PRIM Board Quarterly Update Third Quarter 2020

IMass**PRIM**

PRIM Executive Director and Chief Investor Officer Michael G. Trotsky, CFA provided the following information to the PRIM Board at its December 1, 2020, meeting:

Market and PRIT Fund Performance

The quarter ended September 30, 2020, was very strong, and that strength continues as we close out the calendar year. The PRIT Fund now stands at \$80 billion, a new all-time high, which is particularly impressive because we also pay benefits from the fund of approximately \$1.5 billion per year. The PRIT Fund was up 6.2% in the third quarter and is now up 7.3% for the trailing 12 months ended September 30, 2020. Private Equity rebounded sharply; it was up nearly 17% year-over-year in the third quarter compared to 4.4% year-over-year last quarter. As expected, a private equity benchmark anomaly that accounted for much of the PRIT Fund's relative underperformance for the fiscal year ended June 30, 2020, reversed itself this quarter, just as it did when this occurred during the Global Financial Crisis in 2008/2009. Equities across the board were very strong, bonds and real assets were weaker for the quarter, but all were positive.

The markets have improved dramatically as two of the major uncertainties, the election results and the COVID-19 vaccine, have become more certain. The election is over, and we now have a better idea of when a COVID-19 vaccine might be available, as Pfizer, Moderna and AstraZeneca have announced impressive efficacy results of their vaccine clinical trials. Incidentally, PRIM was a very early investor in Moderna through one of our venture capital partners, Flagship Pioneering. We were very happy to be able to supply Moderna with enabling capital through Flagship Pioneering. The Moderna investment is very gratifying from both a public health and an investment standpoint.

Markets surged in the September quarter as COVID cases fell during the summer months, and more of the economy opened up. In the fourth quarter, we continue to see an upward trajectory in the markets now that the election is behind us and there is more encouraging news about the COVID vaccines.

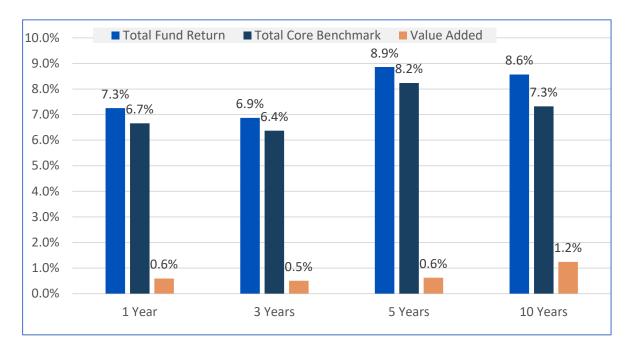
In the third quarter, the S&P 500 was up 8.9%, developed international markets were up 4.8%, emerging markets were up 9.6%, and bonds were essentially flat. A 60/40 mix of global stocks and bonds was up 5.1% in the September quarter while the PRIT Fund was up 6.2%. Markets continue to be strong in October and November; the S&P 500 is up 14.0%, developed international markets are up 3.0%, and emerging markets are up 10.2%. Bonds have also been solid with diversified bonds up 7.4% and long-duration Treasuries up 26.0%. Long-duration Treasuries were PRIM's best performing asset class this year. The PRIT Fund continues to perform well in both down markets (like the March quarter) and in strong markets like the third quarter and so far, for the fourth quarter. We are very pleased that the PRIT Fund is at a new record high of \$80 billion in assets under management despite the extreme volatility we are seeing in the markets.

The economy greatly improved in the summer and early fall with a massive stimulus package, and as lockdowns and precautions flattened the growth curve of the virus. But it is also true that the economy is losing momentum; COVID-19 cases, hospitalizations, and deaths are spiking. Unlike the economy, the markets are not pausing, the S&P 500 hit a new all-time high last week, and that's a little difficult to understand right now. One contributing factor was that corporate earnings for the third quarter fell less than analysts feared. Nearly 90% of companies have reported a positive earnings surprise. For the third quarter, S&P 500 companies reported a year-over-year decline in earnings of 7.5% and a decline in revenues of 1.7%. For the year, analysts are still expecting earnings declines of nearly 15% for the calendar year 2020 and revenue declines of more than 2%. So, why is the S&P 500 up 64% since the bottom in March, and up nearly 14% for the calendar year if earnings are down 15%. The answer may lie in the narrowness of the markets. The five largest tech giants in the S&P 500 (Facebook, Apple, Amazon, Microsoft, Google) have generated returns of approximately 40% this year – the five of them. But without them, the other 495 other companies in the S&P 500 have produced a negative return of approximately 1%. That is a very narrow market, when five companies are driving returns, those five are the ones that really benefit from a stay-athome lifestyle.

The availability of the COVID-19 vaccine could be a game-changer, as well as the prospect of policy changes in the new administration. Although in the near-term, the election leaves questions about the timing and scale of additional government stimulus. We'll have to see what happens and how soon, but the factors that have guided our portfolio strategy until now could potentially change.

At the last Board meeting, we discussed the modest improvements in the economy. It is important to realize that four months later, exports are still 16% below February, and employment is still short approximately 10 million jobs. An estimated 100,000 small businesses have closed, and employment participation is lower than at any time in 40 years, except for the recession of 2008-09. Since September, there has been a loss of momentum in job postings and industrial activity, and the current surge of virus cases will undoubtedly impact employment going forward. We do not believe this is an environment in which bond yields are likely to rise much more, and we think that falling prospects for economic growth and fiscal spending could create continued volatility in the markets. We also discussed the very recent change in market leaders in the daily markets – the back and forth between tech and non-tech shares. Fortunately, the PRIT Fund invests in both.

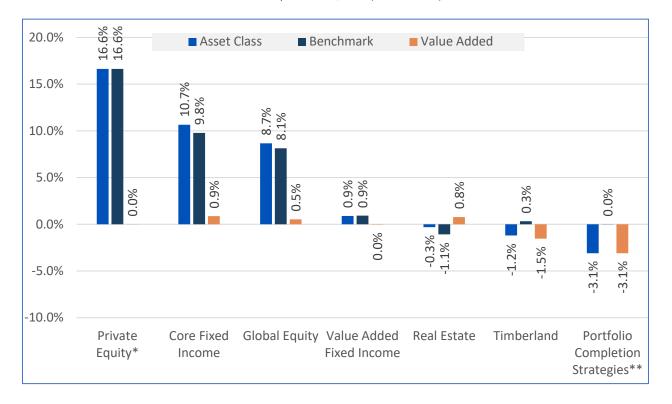
At the most recent Investment Committee, we discussed the broadening of participants in the market rally, and how history shows new market leaders usually emerge in down markets by deteriorating less; in strong markets, market leaders do not often change. This discussion led to the general conclusion that this is still a time to be as diversified as possible, and the PRIT Fund is very well-diversified, which is paying off. We did well in March on a relative basis, and we have participated strongly in the subsequent rebound. We believe the PRIT Fund is structured to perform well in both up markets, and perhaps more importantly, in down markets too.



Total PRIT Fund Returns

Annualized Returns as of September 30, 2020 (Gross of Fees)

PRIT Asset Class Performance Vs. Benchmark One Year Ended September 30, 2020 (Gross of Fees)



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

IMass**PRIM**

PRIT Fund Periodic Table of Returns By Asset Class

1 Year	3 Year	5 Year	10 Year
PRIVATE EQUITY	PRIVATE EQUITY	PRIVATE EQUITY	PRIVATE EQUITY
16.6%	18.3%	17.8%	18.3%
CORE FIXED INCOME	CORE FIXED INCOME	GLOBALEQUITY	REAL ESTATE
10.7%	7.9%	10.2%	9.8%
GLOBAL EQUITY	GLOBALEQUITY	REAL ESTATE	GLOBALEQUITY
8.7%	6.2%	6.8%	8.8%
VALUE-ADDED FIXED INCOME	REALESTATE	CORE FIXED INCOME	CORE FIXED INCOME
0.9%	5.4%	6.1%	5.4%
REAL ESTATE	VALUE-ADDED FIXED INCOME	VALUE-ADDED FIXED INCOME	VALUE-ADDED FIXED INCOME
(0.3%)	3.3%	5.4%	5.4%
TIMBERLAND	TIMBERLAND	TIMBERLAND	TIMBERLAND
(1.2%)	2.3%	3.4%	4.9%
PCS	PCS	PCS	PCS
(3.1%)	1.2%	2.6%	3.7%

(Gross of Fees) as of September 30, 2020

Organizational Updates

Promotions

Anthony Falzone has been promoted to Deputy Executive Director. As Chief Operating Officer, Tony currently oversees PRIM's finance, operations, reporting, compliance, human resources, and technology functions. Tony has more than 25 years of finance, investment operations, and technology experience. He joined PRIM as a Senior Financial Analyst in 2006 from BNY Mellon Custody Services, where he directly supported PRIM for seven years. As a Senior Financial Analyst, Tony was responsible for real estate, timberland, and private equity. In 2009, he was promoted to Director of Private Investment Accounting, responsible for the oversight of all of PRIM's alternative investments. During that time, Tony returned to school part-time and earned his degree in Computer Information Systems. In 2013, Tony became PRIM's Chief Technology Officer. In that role, Tony upgraded PRIM's entire information technology infrastructure and designed and deployed PRIM's disaster recovery, business continuity, mobile device management, and cybersecurity platforms. His work in this area essentially prepared us for where we are today – a fully enabled and secure remote workforce. In 2018, Tony was promoted to Chief Operating Officer. In addition to his current responsibilities, Tony will oversee PRIM's Communications team under Elizabeth Herlihy.

Deborah Coulter, CPA, who currently serves as Chief Financial Officer, has been promoted, adding Chief Administration Officer to her responsibilities. As Chief Financial Officer, Deb is responsible for managing the PRIM's non-investment financial activities, including budgeting, corporate accounting, audits, taxation, cash management and office administration. Deb joined PRIM in 2012 as PRIM's Director of Finance, and in that role also served as interim Chief Financial Officer while our former CFO was on medical leave. She briefly left PRIM to join the private sector as Assistant Controller at the Baupost Group, a Boston-based absolute return

IMass**PRIM**

investment manager, but rejoined PRIM in April 2016 as the Director of Strategic Initiatives on the Finance and Operations team. Among many other accomplishments, Deb is responsible for PRIM receiving clean audit opinions and for publishing the award-winning Comprehensive Annual Financial Report (CAFR). Additionally, Deb has developed procedures to comply with the Public Records Law and implemented new human resources policies designed to broaden the diversity of PRIM staff. Deb has more than 25 years of experience in investment management, financial management, and public accounting. Prior to joining PRIM, Deb spent 17 years at Essex Investment Management, a Boston based investment management firm, as Chief Financial Officer and Compliance Manager. In addition to her current responsibilities, Deb will assume responsibility of PRIM's Client Services team under Paul Todisco and also join PRIM's Executive Management Team.

New Employees

Eliza Haynes joined PRIM in September as an Investment Analyst on the Private Equity team reporting to Michael McGirr. Eliza graduated from Holy Cross in 2018 with a Bachelor of Arts in International Studies and a minor in Philosophy. While at Holy Cross, she was a Founding Member of the Holy Cross Student Investment Club, a member of the Feminist Forum, and a volunteer for the L'Arch Communities immersion project. After graduation, she worked as an Investment Analyst for the College of the Holy Cross in their Investment Office. She participated in the screening, selection and monitoring of investment managers and conducted portfolio analysis.

Lionel Yelibi joined PRIM in November as an Investment Analyst on the Research team reporting to Maria Garrahan. Lionel graduated with a Bachelor of Science in Physics from Indiana University and a Master of Science in Mathematical Statistics from University of Cape Town. Lionel joins PRIM from Boston Fusion as a Research Scientist, where he designed and conducted experiments in reinforcement learning for predictive modeling and optimal asset allocation. Prior to that, he was a Research Assistant at the University of Cape Town, involved in the development of optimization methods for data clustering algorithms with applications to financial market data. Lionel won first place at the South African Statistical Association 2020 Conference for his postgraduate research paper.

Interns

PRIM welcomed five new interns in September and October. They will be working with the Research and Portfolio Completion Strategies teams on various projects, such as strategic asset allocation and research on diverse-owned investment management firms.

National Recognition

On September 15, 2020, **Treasurer Deborah Goldberg** was honored by the National Association of State Treasurers with the Jesse M. Unruh Award, which is awarded to an active Treasurer in recognition of outstanding service to the Association, the profession, and his or her state. Treasurer Goldberg currently serves as the President of the Association.

Dan Eckman, Director of Finance and Administration, and **Maria Garrahan,** Senior Investment Officer -Director of Research, were honored in September at Treasurer Goldberg's Performance Recognition Program ceremony. Dan was recognized for his contributions that allowed PRIM to continue operating seamlessly throughout the pandemic, among many other things. Maria was recognized for spearheading several industry-leading initiatives in her role at PRIM. Maria drives PRIM's innovative, proprietary, statisticallydriven asset allocation framework, and also worked to establish PRIM as the founding member of a new project with MIT Sloan School's Sustainability Initiative, a research consortium designed to solve ESG investing's most challenging issues.



For the 15th consecutive year, PRIM was awarded the GFOA's (Government Finance Officer Association's) **Certificate of Achievement for Excellence in Financial Reporting.** This award is for the completeness and timeliness of PRIM's Comprehensive Annual Financial Report (CAFR). **Qingmei Li**, Financial Reporting Manager, manages the production of the CAFR and audits that have dramatically increased in number and complexity over time. She is the driving force behind PRIM's financial statements consistently having clean audit opinions.

PRIM Board Actions – December 1, 2020

Consent Agenda

In April of 2014, the PRIM 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.

If one or more Board Members identify an item from the consent agenda that they wish to discuss, it will be removed as a single item and voted on separately. Certain items cannot be included in a consent agenda, including asset allocation decisions, approval to hire investment managers, and significant changes to PRIM's organizational structure or policies.

The PRIM Board approved the following proposed consent agenda items:

- 1. Approval of the PRIM Board Minutes of its September 9, 2020, meeting
- 2. Approval of Fiscal Year 2020 Audit Results. (Clean audit opinions with no exceptions)
- 3. Approval of Draft Fiscal Year 2020 Comprehensive Annual Financial Report (CAFR)
- 4. Approval of the Proposed 2021 PRIM Board and Committee Meeting Schedule

At its December 1, 2020 meeting, the PRIM Board approved the following recommendations of the Investment Committee, the Real Estate & Timberland Committee, Administration & Audit Committee, and PRIM Staff:

Public Markets

New Co-Investment Managers

PRIM staff and the Investment Committee recommended (unanimously) to the PRIM Board that the Board approve Fidelity, Loomis Sayles & Company, PIMCO, and Shenkman Capital as co-investment managers. At its February 4, 2020 meeting, the Board approved co-investment guidelines for Portfolio Completion Strategies and Other Credit Opportunities to allow PRIM staff access to managers' best ideas in the portfolio at lower fees. Adding these Value-Added Fixed Income investment managers to the co-investment bench will allow PRIM staff to be nimble should co-investment opportunities arise.

Portfolio Completion Strategies

Real Assets Recommendation: JEN Partners VII, L.P.

PRIM staff and the Investment Committee recommended (unanimously) to the PRIM Board that the Board approve a commitment of up to \$100 million to JEN Partners VII, L.P. The Fund will continue JEN's successful strategy of providing high-yield short-duration financing to homebuilders in select residential submarkets



across the U.S. PRIM has invested in the prior two funds: JEN Partners V, L.P. and JEN Partners VI, L.P. JEN is a New York-based residential lot banking and land development manager founded by Reuben Leibowitz. The strategy serves as off-balance-sheet financing to homebuilders and targets residential land development opportunities in select submarkets.

Risk Management: Benchmarking Advisory Services Request for Proposals (RFP)

PRIM staff and the Investment Committee recommended (unanimously) to the PRIM Board that the Board approve the selection of Verus to provide benchmarking advisory services.

Private Equity

Charlesbank Equity Fund X, L.P. and Charlesbank Equity Overage Fund X, L.P.

PRIM staff and the Investment Committee recommended (unanimously) to the PRIM Board that the Board approve a commitment of up to \$220 million to Charlesbank Equity Fund X, L.P. ("Fund X") and up to \$25 million to Charlesbank Equity Overage Fund X, L.P. ("Overage Fund"). PRIM has invested in six prior Charlesbank Capital Partners' ("Charlesbank") funds since 2000. Charlesbank's senior team has worked together for an average of 21 years. Charlesbank is an established private equity manager and will primarily make investments in North American large and middle-market companies. Charlesbank's funds are in the first or second quartiles in industry peer performance rankings.

Waterland Private Equity Fund VIII, C.V.

PRIM staff and the Investment Committee recommended (unanimously) to the PRIM Board that the Board approve a commitment of up to €65 million to Waterland Private Equity Fund VIII C.V., subject to successful operational due diligence. PRIM has invested in one prior Waterland Private Equity Investments B.V. ("Waterland") fund. Waterland has a stable and highly experienced team and a strong, consistent track record. The firm is an established private equity manager and will make investments in small and middle market companies, primarily in Western Europe.

Real Estate and Timberland

Real Estate and Timberland Advisory Services RFP

PRIM staff and the Real Estate and Timberland Committee recommended (unanimously) to the PRIM Board that the Board approve 1) the hiring of the incumbent, The International Woodland Company, to provide timberland advisory services to PRIM; 2) the selection of the following firms to provide project investment advisory services, as necessary: Aberdeen Asset Management; Bard Consulting; Buckhead Resources; Callan Associates; Chatham Financial Group; Coast and Harbor; Eigen 10 Advisors; Harvest Capital Partners; Hamilton Lane; Legacy Appraisal Services; Meketa Investment Group; RCLCO Fund Advisors; and Real Estate Fiduciary Services; and 3) that PRIM move to a project-based model for general real estate investment advisory services.

Blackstone BioMed Life Science Real Estate Fund (Co-Investment)

At its September 9, 2020, meeting, the PRIM Board approved an investment of up to \$200 million in a life science real estate fund managed by Blackstone Real Estate. The fund invests in a portfolio of high-quality life science properties in primary life science markets, also known as clusters. These clusters are attractive to major life science companies because they have characteristics that are hard to replicate, including being near highly ranked universities, hospital systems, research centers, and providing access to a highly skilled workforce. The life science industry is poised to benefit from positive secular trends and advances in



technology, which will drive demand for R&D space, diagnostic centers, and healthcare facilities. The fund investment also provides exposure to a specialty sector in partnership with a best-in-class owner/operator of life science real estate.

Finance and Administration

Global Custody Services RFP

PRIM staff and the Administration and Audit Committee recommended (unanimously) to the PRIM Board that the Board approve the selection of the incumbent, BNY Mellon, to provide global custody services for PRIM.

The Client Services team -- Paul Todisco, Francesco Daniele, and Emily Green – will continue to meet with the retirement boards of PRIM's member retirement systems throughout the year. To schedule a visit, please contact Paul at <u>ptodisco@mapension.com</u>, Francesco at <u>fdaniele@mapension.com</u>, Emily at <u>egreen@mapension.com</u>, or call 617-946-8401. We look forward to seeing you soon.