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Dear Friends of MIT,

The current team took over management of MIT's endowment slightly over ten years ago. After a decade of work, we wanted to offer a reflection on what we think we have accomplished, what some of our mistakes have been, and some thoughts about the future. If you would like more information about MIT's investments after reading this, please see our website at www.mitimco.org.

The Last Decade: What We Feel Good About

Performance – Our primary long-term goal is to generate sufficient investment returns to maintain the purchasing power of the endowment after inflation and after MIT's annual spending. Assuming inflation will average around 3% over the long-term and MIT's spending rate will average around 5%, we need to earn approximately 8% to meet this goal. Despite the turbulence of the Global Financial Crisis, we are pleased to report that we were able to return slightly over 8% annualized over the past ten years and over 10% annualized over the past five years.

As a secondary check on the quality of our performance, we compare our returns to other endowments and to passive benchmark alternatives. Over the past decade, we earned 3.2% per annum more than the average endowment and 3.5% per annum more than a 70% stock/30% bond passive index. Our performance places us in the top 5% of the Cambridge Associates endowment universe.

	5 Years	10 Years
MIT Endowment	10.3%	8.3%
Cambridge College and University Median	5.3%	5.1%
Difference	**5.0%**	**3.2%**

	5 Years	10 Years
MIT Endowment	10.3%	8.3%
Global 70/30 Passive Benchmark*	5.3%	4.8%
Difference	**5.0%**	**3.5%**

*70% MSCI ACWI and 30% Bloomberg Barclays Global Aggregate Bond Index

<u>New Capital Allocation Philosophy</u> – Over the past decade, we introduced a new framework by which we allocate capital. Ten years ago, our process started with a top-down assessment of asset class risk and return characteristics and the establishment of asset class target allocations. Over time, however, this process became increasingly less satisfying. While this approach had proven to be very successful for many investors, it did not seem to be a good fit for us. We realized that our ability to select specific investment managers with excellent risk-return prospects far exceeded our ability to forecast whole asset class characteristics. Why, then, should our process revolve around asset classes?

In 2011, we formalized our shift in thinking and adopted a new manager-centric capital allocation framework. In our new framework, our primary goal is to identify exceptional investment managers who we believe will be excellent long-term fiduciaries for investor capital. To that end, we spend an enormous amount of effort underwriting the managers with whom we partner. We are particularly focused on identifying those traits that allow investment managers to thrive over long time horizons in a variety of market conditions: an absolute return orientation, prudence, humility, patience, high ethical standards, a focus on high quality assets or assets priced at a significant discount to fair value, a good selection of limited partners, and superb investment judgment.

When selecting managers, we like to look for strategies that match with MIT's competitive advantages. MIT has a number of advantages as an investor: a stable capital base, a large community of friends and supporters, a global reputation for cutting edge research and education, and sophisticated governance. By focusing on managers that invest in strategies that play off these advantages, we avoid competing on a level playing field with other financial market participants. Strategies that produce portfolios very different from popular benchmarks (and require thoughtful governance and stable capital to see through inevitable periods of underperformance), that benefit from the expertise of the MIT community (such as venture capital), or that require us to find less well-known managers across the globe (where MIT's reputation and network can help us find and build relationships) are examples of arenas in which we like to hunt. Conversely, we tend to avoid short-term trading strategies, funds that bet on macro events, or other strategies where MIT has no obvious competitive advantage.

Once we have identified exceptional managers, we size our allocations to them based on our conviction in the manager's ability to generate compelling risk-adjusted returns, the attractiveness of the manager's holdings, the liquidity of the strategy[1], the strength and transparency of our relationship with the manager, the manager's ability to diversify the returns of our overall portfolio, and other relevant factors. As market conditions change and asset prices move, we will reallocate capital between managers based on our assessment of opportunities across the portfolio. At times, we will be unable to identify a sufficient number of

[1] A wise person once told us that if we were going to make a mistake, we should make the mistake that is easiest to reverse. We are comfortable sizing our liquid investments larger than our illiquid investments because we can change our mind more easily if we make a mistake.

compelling investment ideas to invest our entire portfolio. In these environments, we are happy to hold cash and wait for opportunities to re-emerge.

We believe we can build a compelling portfolio on the basis of these bottom-up manager-driven decisions. However, we note that a purely bottom-up process might allow for the unintended aggregation of risks to higher than tolerable levels. For example, we might find several fabulous managers focused on a single country but want to moderate our overall exposure to that country due to potential political uncertainty. As a result, while our capital allocation decisions are driven from the bottom-up, we also maintain a top-down risk control process through which we set limits on various types of exposures in the portfolio. These "guard-rails" ensure that we maintain sufficient diversification in the portfolio to handle the inevitable surprises the future will bring.

<u>Manager Partnerships</u> – Given our manager-centric capital allocation framework, the biggest determinant of our long-term investment returns will be the quality and duration of our investment manager partnerships.[2] Fortunately, we are very pleased with the current state of our manager relationships. The vast majority of the portfolio is invested with very experienced, long-standing premier firms. Examples include firms such as Wellington Management, Greylock Partners, and Sequoia Capital. Amazingly, each of these firms has been generating compelling returns for MIT for over three decades – Wellington for 39 years, Greylock for 37 years, and Sequoia for 32 years!

In recent years, we also have worked to establish relationships with a new generation of premier firms. By focusing our due diligence process on the quality of inputs (how a manager makes decisions) rather than the quality of outputs (what returns do those decisions ultimately generate), we sometimes can identify exceptional new firms before they are recognized by the market. As a result of these efforts, MIT has been the first institutional investor (or participated in the first funding round for a new partnership) with approximately 80% of the managers with whom we established new partnerships over the last five years.

In 2011, for example, we met an early-stage two person stock picking firm in New York City with $25 million in assets under management. Though the asset base was too small and the principals too young for most other investors, we identified evidence of unusually insightful investment judgment through a careful examination of their past decisions, research efforts, and thought process. We invested with the firm on this basis of this evidence and look forward to what we hope will be another three decade plus relationship. Though it is early days, the firm is off to a promising start, having more than doubled our money over the past five years.

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[2] In very rare cases, we will make direct investments ourselves. For example, we have an extraordinarily talented internal team that manages real estate in Cambridge around campus. Because we have local knowledge that is hard for others to replicate and we want to work directly with the City of Cambridge and our neighbors to help create a lively, interactive environment rather than trying to maximize financial returns, we act directly in this endeavor rather than outsourcing it to a third party.

Mistakes We Have Made

We work hard to create an internal culture of openly discussing and learning from our mistakes. Our goal is to avoid recriminations and instead make sure our mistakes become net present value positive.[3] Described below are two examples of mistakes we made over the past decade.

Illiquidity is not a free lunch – Prior to the financial crisis, we made the mistake of implicitly assuming that we would get sufficiently well rewarded for taking on illiquidity. While it is true that market participants at times appear to overpay for the privilege of being able to change their minds and sell assets quickly, there is no law of nature that mandates illiquid assets must earn a return premium to liquid assets. Our mistake manifested itself in the significant contractual commitments we made in the mid-2000s to illiquid asset managers. By making commitments to fund capital to these managers when they called it, we gave up the option to invest that capital elsewhere.

Like all options, that option had value – and it became clear in hindsight that we had given it away too cheaply. When the financial crisis hit, many marketable securities plummeted in price and offered compelling return opportunities. Unfortunately, we were unable to be as aggressive in purchasing those investments as we wanted because we needed to reserve our cash in case our previously agreed upon commitments would be called. Even worse, our illiquid asset managers could not effectively invest capital during the crisis because of the general shut down of many transaction markets. As a result, MIT paid an opportunity cost in the form of returns we were unable to earn.

Our solution today is not to avoid illiquid commitments. Quite the reverse – we believe that being willing to lock up capital for many years with high quality managers gives those managers the freedom to purchase investments that other market participants may not be able to pursue. However, we now subject our illiquid commitments to a higher hurdle to ensure an appropriate balance between the expected returns on those commitments and the opportunity cost of forgoing investments that may appear in the future. We increase our hurdle rate even higher as the dollar amount of our uncalled commitment grows, thus keeping our overall illiquidity in check.

Relationships should not be treated as transactions – In our role as a provider of capital, we at times have the leeway to behave in ways that are well within industry norms but do not represent the full spirit of long-term partnership. For example, in the early years, we sometimes called in even large redemption requests on the last possible notification day, rather than telegraphing our intentions well in advance. In hindsight, while this behavior adheres perfectly to our contractual commitments, it is not reflective of how we would want to be treated. You will not be surprised to hear that we have noticed a strong negative correlation

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[3] A mistake is net present value positive if its cost is outweighed by learnings that increase long-term returns. We thank Nicholas Sleep and Qais Zakaria of Nomad Investment Partners for this concept and turn of phrase.

between the quality of the partnership with an investment manager and the use of the legal documents to define the basis of that relationship.

We continue to work at ways of being better partners. Last year, for example, we communicated our only two significant redemption requests more than 12 months in advance of the notice date, giving the investment managers plenty of time to line up other investors to cross us out of our desired redemption amount. We also try to tread gently when we need to fully part ways with a manager. For example, we recently extended the redemption timeline for a long-only Asia-based stock picker by an extra 18 months to allow for a smoother transition of their investor base away from MIT. While we may never be the manager's favorite investor, we hope they at least believe we operate in a manner that highlights the importance of long-term relationships over short-term transactions.

The Next Decade: Our Plans for the Future

We believe that we currently face a difficult market environment. The political landscape is marked by uncertainty around which economic policies will be pursued in the future. Interest rates sit at extremely low levels, offering paltry returns to cash holdings and most credit instruments. Stock market valuations appear stretched after an eight year bull run. Many real estate assets trade at historically high valuations. Hedge fund and private equity strategies, once lucrative niches, are now widely understood and overcrowded. All of these factors suggest that returns may be difficult to come by in the near-term and that we should expect to face market turbulence.

Over the long-term, we are more positive about the outlook for returns. Our capital allocation philosophy allows us to focus our capital on select managers and select pockets of opportunity rather than requiring us to hold broad index-like market exposures. Our willingness to hold cash provides us with the ability to allocate capital into inevitable market dislocations. Our focus on investing with exceptional managers gives us significant confidence in their ability to maximize value during difficult markets. Our portfolio is well diversified across geographies and asset types, preparing us to navigate different macroeconomic environments.

One way we hope to improve our expected returns over the next ten years is to focus on activities that other people do not pursue, usually because of the time horizon involved. Jeff Bezos, founder and CEO of Amazon, discussed the benefits of having a long time horizon in an interview with Stephen Levy of Wired Magazine:

> *If everything you do needs to work on a three-year time horizon, then you're competing against a lot of people. But if you're willing to invest on a seven-year time horizon, you're now competing against a fraction of those people, because very few companies are willing to do that. Just by lengthening the time horizon, you can engage in endeavors that you could never otherwise pursue.* [4]

We believe Mr. Bezos's comment applies equally well to the investment world as the corporate world. For many investors, three years of underperformance is a death sentence and directing thoughts out 7 to 10 years seems like a foolish exercise. Those investors who are able to do so, however, can enjoy enormous benefits. As one example, we recently created a framework to invest a small percentage of our portfolio into very high potential but less experienced investment managers.[5] Our goal is to spend as much time with these managers as we do with our core managers to get to know them and to find ways of being helpful to them. For example, we already have been active connecting these managers to other like-minded investors. We have introduced potential employees. We have helped create structures designed to offload operating burdens and allow firms to focus on investing. We have offered

[4] Steven Levy. "Jeff Bezos Owns the Web in More Ways than You Think," Wired Magazine, November 13, 2011. https://www.wired.com/2011/11/ff_bezos/.

[5] Despite being a small percentage of our portfolio, these allocations can be very meaningful to a new manager.

to fund initial operating expenses without asking for any ownership in the firm. We have tried to act as a sounding board when asked.

The best thing about these activities is that they are very low return on time for anyone with less than a 7 to 10 year time horizon, thus discouraging other investors from pursuing them.[6] For us, however, spending time early with a manager produces a stronger and more transparent dialogue in which each side knows what the other is thinking and how they will behave in difficult environments, allowing us to get into situations in which both MIT and the investment manager benefit from building close, meaningful relationships. Investing early with a manager also gives us the opportunity to start a very important positive feedback loop. By being early, we can increase the length of time we invest with a manager and slow down our overall reinvestment pace. By slowing down our reinvestment pace, we allow ourselves to focus even more carefully on the quality of each new decision. This in turn should again reduce our reinvestment rate, producing a flywheel effect.

Hopefully, the investment manager experiences a positive feedback loop as well. By providing them with stable capital at a crucial point in their development, we may play a small role in helping them focus on investment results over a longer than typical time horizon. Focusing on longer-term results allows managers to more thoughtfully allocate their time and effort, and ultimately have a better chance of success. Once managers achieve a measure of success, they have less concern about irrelevant short-term investment results and even more room to focus on their long-term destination.

Another area we hope to build competitive advantage over the next decade is a focus on long-term learning. We noticed some years ago that much of the information we consumed was expiring knowledge. Examples of expiring knowledge might include: which cable company got acquired last week? How did manager X perform last year? What is the office vacancy rate in New York City? While the answers to these questions represent useful context that could help us make decisions today, none have long-term value. In contrast, long-term knowledge might be represented by answers to questions such as: why is the cable industry consolidating? What is the competitive advantage of manager X and is it sustainable? What are the long-term drivers of demand for office space in various cities in the U.S.?

By deliberately tilting our time more in favor of long-term knowledge and less towards expiring knowledge, we can slowly create a long-term advantage. Understanding why the cable industry is consolidating may not produce actionable investment ideas, particularly given that we do not pick stocks ourselves. However, over time, such knowledge allows for a richer set of discussions with managers and a deeper understanding of how similar competitive dynamics may play out in other arenas. Long-term knowledge, because it does not expire, compounds over time and builds our organizational capabilities year in and year out.

[6] Arguably, some of these activities – such as our refusal to take economics in a manager's business – actually cost us money in the short-term. Firms with 100% employee ownership, however, are more stable and more likely to be better long-term partners for us.

Gratitude

We are very grateful to be given the opportunity to play a role in supporting the work of MIT. One of our team members was reminded recently of MIT's impact in the world when he visited a school in Cambodia and came across the fact that a class of MIT architecture and civil engineering students had helped design the facility to minimize the detrimental impacts of the local tropical climate. This type of work, the cancer research, the alternative energy efforts and countless other research projects pursued by MIT's faculty and students motivate us every day. (For a fantastic compilation of some of the work ongoing at MIT, search on-line for "MIT Briefing Book 2016.")

We also are grateful for the support provided by the MIT community. MIT faculty members have been willing to field diligence calls and provide expert knowledge. MIT alumni have introduced us to investment managers and investment ideas all over the world.[7] MIT students have interned with us and made valuable contributions. The MIT administration has been incredibly supportive to us in countless ways. MIT's investment committee is a collection of the some of the finest minds in the financial community. Investing, as we pursue it, is a team sport – and the MIT community is a fantastic team on which to play.

With sincere thanks from all of us,

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Mark Davidson
Judith Dunn
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Michael Fahey
Matt Fisher
Kim Gaulin
Kimberly Gentile
Navneeth Harikumar
Colby Jantzen
Dennis Jillson
Hunter Kass
Kristen Keefe
Kiri Kitano
Colton Laferriere
Tera Lally
Benjamin Lavery
Dat Lin
Marie Mahoney
Aviva Mail
Pham Mamaradlo
Steven Marsh
Christine Martignetti
Maureen McCaffrey
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Ryan Pace
Kimon Pandapas
Winston Pat
Colleen Perella
Michael Rainey
Katherine Romeo
Patrick Rowe
Lisa Schaefer
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Rosa Spaeth
Amanda Strong
Yongchun Tian
Vincent Tuohey
Jacklyn Turner
Joel Wachman
Derek Wade
Annie Weiss
Michael Whamond
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Kenneth Williams
Sylvia Williams

[7] If you know any exceptional investors we should meet, please e-mail us at seth.alexander@mit.edu.