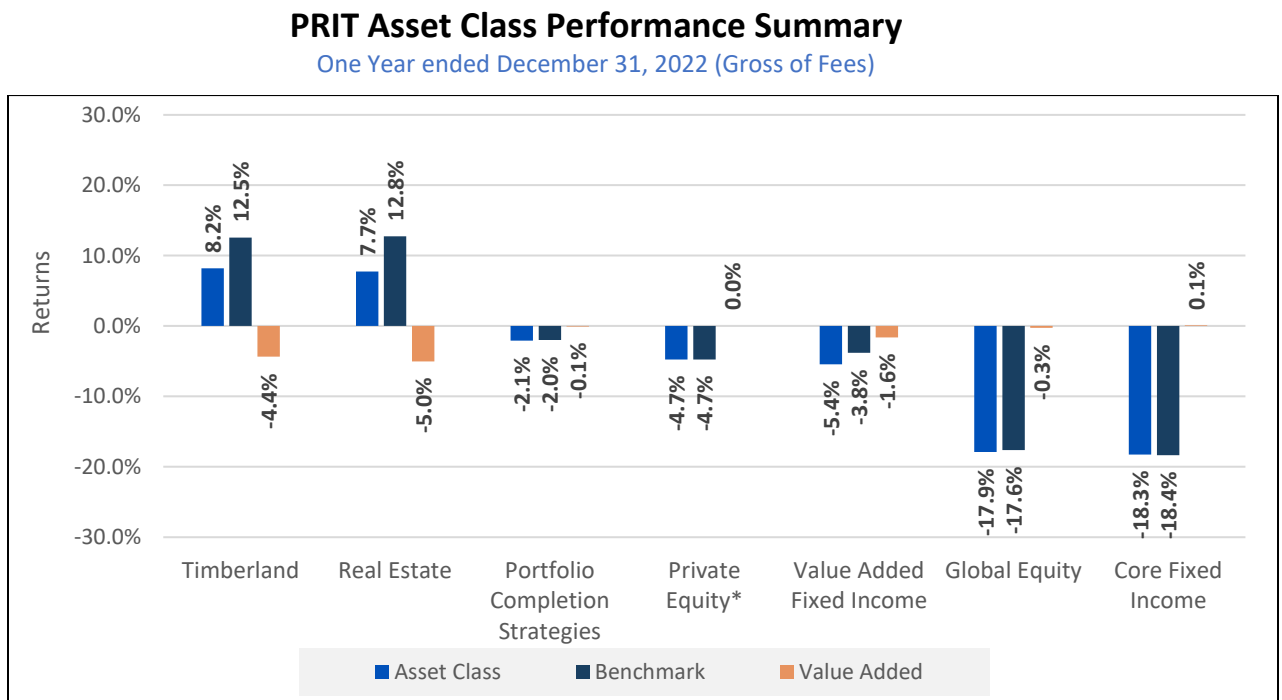
For the one-year ended December 31, 2022, the PRIT Fund was down -10.8%, (-11.2% net), underperforming the total core benchmark of -7.0% by 382 basis points (422 bps net).

- This performance equates to an investment loss of \$11.6 billion, net of fees.
- This underperformance equates to \$4.4 billion of value below the benchmark return, net of fees.
- Net total outflows to pay benefits for the one-year ended December 31, 2022, were approximately \$738 million.

The following charts summarize the PRIT Fund performance for the one year ended December 31, 2022.



Source: BNY Mellon. Total Core Benchmark includes private equity benchmark.



Source: BNY Mellon. Totals may not add due to rounding. *Benchmark is actual performance.

PRIT Fund Annualized Returns By Asset Class

(December 31, 2022 - Gross of Fees)

1 Year	3 Year	5 Year	10 Year
TIMBER 8.2%	PRIVATE EQUITY 26.0%	PRIVATE EQUITY 22.9%	PRIVATE EQUITY 21.0%
REAL ESTATE 7.7%	REAL ESTATE 11.7%	REAL ESTATE 10.4%	REAL ESTATE 10.6%
PCS (2.1%)	TIMBER 7.7%	TIMBER 5.3%	GLOBAL EQUITY 8.3%
PRIVATE EQUITY (4.7%)	GLOBAL EQUITY 4.3%	GLOBAL EQUITY 5.3%	TIMBER 6.1%
VALUE-ADDED FIXED INCOME (5.4%)	VALUE-ADDED FIXED INCOME 3.3%	VALUE-ADDED FIXED INCOME 3.9%	VALUE-ADDED FIXED INCOME 4.2%
GLOBAL EQUITY (17.9%)	PCS 2.4%	PCS 2.5%	PCS 4.1%
CORE FIXED INCOME (18.3%)	CORE FIXED INCOME (2.8%)	CORE FIXED INCOME 0.3%	CORE FIXED INCOME 2.0%

Source: BNY Mellon. Returns as of December 31, 2022

Organizational Updates

Pengtuan Wu joined the Research team in January as an Investment Officer reporting to Maria Garrahan. Pengtuan holds a Master of Science degree in Mathematical Finance from Rutgers University, and before coming to PRIM was a principal quantitative developer at Fidelity Investments. At Fidelity he led the development of the centralized factor engine in addition to many other quantitative research initiatives.

Tianyi Shi joined the Research team in February as an Investment Analyst reporting to Maria Garrahan. Tianyi joined PRIM as a Research intern in May 2022 and has worked within multiple areas of Research, all while finishing her degree at Boston University. Tianyi graduated from Boston University in December 2022 with a Master of Science degree in Mathematical Finance & Financial Technology. She also has a bachelor's degree in Financial Engineering. We are delighted that she chose PRIM to start her very promising career.

PRIM deployed more than \$2.8 billion to diverse managers in 2022 as part of the **FUTURE Initiative**, bringing the total to more than \$9 billion. In December 2022, PRIM received the Commonwealth's "Equity in Governance Award" for its efforts in this area. PRIM also designated more than \$340 million to 15 emerging-diverse managers as part of a \$1 billion program specifically designed to reduce barriers between the PRIT Fund and emerging-diverse managers. This progress was reported to the state legislature as a requirement of the Investment Equity legislation, the legislation championed by the Treasurer more than two years ago. As reported by Pensions and Investments, this puts PRIM at the very top of the heap compared to other pension funds, 7th in the nation in capital deployed with diverse managers, far above our rank in size.

PRIM Board Actions

Asset Allocation Recommendation

The PRIM Board approved the 2023 asset allocation recommendation. The 2023 asset allocation recommendation represents a minor change to the prior year's recommendation. The recommendation includes a 1% increase in the Private Equity target range (12%- 18% to 13%-19%) and a corresponding 1% decrease in the Global Equities target range (33%- 43% to 32%-42%). The small increase in the Private Equity range is aligned with PRIM's multi-year effort to slowly increase the allocation to Private Equity.

Hedge Fund Benchmarking Recommendation

The PRIM Board approved the following benchmark recommendation for Stable Value and Directional Hedge Funds (collectively, "Direct Hedge Funds"), and PAAMCO.

1. Change the Total Core Benchmark for Stable Value Hedge Funds and PAAMCO to SOFR + 200 bps;
2. Change the Total Core Benchmark for Directional Hedge Funds to 50% MSCI ACWI + 50% SOFR; and
3. Change the Implementation Benchmark for Direct Hedge Funds to value-weighted manager benchmarks.

These new Total Core Benchmarks for the Direct Hedge Funds and PAAMCO portfolios are more representative of the public market exposure or opportunity cost of investing in a comparable public market alternative, while the Implementation Benchmark represents a secondary benchmark to measure the efficacy of the implementation decision on how these managers perform versus their strategy peers.

Public Markets

Public Markets Advisory Services RFP

The PRIM Board selected Meketa Investment Group to provide Public Markets advisory services to PRIM.

Other Credit Opportunities – New Investment Recommendation: Biopharma Credit Investments V

The PRIM Board approved a commitment of up to \$150 million to Biopharma Credit Investments V (the "Fund") as part of the Other Credit Opportunities ("OCO") allocation. The Fund is an evergreen strategy, managed by Pharmakon, that invests in life sciences companies. The strategy focuses on senior secured loans backed by one or more FDA-approved product.

Private Equity

Follow-on Investment Recommendation: Hellman & Friedman Capital Partners XI, L.P.

The PRIM Board approved a commitment of up to \$300 million to Hellman & Friedman Capital Partners Fund XI, L.P. PRIM has invested in eight prior Hellman & Friedman Capital Partners ("H&F") funds since 1995. H&F's senior team of 22 partners has an average tenure of 16 years at the firm. H&F targets buyouts of large businesses in North America and Europe in the technology/software, financial services, business & information services, healthcare, and consumer services & retail sectors.

Follow-on Investment Recommendation: GTCR Fund XIV, L.P.

The PRIM Board approved a commitment of up to \$285 million to GTCR Fund XIV, L.P. PRIM has invested in twelve prior GTCR funds since 1987. GTCR has a stable and highly experienced team and a strong and consistent track record. GTCR invests primarily in middle-market companies in the U.S. across four main industries: Technology, Media & Telecommunications; Financial Services & Technology; Healthcare; and Growth Business Services.

Follow-on Investment Recommendation: TA XV, L.P. and TA Select Opportunities Fund III, L.P.

The PRIM Board approved commitments of up to \$335 million to TA XV, L.P. and up to \$35 million to TA Select Opportunities Fund III, L.P. PRIM has invested in nine prior TA Associates ("TA") funds since 1997. TA's senior team has worked together for over 18 years. TA targets middle-market growth companies

located in North America, Europe, and Asia operating in the technology, healthcare, financial services, consumer, and business services sectors.

Finance and Administration

Proxy Voting Guidelines

The Prim Board approved ISS' 2023 Benchmark Policy Updates and the 2023 enhancements to PRIM's Custom Proxy Voting Guidelines proposed by Treasurer Deborah B. Goldberg as follows:

Access to Reproductive Healthcare:

- Vote FOR shareholder proposals that require companies to provide access to the full range of reproductive healthcare, including, but not limited to, policies that provide for employees that must travel to access care.

Access to Parental Leave:

- Vote FOR shareholder proposals that require companies to provide comprehensive paid parental leave.

Disclosure: Political Giving:

- Vote FOR shareholder resolutions that request companies to provide greater disclosure of corporate campaign financing.
- Vote FOR shareholder resolutions that request companies to disclose any and all corporate expenditures for advertising in support of, or in opposition to, any political candidate, issue, and/or ballot referendum, including contributions to political candidates, political action committees, 501(c)(3, 4, and 5) organizations or any other expenditure which may be used to influence an election.
- Vote FOR shareholder resolutions that call on the board to establish corporate political giving guidelines and internal reporting provisions or controls.
- Vote AGAINST shareholder resolutions that seek shareholder input to corporate political giving policies or on the contributions themselves.
- Vote AGAINST shareholder resolutions seeking an advisory vote on political contributions.

Consent Agenda

In April of 2014, the Board approved the implementation of a consent agenda to best utilize Board meeting time to focus on deliberation on the most substantive matters. A consent agenda is a meeting practice whereby routine and other non-controversial voting items that do not require discussion are presented and approved as a single agenda item in a single motion.

The PRIM Board approved the following consent agenda items:

- Acceptance of the State Auditor's Examination Report for the Period July 1, 2019 – January 15, 2022.
- Approval of the issuance of an RFP for Investment Performance Reporting Services.

The Client Services team will continue to meet with the retirement boards of PRIM's member retirement systems throughout the year. To schedule a visit, please contact Francesco at fdaniele@mapension.com, Laura at Istrickland@mapension.com, Emily at egreen@mapension.com, or call 617-946-8401. We look forward to seeing you soon.