MassPRIM

Minutes of the PRIM Investment Committee Remote Meeting
Tuesday, May 2, 2023

Committee members present:

- Treasurer Deborah Goldberg, Chair
- Joseph Bonfiglio
- C. LaRoy Brantley
- Michael Even
- Constance Everson, CFA
- Ruth Ellen Fitch, Esq.
- James Hearty
- Peter Monaco
- Phillip Perelmuter
- Philip Rotner
- Paul Shanley, Esq. (departed at 11:45 a.m.)
- Glenn Strehle, CFA
- Timothy Vaill

The PRIM Investment Committee meeting was called to order at 9:33 a.m. Chair Treasurer Deborah Goldberg announced that the meeting was being held by internet and telephone in accordance with the provisions of Massachusetts Acts of 2022, Chapter 22, which was most recently amended on March 29, 2023, to include an extension of the 2020 Executive Order 'Suspending Certain Provisions of the Open Meeting Law' until March 31, 2025". 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. Approval of the Minutes (Voting Item)

The PRIM Investment Committee approved, by unanimous roll-call vote, the minutes of its January 31, 2023, meeting.

II. Executive Director / Chief Investment Officer Comments

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

Mr. Trotsky was pleased to report a positive return for the March 2023 quarter, the second consecutive quarter of PRIT Fund gains following the three-quarter sell-off during calendar year 2022. The PRIT Fund was up 3.6% in the quarter ended March, which followed a positive 4.1% return in the December 2022 quarter. PRIM is happy to welcome one new Board member and several new PRIM employees.

Organizational Updates

Mr. Trotsky introduced Governor Healey's new appointee to the PRIM Board, Catherine D'Amato. Catherine is a deeply experienced Chief Executive Officer. As President and CEO of the Greater Boston Food Bank, New England's largest hunger relief organization and Founder of the Hunger to Health

Collaboratory, Catherine leads a team of 150 and thousands of volunteers providing healthy food to six hundred distribution organizations, equivalent to 100 million meals annually. Catherine has considerable board governance experience serving in a variety of roles as an elected officer, board chair, vice-chair, committee chair, and general director. Her current or completed board roles include Fidelity Charitable, Eastern Bancshares, Forsyth Institute, Federal Reserve Bank of Boston, The Boston Foundation, and Human Rights Campaign, among others. Catherine is a well-known, highly respected public figure and sought-after public speaker and has received many local, state, and national leadership awards and honorary degrees. She received her bachelor's degree from the University of San Francisco and completed both a Strategies in Non-Profit Management Certificate from Harvard University and a Certificate of Management from Smith College.

Veena Ramani joined PRIM in late April as Director of Stewardship which is a new position within PRIM. We are excited to welcome Veena to PRIM where she will head up our ESG and Stewardship efforts and support the newly formed ESG Committee. Veena joins PRIM from FCLTGlobal, a nonprofit whose mission is to focus on the long term to support a sustainable and prosperous economy. As Director of Research at FCLTGlobal, Veena oversaw the Research Team, working with members who include asset owners, asset managers, and corporations to develop actionable research to drive long-term value creation for investors. Prior to FCLTGlobal, Veena spent 15 years at Ceres, a leading sustainability nonprofit, holding several different roles including running campaigns to engage financial regulators on the systemic risk of climate change, developing an online training curriculum for corporate board members on ESG in partnership with the Berkeley School of Law, and engaging with large corporations on their sustainability and climate change strategies and disclosures. Veena holds a BA with honors degree from the National Law School of India University and a Master of Law degree from Washington University School of Law.

John Fitzpatrick joined the team in March as a Legal and Governance Analyst. John comes to us from Laredo & Smith, a Boston law firm, where he was an Associate Attorney. John has his Bachelor of Arts degree in Philosophy and Economics from Saint Joseph's University in Philadelphia and his Juris Doctor from Boston College Law School.

Ethan Spencer joined in February as a Senior Investment Officer on the Portfolio Completion Strategies team. Ethan was Managing Partner at Eastern Point Capital, a global emerging and frontier market investment platform. Prior to that, Ethan had extensive experience working at the Boston University Endowment, Cambridge Associates, and Credit Suisse First Boston. He holds a BA degree from Colby College and an MBA degree from the Johnson School at Cornell University.

Riya Shah joined PRIM in February as an Investment Compliance Analyst. Riya will assist with investment manager guideline monitoring, regulatory and state filings, and operational due diligence. Riya comes to us from State Street where she served as Enterprise Technology Risk Analyst within the bank's compliance team. Riya has her Bachelor of Arts degree in Actuarial Science and Economics from Assumption College.

Andrew Browne joined in February as an Investment Analyst, on the Private Equity team. Andrew graduated in December from Northeastern University's D'Amore-McKim School with a Bachelor of Science in Business. During his time at Northeastern, Andrew completed a variety of investment management internships in venture capital, investment advisory, and private wealth investment management. Andrew co-founded a school-wide research and consulting group to empower NGOs.

Markets and PRIT Fund Performance

PRIM expects market drops and economic cycles to impact the PRIT Fund periodically. Last year, in calendar 2022, stocks were down 15-20% globally while bonds were down approximately 13%. Normally, PRIM would have expected bonds to offer some protection from a selloff in equities, but last year with rising interest rates, bonds and stocks were both down substantially. The PRIT Fund fared better than both stock and bond indices in 2022, it was down 11.2% net of fees. PRIM cannot control market returns because we don't control the factors which fueled last year's difficulties: geopolitical events, slowing economic growth worldwide, monetary policy response, wars, viruses, supply chain shortages, or the behavior of other investors. The only thing we can control is the design and composition of the PRIT Fund, and we have carefully engineered a diversified portfolio with components that will perform well in a variety of market environments. We are also focusing on controlling our costs. PRIM's 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. Philosophically, PRIM believes that no investment decision is complete without evaluating these three equally important parameters; risk, return and cost.

Mr. Trotsky noted PRIM's alternative investments help anchor the Fund in these very stormy environments. These market downturns create good buying opportunities, and the PRIM team has been very busy evaluating opportunities, deploying nearly $6 billion in new investments across all asset classes.

Last August, we observed a peak in bond yields and signs that inflation had begun to moderate, and more recently those trends have been reconfirmed. GDP growth declined, but remained positive, corporate revenue growth and earnings reports were positive and well above expectations. Inflation, as measured by the Consumer Price Index, slowed for a nineth consecutive period in March to 5%, the lowest since May of 2021, and down from 6% in February, and the Unemployment Rate fell again to 3.5%, which was better than expected. The consensus of investors and economists is still for a mild recession, no change from last quarter.

The March quarter was very volatile. In mid-March, Silicon Valley Bank (SVB) and Signature Bank failed. U.S. authorities took extraordinary steps to prevent a contagion from developing as Treasury Secretary Yellen instructed the FDIC to make whole all depositors regardless of size; ensuring all depositors had access to their funds immediately.

PRIM's exposure to SVB, an S&P 500 component, was very low and immaterial, but we are mindful that SVB played an important role in the financial plumbing of the Private Equity and Venture Capital ecosystem. PRIM is closely monitoring several ongoing concerns including the possibility that other banks will develop similar problems. Wall Street analysts are saying wide-spread contagion are unlikely, but smaller regional banks that are disproportionately tied to cash-strapped industries like tech and crypto or have loans to underperforming commercial real estate, may be in for more volatility. First Republic Bank failed during the last week of April, the bank was seized and sold to JP Morgan. PRIM's net exposure to First Republic and Signature Bank was also very low and immaterial. PRIM continues to believe that our well-constructed and diversified portfolio will continue to perform well in these turbulent markets. Our exposure to Venture Capital, the industry most affected by the failure of SVB, is quite low compared to many of our peers in the pension, foundation, and endowment space. Mr. Trotsky asked PRIM's Director of Risk Management, Jay Leu, to provide a Risk Management update changing the order of our meeting agenda.

Jay Leu, CFA, FRM, Senior Investment Officer – Director of Risk Management, provided the Risk Management update focusing his presentation on the three regional banks that have failed: Silicon Valley Bank, Signature Bank, and First Republic. PRIM's direct exposure to these three banks in the Public Markets portfolio was negligible.

Mr. Leu provided an in-depth overview of the banking sector and market implications, concluding rising interest rates and massive deposit outflows in a short period of time hurt regional banks, contributing to their collapse. We will continue to monitor any potential contagion effects or linkages from the failed banks.

Mr. Trotsky continued and noted broadly the main risks going forward are that inflation will spike again or will remain too high, along with consumer and business spending. Corporate earnings could very well weaken more than anticipated, and unemployment or wages could spike. Any of these conditions may result in an economic slowdown that turns into a severe recession. There are many moving pieces in the global economy and in the world's geopolitical situation, but we believe the PRIT Fund is well-diversified and carefully engineered, with components that will perform well in any future environment.

Investment Committee member Connie Everson, CFA, provided her comments on the economy and markets.

PRIT Fund Performance

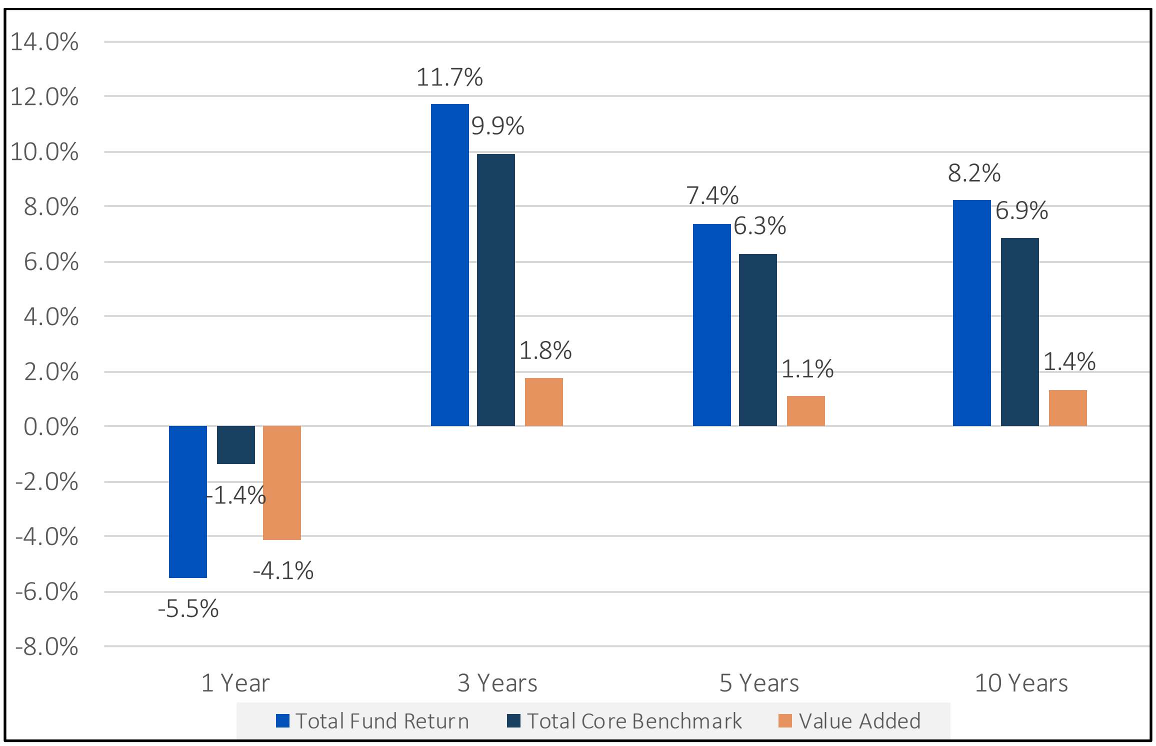
Mr. Trotsky noted for the one-year period ended March 31, 2023, the PRIT Fund was down -5.5%, (-5.9% net), underperforming the total core benchmark of -1.4% by 412 basis points (451 bps net).

- This performance equates to an investment loss of $6.0 billion, net of fees.
- This underperformance equates to $4.6 billion of value below the benchmark return, net of fees.
- Net total outflows to pay benefits for the one-year period ended March 31, 2023, were approximately $816 million.

The following chart summarizes the PRIT Fund performance for the one-year ended March 31, 2023.

Total PRIT Fund Returns

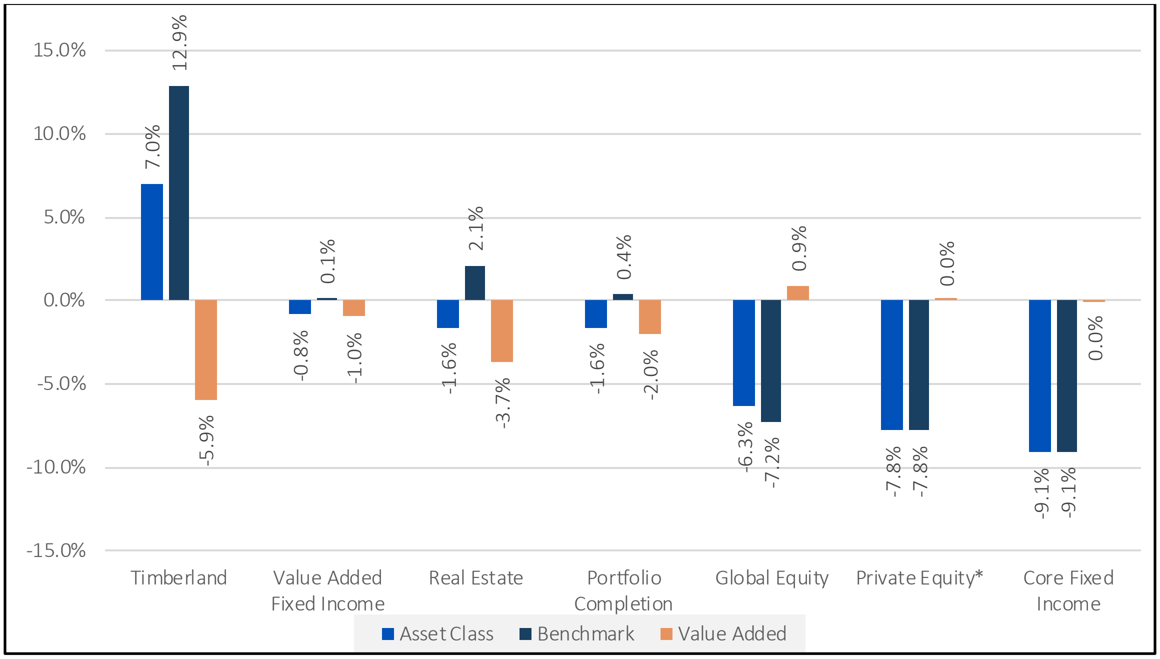
Annualized Returns as of March 31, 2023 (Gross of Fees)



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

PRIT Performance by Asset Class

(Gross of Fees) Annualized Returns as of March 31, 2023



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

PRIT Fund Periodic Table of Returns
(Gross of Fees) as of March 31, 2023

1 Year	3 Year	5 Year	10 Year
TIMBER 7.0%	PRIVATE EQUITY 24.0%	PRIVATE EQUITY 21.7%	PRIVATE EQUITY 20.6%
VALUE-ADDED FIXED INCOME (0.8%)	GLOBAL EQUITY 16.4%	REAL ESTATE 9.8%	REAL ESTATE 10.2%
REAL ESTATE (1.6%)	REAL ESTATE 12.9%	GLOBAL EQUITY 6.8%	GLOBAL EQUITY 8.4%
PORTFOLIO COMPLETION STRATEGIES (1.6%)	TIMBER 8.2%	TIMBER 5.3%	TIMBER 6.0%
GLOBAL EQUITY (6.3%)	VALUE-ADDED FIXED INCOME 7.8%	VALUE-ADDED FIXED INCOME 4.2%	VALUE-ADDED FIXED INCOME 4.3%
PRIVATE EQUITY (7.8%)	PORTFOLIO COMPLETION STRATEGIES 5.7%	PORTFOLIO COMPLETION STRATEGIES 2.8%	PORTFOLIO COMPLETION STRATEGIES 3.8%
CORE FIXED INCOME (9.1%)	CORE FIXED INCOME (3.8%)	CORE FIXED INCOME 1.4%	CORE FIXED INCOME 2.4%

Source: BNY Mellon

III. Public Markets (Voting Item)

A. Performance Summary

Michael McElroy, CFA, Senior Investment Officer - Director of Public Markets, provided an update on Public Markets performance.

Mr. McElroy stated the first quarter of 2023 was a continuation of the positive market action that we witnessed last quarter. Global equity returns were positive, with developed market returns of 7-8% outpacing those of the emerging markets, which were up about 4%. Growth stocks outperformed value stocks in the quarter, and larger stocks outperformed smaller stocks. Over the last 12 months, global equities declined between 4-8%, broad-based with only energy and consumer staples stocks able to deliver positive returns. Over that period, value stocks outperformed growth stocks.

Bond returns were also positive in Q1, both in core fixed income as well as the more credit-sensitive sectors. Returns ranged between 3-4% in the quarter. Over the last 12 months, core fixed income, which is more sensitive to the direction of interest rates, was down approximately 9%. While the value-added fixed income, which is less sensitive to interest rate movements, did provide some downside cushion, with those strategies only down approximately 1%. The US and many developed markets yield curves remain inverted, and the Fed funds rate was increased over the quarter, but expectations from this point are for smaller and few (if any) additional increases, with the potential for easing depending on market reaction to these measures.

Results for the PRIT Fund were strong. All regions of our Global Equity portfolio outperformed in Q1, with the strongest results from our Emerging Markets managers. For the year, our US and Emerging Markets managers outperformed, but our Developed International exposure (particularly the growth style) lagged its benchmark. Fixed Income results were mixed in Q1, Core slightly outperformed, and Value-Added slightly underperformed. Over the past year, Core Fixed Income was in-line with benchmark, while our Value-Added Fixed Income underperformed due to credit conditions weakening over the period.

The two most prominent macroeconomic topics impacting markets remain inflation and the potential for recession. Goods inflation continues to moderate (if not decline) in most geographies, as supply chains have balanced, and demand has softened a bit. Labor inflation (due to labor shortages and wage costs) remains sticky, with no immediate respite in sight. Something that could ease labor inflation would be recession and recession watch continues to be a focus. We continue to monitor on going market conditions with each central bank movement, and this is a topic discussed with all our managers to get their views and positioning.

Mr. McElroy stated that our managers have brought to our attention several positives which have helped support markets recently. Chinese economic activity continues to drive both domestic and overseas demand, and government policies supportive to a stronger Chinese information technology sector have lifted global sentiment in this sector. Global companies are still reporting decent fundamentals, both in terms of revenues and earnings relative to expectations. Consumers remain healthy, and companies are adapting their operations in the event of prolonged inflation or recession.

Risk management continues to be a focus of our work, in conjunction with our managers. In addition to the frequently referenced issues such as the ongoing Russia/Ukraine war (and its potential geopolitical effects) and the potential impact of global housing price declines on consumer behavior, newer areas of focus relate to the health of the US and non-US banking and non-banking financial sectors, and the imminent negotiations around debt ceiling levels and their impact on global bond markets. Though bond spreads have been tight and well-behaved, we continue to monitor for signs of a credit crunch due to decreasing deposit levels as suppressed loan activity could lead to suppressed economic activity.

In closing, Mr. McElroy noted we anticipate near-term market volatility to remain high. PRIM's public markets portfolio is well-diversified across geographies, styles and sectors, and our managers have performed well as a group through recent market action and very well over longer periods. Through several layers of diversification, the aggregate risk of the overall equity and fixed income portfolios remains low.

B. Global Equity Benchmark Recommendation (Voting Item)

Shannon Ericson, Senior Investment Officer – Risk Management presented the Global Equity Benchmark recommendation.

Ms. Ericson noted PRIM hired Verus as a benchmark consultant in January 2021. One of the initial objectives for Verus was to help PRIM perform a comprehensive review of all benchmarks PRIM uses. To date, PRIM and Verus have reviewed and implemented recommended changes for PRIM's Private Equity, Global Equity, Core Fixed Income, Value-Added Fixed Income, Private Debt and Real Estate benchmarks.

Ms. Ericson provided two benchmark recommendations for the Domestic Equity portfolio and the overall Global Equity portfolio and noted plans to complete this benchmark review at the August 2023 Board meeting with recommendations for Other Credit Opportunities and Real Assets. A comprehensive benchmark review will be conducted every 3-5 years.

Ms. Ericson provided an in-depth overview of the two benchmark recommendations to change the asset class benchmarks. The first recommended change is to the asset class benchmark for Domestic Equity from fixed weight (85% Custom S&P 500, 15% Total Small/SMID/Micro-cap Equity BM) to the MSCI USA IMI Gross Index. The second recommendation is to change the Global Equity benchmark from fixed weight (56.9% Domestic Equity Benchmark, 43.1% ASWI Ex-USA IMI) to MSCI ACWI IMI with USA Gross Index. Using cap weighted benchmarks is better practice in the industry and recommended by Verus. Both country and region allocations of a cap weighted benchmark reflect PRIM's strategic views on asset allocation. Moving away from fixed benchmark weights reduces trading costs. Cap-weighted benchmarks move with the market which reduces the need to trade back to fixed benchmark weights when portfolio weights drift due to market moves.

The PRIM Investment Committee voted, by unanimous roll-call vote, to make a recommendation to the PRIM Board to approve changing the Domestic Equity and Global Equity benchmarks to the MSCI USA IMI Gross and the MSCI ACWI IMI with USA Gross indices, respectively, effective July 1, 2023, as described in the Expanded Agenda, and further to authorize the Executive Director to take all actions necessary to effectuate this vote.

IV. Portfolio Completion Strategies Performance Summary

Bill Li, CFA, CAIA, Senior Investment Officer – Director of Portfolio Completion Strategies, provided an update on Portfolio Completions Strategies (PCS) performance, noting the PRIT PCS portfolio delivered another steady quarter, returning 1.34% and the PRIT Hedge Fund portfolio returned 1.70%. PRIM groups Hedge Funds based on their characteristics into Stable Value or Directional. In Q1, these two groups returned 1.2% and 2.8%, respectively.

Mr. Li noted that at PRIM's last Investment Committee, the Risk Group's recommendation was approved to change the Hedge Funds benchmark from a Hedge Fund peer-based approach to a market index-based approach, which measures the opportunity cost of investing in alternative assets. This new Hedge Fund benchmark went into effect March 1, 2023. As a result, the Q1 Hedge Fund benchmark captured the Hedge Fund industry's better returns in January and February, as well as public market's strong experience in March, blending into an artificial number of 3.0%, noticeably higher than each component. Despite a decent absolute return of 1.7%, PRIT Hedge Fund reported underperformance of 130 basis points.

Looking at the PRIT Fund's longer-term performance, the trailing 3-years the PCS Portfolio annualized 6.6% with a mere 4.4% volatility, translating into a 1.5x Sharpe ratio. The PRIT Fund Hedge Fund sleeve is performing as it is designed, lower volatility than Bonds, Stocks, and a 60/40 mix, with returns in between stocks and bonds. Higher returns than bonds with lower volatility, much less volatility when compared to stocks, and low beta to both the stock and bond market. This makes the Sharpe ratio of the Hedge Fund (the risk adjusted return) higher than stocks, bonds, and even a 60/40 mix. A higher risk adjusted return with low correlation to our largest exposures means that the Hedge Fund portfolio is a valuable diversifying asset class for the PRIT Fund.

V. Private Equity Performance Summary

Michael McGirr, CFA, Senior Investment Officer - Director of Private Equity, provided an update on Private Equity market performance. Mr. McGirr reminded everyone of Private Equities quarter lag, and this is the October through December 2022 quarter summary. Private Equity was up 0.81% (Net: 0.53%); trailing 1-year return for Private Equity was negative 7.8% gross (Net negative 8.8%), which looks strong on a relative basis. Our 3-, 5- and 10-year numbers of 24%, 22%, and 21% respectively (Gross) remain strong. Venture Capital and Growth Equity continued to give back some of their gains from 2020/2021. Venture Capital was down another 5% for the quarter and down 22% for the trailing 1-year. Growth Equity was down 1.2% for the quarter and down 19% for the trailing 1-year. Buyouts have been more resilient.

Mr. McGirr noted our entire Private Equities assets grew slightly to a total of $16.4 billion and decreased slightly as a percentage of PRIT Fund (17.4%), given the strong PRIT Fund performance in Q1. Regarding our pipeline, the team has been hard working and proactive, which has given us the strongest pipeline of attractive private equity opportunities that I have seen during my time here at PRIM.

The PRIM Investment Committee meeting adjourned at 11:57 a.m.

<u>List of documents and exhibits used during the meeting</u>:

- *Minutes of the PRIM Investment Committee Meeting on January 31, 2023*
- *PRIT Fund Performance Report (March 31, 2023)*
- *BNY Mellon Gross of Fees Performance Report (March 31, 2023)*
- *Global Equity Benchmark Presentation*
- *Verus Investments' Global Equities Benchmark Recommendation Memorandum*