



**PENSION RESERVES  
INVESTMENT  
MANAGEMENT BOARD**

Minutes of the PRIM Investment Committee Meeting  
Tuesday, July 31, 2018

Committee member attendees:

- Treasurer Deborah B. Goldberg, Chair
- Joseph C. Bonfiglio
- C. LaRoy Brantley (arrived at 9:50 a.m.)
- Michael Even, CFA
- Constance M. Everson, CFA
- Ruth Ellen Fitch, Esq.
- James B. G. Hearty
- Peter Monaco
- Philip Rotner
- Paul E. Shanley, Esq.
- Glenn P. Strehle, CFA
- Timothy L. Vaill

The PRIM Investment Committee was called to order at 9:40 a.m.

**I. Approval of Minutes (Voting Item)**

The PRIM Investment Committee unanimously approved the minutes of its May 1, 2018, meeting.

**II. Executive Director/Chief Investment Officer Comments**

C. LaRoy Brantley arrived at 9:50 a.m.

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

Fiscal year 2018 was another exceptionally strong year for PRIM. The PRIT Fund returned 10.0% gross (9.5% net) for the fiscal year, 140 basis points above benchmark, net of fees, and we know of no other fund of our size or larger that outperformed us. Six of seven major asset classes outperformed their benchmarks net of fees. Private Equity returned 19.9% for the year, Global Equities returned 11.7%, Real Estate returned 8.9%, and Timberland returned 7.4%. Portfolio Completion Strategies (PCS), now 13.4% of the total PRIT Fund, returned 6.8% net of fees, 78 basis points above the benchmark while exhibiting low realized volatility of approximately 2.8%.

We evaluate the performance of the PRIT Fund on three equally important metrics: return, risk, and cost. As mentioned earlier, the returns of each asset class and the entire PRIT Fund were very strong both relative to the benchmarks and in absolute terms, and importantly, expenses and risk remained tightly controlled. Even with the Board-approved, larger allocation in the fiscal year to high-performing, actively managed alternative asset classes such as Private Equity and PCS, we are pleased to report that the ratio of total expenses was 53 basis points in fiscal year 2018, compared with 54 basis points in fiscal year 2017. This decrease highlights our continuing efforts related to Project SAVE as well as our focus on lower-fee separately managed accounts in our PCS portfolio, the success of our Private Equity co-investment program, and new direct Real Estate investments, among other things. Moreover, the 9.5% return of the

PRIT Fund for the year was achieved with a realized volatility of 4.3%, producing a very high Sharpe ratio of approximately 1.8. We believe this Sharpe ratio, which measures the risk-adjusted return of the PRIT Fund, would be among the highest in the country, meaning our portfolio is higher returning relative to our peers even though it has comparatively lower risk, and low cost. PRIM's strong performance in both up markets such as fiscal year 2018 and calendar year 2017, combined with our strong outperformance in down markets like we had in fiscal year 2016 (nation-leading, positive performance), gives us confidence that our investment program is performing as designed.

Constance M. Everson, CFA, Investment committee member discussed how the current economic picture is reminiscent of the markets of mid-2014 through early 2106, when there was an unprovoked correction in world financial markets. Current conditions include: 1) Narrowing stock markets. The equity rebound since early May has left many global markets, and many US sectors behind. 2) Liquidity issues - It became difficult to secure US dollars from outside the US in 2015. Symptoms such as a selloff in emerging markets currencies, are suggesting difficulty again now. 3) The economic situation- There were vulnerabilities in the global economy before there were tariffs. Tariffs are an additional negative for global growth. Ms. Everson further discussed how equity markets generally peak at the peak acceleration of earnings not on the earnings peak itself and that there is some risk that earnings growth cannot accelerate indefinitely.

### **PRIT Fund Performance Summary**

In this environment, the PRIT Fund has performed well:

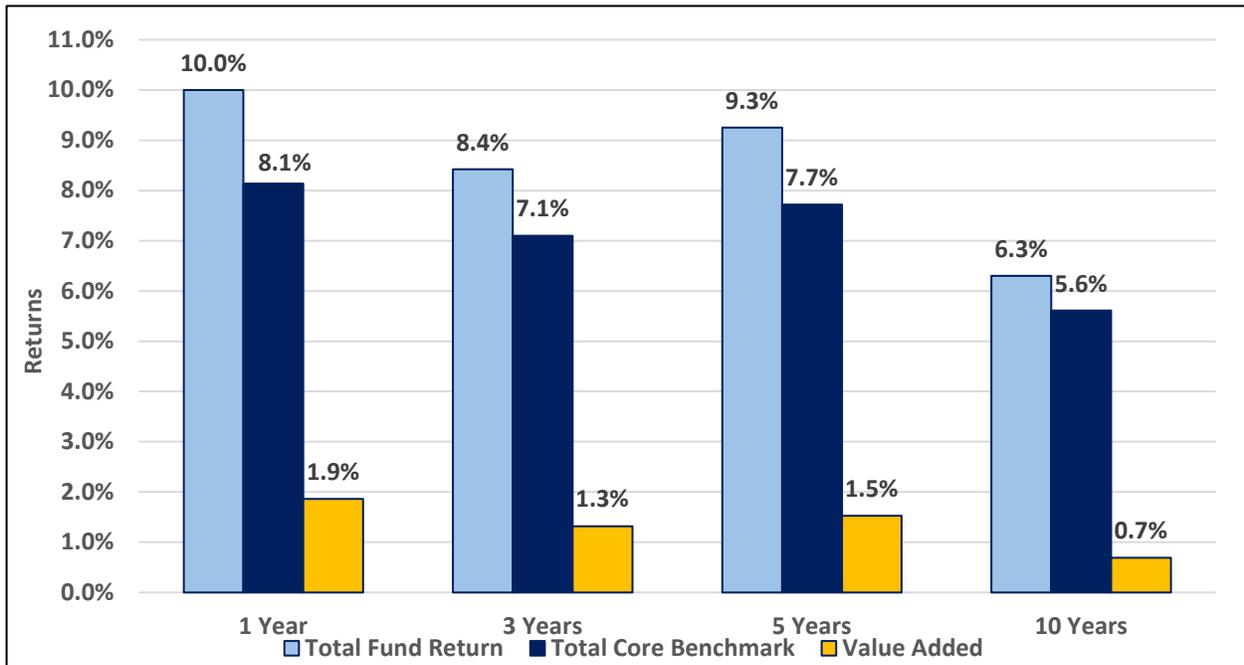
As of June 30, 2018, the PRIT Fund net asset value stood at \$71.8 billion. For the one-year ended June 30, 2018, the PRIT Fund rose 10.0% gross (9.5% net), outperforming the total core benchmark of 8.1% by 186 basis points (140 bps net).

- This performance equates to an investment gain of \$6.4 billion, net of fees.
- This outperformance equates to \$935 million of value above the benchmark return, net of fees.
- Six of the seven major asset classes outperformed their respective benchmarks.
- Net total outflows to pay benefits for the one-year ended June 30, 2018, were approximately \$1.4 billion.

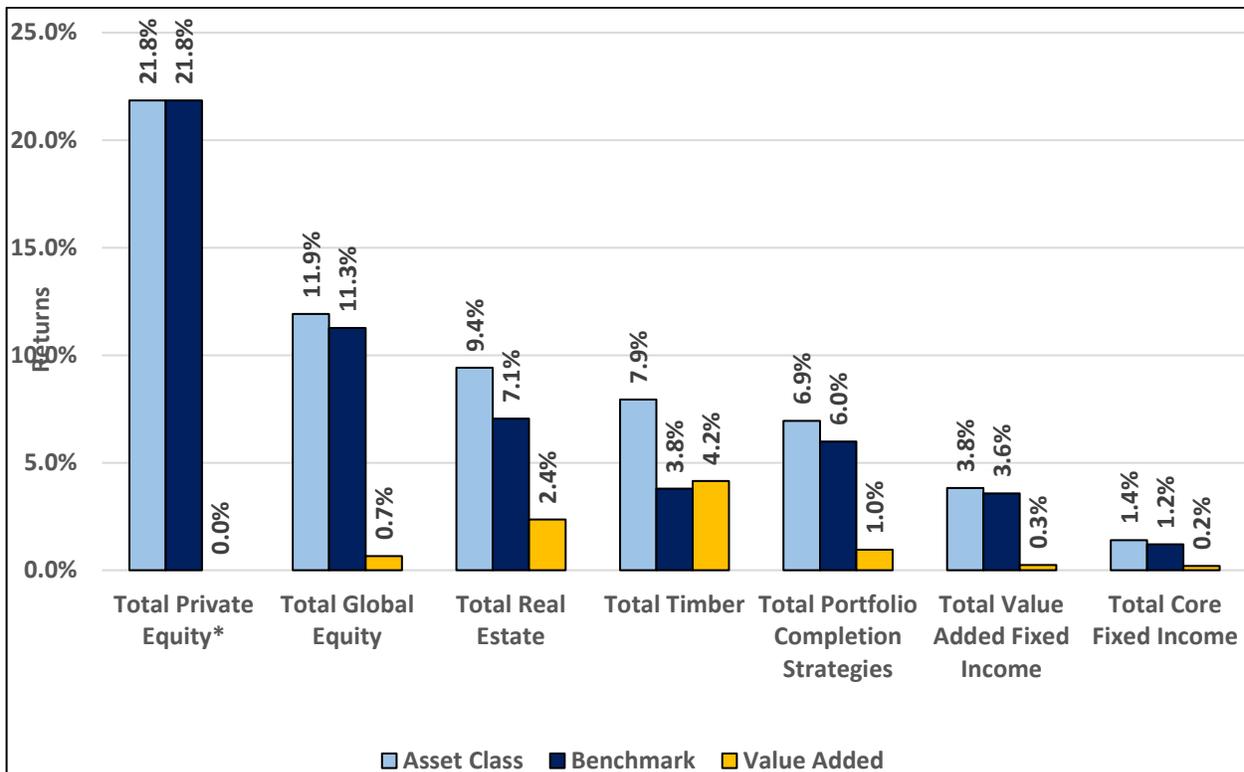
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Mr. Trotsky made reference in his remarks to the following charts:

**Total PRIT Fund Returns (Gross of Fees)**  
Annualized Returns as of June 30, 2018



**PRIT Asset Class Performance (Gross of Fees)**  
One Year Ended June 30, 2018



**PRIT Core Fund Performance Summary**  
**Gross of Fees Performance**  
Trailing 1-Year Performance as of June 30, 2018

Trailing 1-Year Performance: June 30, 2018	Return	Benchmark Return	Over/(Under) Benchmark (bps)	\$Value (millions)	% of PRIT Fund
<b>Total PRIT Fund</b>	<b>10.0%</b>	<b>8.1%</b>	<b>186</b>	<b>71,802</b>	<b>100%</b>
<b>Total Global Equity</b>	<b>11.9%</b>	<b>11.3%</b>	<b>66</b>	<b>30,064</b>	<b>41.9%</b>
<i>Domestic Equity</i>	<i>15.6%</i>	<i>15.4%</i>	<i>25</i>	<i>13,696</i>	<i>19.1%</i>
<i>International Developed</i>	<i>8.7%</i>	<i>8.0%</i>	<i>69</i>	<i>11,831</i>	<i>16.5%</i>
<i>Emerging Markets</i>	<i>9.1%</i>	<i>7.8%</i>	<i>129</i>	<i>4,537</i>	<i>6.3%</i>
<b>Private Equity</b>	<b>21.8%</b>	<b>21.8%</b>	<b>0</b>	<b>7,735</b>	<b>10.8%</b>
<b>Real Estate</b>	<b>9.4%</b>	<b>7.1%</b>	<b>236</b>	<b>6,455</b>	<b>9.0%</b>
<b>Total Timberland</b>	<b>7.9%</b>	<b>3.8%</b>	<b>415</b>	<b>2,434</b>	<b>3.4%</b>
<b>Total PCS</b>	<b>6.9%</b>	<b>6.0%</b>	<b>95</b>	<b>9,622</b>	<b>13.4%</b>
<b>Value Added Fixed Income</b>	<b>3.8%</b>	<b>3.6%</b>	<b>25</b>	<b>5,760</b>	<b>8.0%</b>
<b>Core Fixed Income</b>	<b>1.4%</b>	<b>1.2%</b>	<b>20</b>	<b>9,154</b>	<b>12.8%</b>

**PRIT Asset Class Performance (Gross of Fees)**  
Annualized Returns as of June 30, 2018

1 Year	3 Year	5 Year	10 Year
PRIVATE EQUITY 21.8%	PRIVATE EQUITY 18.3%	PRIVATE EQUITY 19.4%	PRIVATE EQUITY 13.6%
GLOBAL EQUITY 11.9%	REAL ESTATE 9.4%	REAL ESTATE 10.8%	REAL ESTATE 6.9%
REAL ESTATE 9.4%	GLOBAL EQUITY 9.1%	GLOBAL EQUITY 10.0%	VALUE-ADDED FIXED INCOME 6.8%
TIMBER 7.9%	TIMBER 5.5%	TIMBER 7.6%	GLOBAL EQUITY 6.6%
PORTFOLIO COMPLETION STRATEGIES 6.9%	VALUE-ADDED FIXED INCOME 5.0%	PORTFOLIO COMPLETION STRATEGIES 4.8%	TIMBER 4.6%
VALUE-ADDED FIXED INCOME 3.8%	CORE FIXED INCOME 3.6%	VALUE-ADDED FIXED INCOME 4.4%	CORE FIXED INCOME 4.0%
CORE FIXED INCOME 1.4%	PORTFOLIO COMPLETION STRATEGIES 3.3%	CORE FIXED INCOME 4.3%	PORTFOLIO COMPLETION STRATEGIES 3.2%

Organizationally, fiscal 2018 was another outstanding year. One senior-level employee departed, the first such departure in several years, and consistent with the Board-approved hiring plans, we filled six staff vacancies with top talent. We are staffed with exceptional investment and finance professionals, and all our job postings attract literally hundreds of talented and well-qualified applicants. Our team continues to be recognized around the nation for the success and innovation of our investment program and for the

transparency and completeness of our financial reporting. Our comparatively small staff researched and deployed approximately \$5.4 billion in new Board-approved investments in fiscal year 2018 – a new milestone for PRIM’s productivity.

We have never been stronger or more productive, but retention of key employees remains my primary concern. The employment environment in the nation and in the region is strong – meaning there are numerous opportunities for our employees outside of PRIM - and we have spent considerable time and effort on retention strategies for PRIM employees. We continue to ensure that we provide a challenging and rewarding opportunity for all our employees, and that PRIM continues to maintain a positive culture and working environment that our employees enjoy and value. We owe a great deal of gratitude to our Board and committees for providing the support necessary to advance our investment program and to attract and retain the highly-qualified employees who have created one of the best performing public pension plans in the nation.

We are truly privileged to have volunteers of such high caliber and professional achievement on the PRIM committees and Board, and we recognize that our success is due in large part to your dedication, hard work, and expert oversight.

### **Recent Recognition**

The *American Investment Council* ranked PRIM Private Equity **#1 in private equity returns** among 163 U.S. public pension fund in 2018 based on trailing 10-year performance. PRIM is the only fund that has been in the Top 5 of all private equity portfolios in every year the *American Investment Council* has performed the study (since 2012) – including previous #1 rankings in 2015 and 2013.

In May, and for the 13<sup>th</sup> consecutive year, PRIM was awarded the *Government Finance Officer Association’s* Certificate of Achievement for Excellence in Financial Reporting for the completeness and timeliness of our Comprehensive Annual Financial Report.

Michael McGirr, Senior Investment Officer on the Private Equity team, was awarded the Treasurer’s 2018 Citation for Outstanding Performance. Those selected for this honor have made notable contributions to the office of the Treasurer, and the citizens of Massachusetts.

Michael Trotsky, CFA, Executive Director and Chief Investment Officer, was elected Vice-Chair of *the CFA Society Boston* in late June. In the ordinary course of succession at the CFA, the Board’s Vice-Chair is likely to serve as Chair of the Board in the following year. The *CFA Society Boston* serves more than 5,700 members in the greater Boston area. Last August, Michael completed his 3-year term as a Governor of the *CFA Institute*. The *CFA Institute* is the global parent of the *CFA Society Boston*, serving more than 150,000 members worldwide.

### **New PRIM employees**

**Jennifer Kuhn** joined in May as Director of Human Resources. Jennifer was employed for nearly 15 years at Big Brothers Big Sisters of Massachusetts Bay, where she was most recently the Director of Human Resources. She began her career as a portfolio administrator at The Colony Group, and was also the Assistant Director of Development at Horizons for Homeless Children. She holds a bachelor’s degree in Business Administration from Elon University.

**David Griswold** joined in June as the Director of Information Technology. David has more than 20 years of information technology and communications experience and is joining us after 12 years at The Hancock Natural Resource Group (HNRG) and Forest Capital Partners. During his time at HNRG and Forest Capital, David was responsible for managing an international team of engineers and analysts, covering a variety of technology functions. David holds a bachelor’s degree in Business Management with a concentration in Computer Science from Bentley College.

**Sylvia Argiropoulos** joined in June as Administrative Assistant. She will support the Real Estate and Timberland and the Portfolio Completion Strategies team. Sylvia brings 25 years of administrative experience to PRIM, most recently an Executive Assistant at Ernst & Young supporting their audit and consulting partners. Sylvia has her Associate Degree from Cape Cod Community College.

This summer we are pleased to welcome two interns from the Treasurer's *Women in Finance* initiative. **Anmei Zhi** is working with the Real Estate and Timber team and is a rising junior from Smith College. **Isabelle Tabak** is working with the Public Markets team and is a rising junior from Babson College.

Additionally, we welcome one intern who joins us from the national program, Girls Who Invest. **Alexis Sabbaghian** is a rising junior from Boston College and is working with the Private Equity team.

I also want to congratulate **Andre Abouhala**, Investment Analyst on the Public Markets Team, who earned an MBA from Boston University in May.

### III. **Project SAVE: Phase II Update**

Michael Even, Investment Committee member, presented an update on Project SAVE: Phase II Internal Investment Management.

Mr. Even noted the goals of Project SAVE – Phase II as 1) enhance returns and optimize risk; 2) management fee savings; 3) attract and retain top-notch employees; and 4) better insight in managing external investment managers; 5) continue thought leadership and innovation.

Mr. Even explained the seeding platform idea. The seeding platform will encompass a back-office structure with trading, compliance and all other necessary operational functions required to manage money. The intention is to start slowly. Mr. Even discussed the ability to provide seed capital and operating capital for teams, either internal or external, who have the interest and the ability to manage money for us.

Mr. Even noted the basic challenges including governance, legal structure and staffing.

### IV. **Public Markets Performance Summary and Global Equities Overview**

David Gurtz, CPA, CFA, Deputy Chief Investment Officer – Director of Public Markets, Andre Clapp, Ph.D. CFA, Senior Investment Officer – Public Equities, and Chuck LaPosta, Senior Investment Officer – Fixed Income, provided the Committee with the Public Markets Performance Summary and an overview of the Global Equities Portfolio.

#### **Overview of Global Equities:**

Mr. Gurtz noted that Global Equities is the largest asset class of the PRIT Fund. The target allocation is 39%. As of June 30<sup>th</sup>, the actual was approximately 42%. Global Equities is divided up into 3 sub-asset classes – Domestic, Developed International and Emerging Markets. The target weights for these are 45%, 40% and 15%, respectively – which when compared to the ACWI – the PRIT Fund has an underweight to Domestic and over weights to Developed International and Emerging Markets. PRIM staff will be reviewing these over/under weights as part of our annual asset allocation review later this year.

In addition to the Global Equities asset class, the PRIT Fund has equity exposure in other asset classes. Thus, the total equity exposure of the PRIT Fund is approximately 50%. Over the last decade Global Equities has had very strong absolute returns – helping drive the returns of the PRIT Fund at a reasonable cost.

Dr. Clapp updated the Committee on the PRIT Fund's Global Equity portfolio and his comments included the following:

One of the most important things that we do in Public Equities is to determine which markets are suitable for active management and in which markets indexing is most appropriate. PRIM's active management philosophy in a nutshell is: the more inefficient a market is, the more active we want to be. In highly

efficient markets active management generates a lot of risk for little or no excess return, and PRIM should be indexed there. In inefficient markets where managers can add significant excess return net of fees, we pursue active management with determination.

The U.S. Large Cap market, the S&P500, which PRIM feels is the most efficient equity market in the world, the portfolio is 100% indexed. On the other end of the efficiency spectrum, Emerging Markets (EM) small cap and Frontier Markets, two of the least efficient equity markets in the world, the Median Alpha net of fees is high. PRIM's active managers have beaten these markets by 3.5% and 4.6% net of fees annualized over the last 3 years, which adds to our conviction that these are highly inefficient markets where active management can add large excess returns.

Dr. Clapp noted recent investment allocations based on the philosophy: the more inefficient a market is, the more active we want to be. These investments include in 2017 increasing active management in EM to 75% active/25% passive from a 50%/50% split, shift to 100% passive in large cap U.S. equities in 2016, adding active International Small Cap in 2017, and in 2018 moving to 100% active management in EM.

Dr. Clapp noted the performance of three major Public Equity asset classes excess returns have been strong and stable over all time periods. Within Developed International, Marathon is PRIM's largest active equity manager, managing \$2.8B, and has been working for PRIM for over 20 years. Marathon has demonstrated true skill in picking stocks for PRIM. Emerging Markets excess return net of fees for the last three years has been excellent at 2.3% annualized. Lastly, Domestic Equity, which you can see has been a problem area for relative return, aside from the most recent one-year period. Dr. Clapp noted the history of the PRIT Fund investments in U.S. Small/SMID Cap equities.

Mr. LaPosta updated the Committee on the PRIT Fund's Fixed Income portfolio and his comments included the following:

The Fed has hiked rates 100bps in the past 12 months (June 17, Dec 17, Mar 18, and June 18); Fed Funds is now in a range of 175-200bps. Markets are pricing in a 91% chance of a 25bp rate hike in September, and a 50% chance of an additional rate hike in December. The yield curve has exhibited bear flattening over the past 12 months with the 2 year up 114 bps, 10 year up 56bps, and 30 year up 17bps. The fact that 2 year yields have risen more than fed funds reinforces the belief that the Fed has more tightening to go. Muted inflation concerns have kept long rates from rising as much

Bank Loans +4.7% and Inflation Linked Bonds +2.9% were the best performing Fixed Income (FI) assets. These are two allocations we added to as part of the 2017 asset allocation process as we sought protection from inflation. Bank Loans are floating rate and benefit from rising short term rates which are 104bps higher year-over-year (YoY). TIPS benefit from rising headline inflation which is 120bps higher YoY. High Yield (HY) is next best at 2.7% as lower quality continues to outperform. HY spreads are 11bps tighter on the year compared to IG which is 13 bps wider. More importantly CCC's have returned 7.5% while BB's which are more sensitive to interest rates only returned 0.6%. STRIPS have modest 1.4% positive return despite 17bp higher yields. AGG is more sensitive to front end rates and credit spreads which both contributed to negative return for Index. Our managers produced a modest +0.1% return through curve positioning (avoiding front end) and issue selection (despite wider credit spreads). Emerging Markets Debt (EMD) (an allocation we reduced in 2017) has been the worst performing FI asset class in both dollar and Local currency implementations. In Q2 the EMD dollar returned -3.5% and EM Local came in at -10.4%. EMD Dollar spreads widen 60bps in Q2 and 60bps for the year. EMD Local foreign currency returned -8.4% in Q2 and -5.2% for the year. A combination of tariffs/trade wars, a China slowdown and rising U.S. rates have been cited as causes for the sell-off in EM.

## **V. Portfolio Completion Strategies (PCS) Performance Summary**

Eric Nierenberg, Ph.D., Chief Strategy Officer, Bill Li, CFA, CAIA, Senior Investment Officer for Portfolio Completion Strategies, reviewed PCS performance, which included the following comments:

The Put Spread Collar Equity Hedge Program dynamically utilizes options to shift S&P500's return distribution. With a preferable distribution where tail risk is controlled, PRIM is more comfortable assuming equity-like exposure. The strategy is benchmarked to 0.8 times the S&P500 plus a cash return, in line with the strategy's expected risk profile. To summarize fiscal year 2018, \$2.25Bn was allocated to this strategy. For the year, the strategy returned 10.5%, outperforming its benchmark by 80bps, however, with significantly lower volatility risk, translating to a Sharpe Ratio of 2X, higher than the benchmark's 1.4X Sharpe Ratio. Mr. Li noted that the strategy performed steadily from February to June when equity market experienced higher volatility.

## **VI. Private Equity Performance Summary**

Michael Bailey, Senior Investment Officer – Director of Private Equity, provided an update on private equity performance.

Mr. Bailey said the 1-year portfolio returns for the year ended June 30, 2018 was 19.85% (net), exceeding the performance of public equity and a private equity industry benchmark.

Mr. Bailey reviewed private equity market conditions. Private equity buyers continue to benefit from access to credit at low cost and on favorable terms. Credit markets are providing support to private equity valuations. A more cautious factor is that acquisition pricing is quite high, consistent with the increase in valuations in other asset classes such as public equity. Valuations are supported by favorable macroeconomic conditions that drive strong revenues and earnings growth of private equity-backed businesses. However, private equity buyers may be increasing risk by leaning into aggressive plans to improve company growth rates. If the growth plans do not pan out, then investors such as PRIM may be disappointed, and returns may not meet expectations. Finally, fundraising activity has been high in private equity. PRIM's portfolio positioning, that rebalanced the portfolio towards managers of smaller buyout funds compared to larger funds, may protect the portfolio somewhat from the impact of the robust fundraising market.

Mr. Bailey said that with their approvals at the meeting, the Investment Committee will have approved 13 funds totaling \$1.4 billion in commitments. He referred to the \$1.8 billion (midpoint) target in private equity commitment target in the 2018 annual plan. He mentioned that co-investments completed, and in the pipeline, have reached an aggregate of nearly \$150 million in the calendar year, a total that is close to the co-investment target of 10% of total private equity commitment target.

The PRIM Investment Committee meeting adjourned at 11:12 a.m.

### List of documents and other exhibits used at the meeting:

- *Minutes of the PRIM Investment Committee Meeting of Jul 31, 2018*
- *PRIT Fund Performance Report*
- *BNY Mellon Gross of Fees Performance Report*
- *Handout – Charts for Constance M. Everson, CFA Discussion*
- *Handout – Internal Management*