



**PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD**

Minutes of the PRIM Investment Committee Meeting
Tuesday, October 29, 2019

Committee members present:

- Treasurer Deborah Goldberg, Chair (arrived at 9:40 a.m.)
- Sue Perez, Chair on behalf of Treasurer until her arrival
- Joseph C. Bonfiglio
- Constance M. Everson, CFA
- Ruth Ellen Fitch, Esq.
- James B. G. Hearty
- Peter Monaco
- Philip Rotner (arrived at 9:46 a.m.)
- Paul E. Shanley, Esq.
- Glenn P. Strehle, CFA
- Timothy Vaill

Committee members not present:

- Michael Even, CFA
- C. LaRoy Brantley

The PRIM Investment Committee meeting was called to order at 9:35 a.m.

I. Approval of the Minutes (Voting Item)

The PRIM Investment Committee (unanimously) approved the minutes of its July 30, 2019 meeting.

II. Executive Director / Chief Investment Officer Comments

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

Market Performance Summary

Worldwide economies continue to slow, some are already in recession, and GDP growth in the U.S. is expected also to continue its decline. Third calendar quarter U.S. GDP growth was 1.9%, down from 2.0% in the second quarter of 2019, and was slightly higher than estimates, mainly due to a solid increase in federal government spending. Business investment declined 3% annualized, which followed a 1% decline in the second quarter. The 1.9% third quarter GDP growth is down from the more than 3% reported in the first quarter. Consensus estimates for the fourth calendar quarter and into 2020 continue to anticipate a continued slowdown. The current consensus is for quarterly GDP growth to bottom at approximately 1% in 2020 before rising again in 2021.

Recent economic data has been mixed. For example, the Institute for Supply Management (ISM) manufacturing index of 48.3 in October remains below the 50 threshold that separates expansion from contraction, and the Chicago Purchasing Manager Index dropped to 43.2, hitting a nearly four-year low. By contrast recent jobs reports were more positive. The Labor Department reported that 128,000 jobs were added in October, well above the expectation of 75,000. The unemployment rate fell 0.2% to 3.5%

in September, a 50-year low, yet even with that positive surprise, job growth in 2019 remains below previous levels and below the average monthly rate of more than 160,000. Consumption growth slowed to 2.6% from 4.6% in the second quarter, and with job growth slowing from previous levels, further moderation is expected. Perhaps a harbinger of things to come, U.S. retail sales fell in September for the first time in seven months.

Central banks around the world, including the U.S. Federal Reserve Bank (Fed), have shifted to an accommodative stance. The Fed is expected to lower the federal funds rate a quarter of a percent at its October 30, 2019 meeting to a range of 1.50% to 1.75%, the third cut this year, following similar cuts in July and September. At the time of this meeting, 71% of the S&P 500 companies have reported quarterly earnings, and 76% of those have exceeded analysts' expectations, but corporate earnings have declined for the third consecutive quarter; on average, corporate earnings for the third quarter are 2.7% below last year's level. Meanwhile, despite the continued slowdown in global growth and a steady stream of mixed economic news, equity market returns strengthened in September and into October as investors continue to climb the proverbial "wall of worry". There is still plenty to worry about: slowing global growth, trade tensions, geopolitical tensions, political gridlock, political infighting globally, and military escalations in the middle east, to name just a few. Yet the S&P 500 index is making regular new all-time highs, while international equities are likewise rebounding. Bond yields are off their lows for the year (the 10-yr hit 1.47% in September), but these ultra-low levels (negative in some geographies) continue to indicate a lack of confidence in the global markets.

As discussed at the July PRIM Investment Committee meeting, we identified several reasons to remain cautious, and we recognized a divergence between economic sentiment and expectations versus actual economic performance. Markets eventually react to mismatches of data and expectations, so we will be watching closely in the coming months for confirming data to support the recently rising equity markets. Something to watch closely is the widely held belief that the consumer (the driving force of economic growth in the U.S.) is healthy, but there are already some worrisome signs: average hourly earnings are down, average weekly hours are down, retail sales were down in September, and monthly employment growth, while still positive, is slowing.

We think of the recent strength of equity markets in terms of three possibilities:

Scenario 1: The recent strength in equities is a counter-trend move. When trades become as one-sided as they were by late-summer, markets can try out the opposite scenario. In other words, perhaps the market weakness in the summer months was too extreme, and the recent bounce is merely a reversal.

Scenario 2: The recent strength in equities is an early indication of a stronger global economy. Changes in equity sector performance can be a first sign of regime change. If something really different is developing in the global economy, there will need to be evidence in orders and in spending. So far, global conditions are still deteriorating. This could change with confirming data.

Scenario 3: Shares that powered the U.S. market to rebounds from sell-offs in 2018 and 2019, and held it at high levels since, have more recently faltered. We highlighted recently at the PRIM Investment Committee meeting the historic, but temporary, reversal into value stocks. If new leadership is not sustained, if the strength in the markets continues to be the result mainly of a narrow group of high performers, then equity markets are still vulnerable.

Bottom line: We will be watching closely for confirming data to support the recently rising equity markets and we continue to believe that the carefully constructed PRIT Fund asset allocation will enable strong performance in any of these potential scenarios.

Organizational Update

With the increase in PRIM's assets under management and our increasingly sophisticated investment strategies, and the increase in our number of clients, PRIM is continuing to add to its staff. PRIM currently has eight job openings for which we have received more than 2,500 applications.

We recently welcomed one new employee. Minching Kao, who joined the Real Estate and Timberland team this month as an Investment Analyst. Most recently, Minching was with Beacon Capital Partners in Boston as a Senior Acquisitions Analyst. Prior to Beacon, Minching held positions at the Boston real estate advisor GFI Partners, and at National Valuation Consultants in Denver, CO. Minching holds a bachelor's degree in Finance and English from Tung Hai University in Taiwan and an MBA and Master of Science in Real Estate and Construction Management from the University of Denver.

In the area for recognition for PRIM staff members, Qingmei Li, PRIM's Financial Reporting Manager, was awarded the Treasurer's 2019 Citation for Outstanding Performance. Those selected for this honor have made notable contributions to the office of the Treasurer, its agencies, and the citizens of MA. In early June, for the 14th consecutive year, PRIM was awarded the GFOA's (Government Finance Officer Association's) *Certificate of Achievement for Excellence in Financial Reporting*. This award recognizes the completeness and timeliness of PRIM's Comprehensive Annual Financial Report, the CAFR. Qingmei manages the production of the CAFR and an increasing number of audits that have dramatically increased in complexity in lock-step with PRIM's increasingly innovative investment program. Qingmei is the driving force behind PRIM's financial statements consistently having clean audit opinions.

Michael McGirr, CFA, has accepted an invitation from the Institutional Limited Partners Association (ILPA) to join its newly created Content Committee. This committee is responsible for creating and curating content that will be beneficial for the ILPA's membership, which includes more than 500 international institutional private equity investors from peer public pension funds, corporate pension funds, endowments and foundations.

And last, PRIM's Executive Director and Chief Investment Officer, Michael Trotsky, CFA, has been awarded the *Lifetime Achievement Award* from Institutional Investor. He will receive this honor at the annual Allocators' Choice Awards on December 3, 2019 in New York City.

PRIT Fund Performance Summary

Last quarter, we highlighted that the largest component of the relative underperformance for the trailing 12 months was due to the "*Actual v. Target Weight Divergence Effect*." This divergence is caused by the inability to precisely match the actual PRIT Fund assets to the target allocation of illiquid alternative investments. This was still the case in the September quarter. We were overweight poorly performing global equities as a result of being underweight the target private equity allocation, which performed strongly. This was the major source of the underperformance reported relative to the PRIT Fund's benchmark.

The PRIT Fund benchmark is based on its target asset allocation and not on the actual allocation. It is not always advisable, practical, or even possible to identify and invest in PRIM's high-performing, illiquid alternative investments such as private equity quickly enough to match the target allocation, particularly in volatile market environments. The current comparison to the target allocations penalized us during the last 12 months for not being able to invest quickly enough in PRIM's higher-performing, illiquid alternatives – Private Equity in particular. We will be addressing this divergence effect and may have a solution to propose for consideration at the next Committee/Board meeting in February, but the real news here is good, namely that the PRIT Fund's target allocations are performing well, it just takes time to reach the targets.

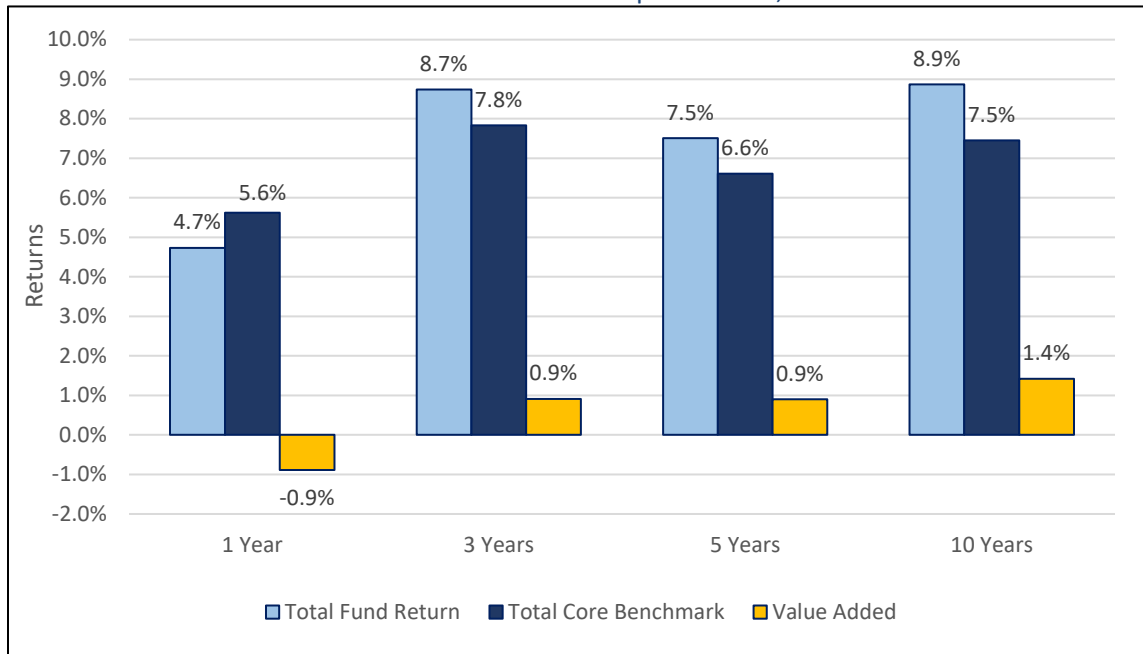
The other much smaller contributor to underperformance for the 1-year period was due to weakness in a few specific strategies that we have discussed for several quarters, including Real Assets, the Put Spread Collar strategy (Equity Hedged program), Real Estate, and Private Debt. We understand the reasons for the underperformance, we believe that they are temporary in nature, and in all cases we have taken steps to address these underperforming areas, and in fact each of the underperforming areas had a much stronger September quarter, and the PRIT Fund’s longer term 3-, 5-, and 10-year performance remains strong.

- For the one-year as of September 30, 2019, the PRIT Fund was up 4.7% (4.3% net), underperforming the total core benchmark of 5.6% by 89 basis points (133 bps net).
- This performance equates to an investment gain of \$3.5 billion (\$3.2B net).
- Net total outflows to pay benefits for the one-year ended September 30, 2019 were approximately \$960 million.

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

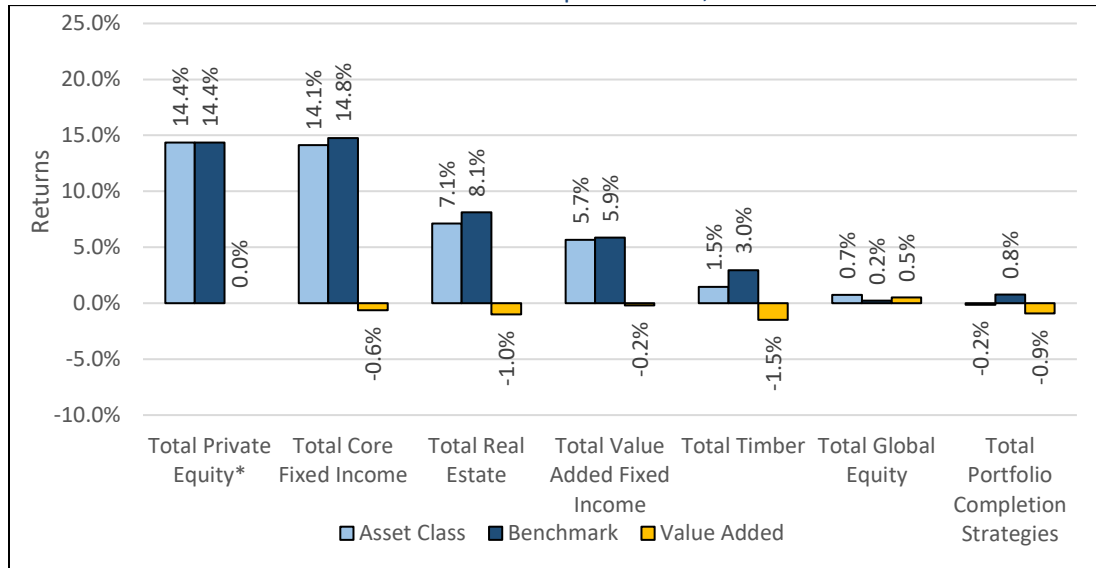
Total PRIT Fund Returns (Gross of Fees)

Annualized Returns as of September 30, 2019



PRIT Asset Class Performance (Gross of Fees)

One Year Ended September 30, 2019



PRIT Fund Periodic Table of Returns (Gross of Fees)

Annualized Returns as of September 30, 2019

1 Year	3 Year	5 Year	10 Year
PRIVATE EQUITY 14.4%	PRIVATE EQUITY 20.6%	PRIVATE EQUITY 18.0%	PRIVATE EQUITY 18.5%
CORE FIXED INCOME 14.1%	GLOBAL EQUITY 9.8%	REAL ESTATE 9.7%	REAL ESTATE 10.5%
REAL ESTATE 7.1%	REAL ESTATE 7.4%	GLOBAL EQUITY 7.1%	GLOBAL EQUITY 9.0%
VALUE-ADDED FIXED INCOME 5.7%	VALUE-ADDED FIXED INCOME 6.0%	CORE FIXED INCOME 5.3%	VALUE-ADDED FIXED INCOME 7.4%
TIMBER 1.5%	TIMBER 5.7%	TIMBER 5.2%	CORE FIXED INCOME 5.3%
GLOBAL EQUITY 0.7%	PORTFOLIO COMPLETION STRATEGIES 4.7%	VALUE-ADDED FIXED INCOME 4.2%	PORTFOLIO COMPLETION STRATEGIES 4.6%
PORTFOLIO COMPLETION STRATEGIES (0.2%)	CORE FIXED INCOME 2.8%	PORTFOLIO COMPLETION STRATEGIES 3.1%	TIMBER 3.3%

Constance M. Everson, CFA, Investment Committee member, discussed the narrowness of the S&P 500 and the ability of consumers or foreign spending to help drive the economy.

III. Public Markets

a. Performance Summary

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, CFA, Senior Investment Officer – Fixed Income, provided the Committee with the Public Markets Performance Summary.

Dr. Clapp updated the Committee on the PRIT Fund's Global Equity portfolio and noted U.S. equities, specifically large cap, continued the trend of outperforming all other equity markets by a wide margin. Dr. Clapp noted that in U.S. Small/SMID Cap equity was roughly 55% indexed to the Russell 2500, with outperformance of active managers proportionately greater than the outperformance of the overall U.S. Small/SMID Cap equity asset class of 1.2% (0.9% net). Dr. Clapp noted that the Emerging Markets Equities portfolio is 100% actively managed and outperformed by 1.9% (1.4% net) for the year and International Equity was essentially flat against the benchmark (-0.2%, net).

Mr. LaPosta updated the Committee on the PRIT Fund's Fixed Income portfolio. Mr. LaPosta noted the 30-year yields fell 107bps over the year, which contributed to the 34% return, for the STRIPS portfolio, the PRIT Fund's best performing asset class for the 1-year period. Mr. LaPosta noted that Core Fixed Income returned 10%, thanks to the Federal Reserve cutting rates twice in the last quarter. Core Fixed Income was supported by falling rates of 120bps and without a significant headwind of widening credit spreads. Mr. LaPosta noted other fixed income asset classes also benefited from falling rates.

b. Passive Short-Term Fixed Income Investment Management Services Request for Proposals Recommendation (Voting Item)

Mr. LaPosta presented the Passive Short-Term Fixed Income Investment Management Services Request for Proposals (RFP) recommendation. Mr. LaPosta noted that at the February 2019 PRIM Board meeting, the Board approved PRIM's 2019 Asset Allocation, which included a new allocation to Short-Term Fixed Income. Based upon the Evaluation Committee's due diligence, analysis and best and final fee bids, Blackrock Inc. was recommended to manage \$1.5 billion (2% of the PRIT Fund) in a passive short-term fixed income strategy which will be managed to track the return of the Bloomberg Barclays Treasury 1-3 Year Index. Blackrock Inc. was recommended based upon their 30-year commitment to passive fixed income investing, managing over \$1 trillion in passive fixed income assets under management, along with a proven track record of managing other passive fixed strategies for PRIM and a competitive fee proposal.

The Investment Committee (unanimously) voted to recommend to the PRIM Board to approve the selection of Blackrock Inc. to manage \$1.5 billion in Passive Short-Term Fixed Income as described in Appendices D and E of the Expanded Agenda, and further to authorize the Executive Director to take all actions necessary to effectuate this vote.

IV. Portfolio Completion Strategies (PCS) Performance Summary

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

The total PCS portfolio returned 0.44% for the trailing 1-year period, outperforming the benchmark by 39bps. The Direct Hedge Fund Program, which accounts for 75% of the total PCS portfolio, continues to be designed to have a low equity beta (0.16). The Direct Hedge Fund portfolio continues to earn superior

risk-adjusted-returns, achieving a Sharpe ratio of 1.3X. Systematic CTA and structure credit hedge funds were the best performing funds, while event-driven credit funds underperformed a bit over the last year.

The Put-Spread-Collar (PSC) Hedged Equity portfolio outperformed its benchmark in the last quarter (150bps) as lower volatility in the market resulted in the PSC strategy being able to collect volatility premium.

V. Private Equity

a. Performance Summary

Michael Bailey, Senior Investment Officer – Director of Private Equity, provided an update on private equity performance. Mr. Bailey stated the 1-year portfolio return for the year ended September 30, 2019 was 14.4% gross of fees, exceeding the performance of public equity benchmarks, in particular, indexes of smaller-capitalization stocks that are frequently compared to private equity investments.

He reported that the portfolio's performance was positive for the quarter, with smaller and larger buyout strategies each contributing to performance. PRIM's venture capital investments added to performance, yet their contribution to returns was muted due to smaller capital amounts allocated to venture capital compared to other private equity strategies.

Mr. Bailey said that the Investment Committee has approved fund commitments totaling \$1.2 billion in aggregate, and that the capital commitment for calendar 2019 is expected to increase to nearly \$1.4 billion. He also commented that co-investment activity is likely to further increase the capital committed to private equity during the period.

b. Issuance of a Request for Proposals for Private Equity Consulting Services (Voting Item)

Mr. Bailey noted that PRIM's current contract with Hamilton Lane, PRIM's incumbent private equity consultant, expires on September 30, 2020 and therefore, PRIM staff requests the approval to issue an RFP for Private Equity Consulting Services.

The Investment Committee (unanimously) voted to recommend to the PRIM Board to approve the issuance of a Request for Proposals for Private Equity Consulting Services, as described in the Expanded Agenda, and further to authorize the Executive Director to take all actions necessary to effectuate this vote.

VI. Operational Due Diligence Services Request for Proposals Recommendation (Voting Item)

Matthew Liposky, Chief Investment Operations Officer, presented the Operational Due Diligence (ODD) Services Request for Proposals (RFP) recommendation. Mr. Liposky described an ODD firm will help review and evaluate, from an operational perspective, all new investments PRIM recommends and will help monitor PRIM's existing managers by reviewing regulatory filings, monitoring daily media, and coordinating and reviewing annual ODD questionnaires. Based upon the Evaluation Committee's due diligence, analysis, and best and final fee bids, Albourne Partners is being recommended to provide ODD services. Albourne Partners was recommended based upon its large, dedicated staff of 90+ ODD professionals, by far the largest staff of dedicated ODD specialists in the industry. Albourne Partners also possesses industry leading technology tools to record, analyze and monitor ODD reviews, annual ODD questionnaires, regulatory filings and daily news and media. Mr. Liposky noted Albourne Partners fee bid was one of the lowest among all respondents.

The Investment Committee (unanimously) voted to recommend to the PRIM Board to approve the recommended selection of Albourne Partners to provide operational due diligence services as described in Appendix F of the Expanded Agenda, and further to authorize the Executive Director to take all actions necessary to effectuate this vote.

The PRIM Investment Committee meeting adjourned at 11:21 a.m.

List of documents and exhibits used during the meeting:

- Minutes of the PRIM Investment Committee Meeting of July 30, 2019
- PRIT Fund Performance Report
- BNY Mellon Gross of Fees Performance Report
- Short-Term Fixed Income Investment Management Services Evaluation Committee Report
- Callan's Memorandum on Short-Term Fixed Income Investment Management Services RFP
- Operational Due Diligence Services Evaluation Committee Report
- Handout: Charts