In the 2008 Global Financial Crisis we all learned the value of liquidity – the hard way. And, hard earned, the lessons have not been forgotten. We, along with many of our peers, entered the current period of volatility with significantly higher cash reserves and fewer encumbrances than in 2008. According to Cambridge Associates, the average cash allocation of Endowments with greater than $1 billion in assets was 4.2% during the Fiscal Year that ended in June, 2015, which is double the 2.1% cash figure for the Fiscal Year ended June, 2008. Amen to that.

But what might we have lost in the bargain? Valuable options come with a cost and liquidity is no exception. As fiduciaries, it is useful to try to estimate that cost and consider where and when to pay it. A recent study we conducted at Rockefeller University provided strong evidence that the University’s endowment reaped substantial benefits from investing in managers with longer lock ups – provided we did so prudently – and with a keen eye on the relationships between liquidity defined as ready access to our capital and volatility.

Much has been written about the empirical evidence for an illiquidity premium in private equity partnerships. In our view, less work has been done on the spectrum of liquidity terms offered on marketable investment partnerships ranging from settlement periods of 3 or 4 days on separately managed accounts to five year lock ups on lower fee share classes for many of the most desirable hedge funds. Our goal was to assess the premium available to us in exchange for surrendering medium term liquidity (1-5 year lock ups), above and beyond the standard fee breaks that apply to longer lock up share classes.

As a first principle, we note that no manager can or should offer liquidity terms that are substantially looser than those warranted by the liquidity of the underlying securities or strategy employed by that manager. Put differently, the liquidity of actual securities markets will always trump specific manager terms so that, no matter what the contract specifies, the investor will ultimately pay the cost for liquidating securities into a thin market.

That being said, the true liquidity of securities and markets is variable and may be hard to estimate. The contractual terms imposed on investors by general partners are generally mind-numbingly concrete.

While the securities held by managers with a wide range of terms may be highly similar (Apple or Google stock for example), the consequence- [Continued on Page 7]
Introduction

We were all taught the scientific method as a mode of problem solving, which “begins with thoroughly defining all the parameters of the problem in order to create a solution.” Design thinking, in contrast, is a highly iterative, creative approach to problem solving. It identifies and investigates with both known and ambiguous aspects of the current situation in order to discover hidden parameters and open alternative paths which may lead to the goal.\(^1\)

I have provided a schematic comparing the two (Figure 1). In this article, I will focus mainly on the principles behind the design thinking process. Thomas Edison is a great example of a pioneering design thinker, and he had a number of parallels to those of us in the asset allocation and manager selection world. He was a generalist, he possessed a strong business sense, and he was famous for working with a team to create and iterate ideas. Similar to investing, he treated innovation as a “profession that blended art, craft, science, business savvy, and an astute understanding of customers and markets.”\(^2\) Design thinking allows for an initial problem to be redefined, if need be, as more information is gathered. It embraces ambiguity. Importantly, design thinking is a way of thinking that fosters innovation, particularly amongst teams – I like to think of it as a way to “institutionalize” creativity.

At Brandywine, we have spent a lot of time thinking about how we can improve our investment process. This process has been built by the team, with great input from our Investment Committee, over the past few years, and we continue to iterate as we learn. I am always in search of tools that might help us better achieve the goals of our process, and design thinking, when applied to investing, can be such a tool. My colleague, Gil Forbes, reminds me frequently that markets are “complex, adaptive systems.”\(^3\) Design thinking can help create and frame a dynamic investment process that embraces the complexity needed to understand them.

**Design Thinking Principles**

Much has been written on design thinking. I have tried to simplify what I have read into a few core principles that I find particularly salient to investing, and I have provided small examples of how we employ these principles at Brandywine. They are not rocket science. Chances are, you are probably employing a number of design thinking principles in your work today – perhaps these principles and this framework will help deepen your understanding of your own process and thus refine it. That is what it has done and continues to do for me.

The first set of principles can impact how we think about investing, process, and our portfolio:

---

**FIG. 1**

---

1. **Scientific Method**
   - **ASK QUESTION**
   - **PERFORM BACKGROUND RESEARCH**
   - **CONSTRUCT HYPOTHESIS**
   - **TEST HYPOTHESIS**
   - **ANALYZE DATA & DRAW CONCLUSIONS**
   - **REPORT RESULTS**

2. **Design Thinking**
   - **EMPATHIZE**
     - Develop a deep understanding of the challenge
   - **DEFINE**
     - Clearly articulate the problem you want to solve
   - **IDEATE**
     - Brainstorm potential solutions. Select & develop solution
   - **PROTOTYPE**
     - Design prototype (or a series) to test all or part of solution
   - **TEST**
     - Engage in continuous short-cycle innovation process to continually improve design

---

“The Elegance of a Clean Slate”
Key Takeaways from Building a De Novo Investment Office

By Ellen J. Ellison
Chief Investment Officer
University of Illinois Foundation

Background and Historical Context: The University of Illinois is a world leader in research and discovery, the largest educational institution in the state with more than 77,000 students, and has three main campuses in Urbana-Champaign, Chicago, and Springfield. It awards more than 20,000 undergraduate, graduate and professional degrees annually. The University of Illinois Foundation, established in 1935, is a private 501c3 entity dedicated to securing and administering private gifts for the University of Illinois across its three campuses. Since its inception, the Foundation has been instrumental in securing and administering more than $5 billion in gifts for the University. Its active endowment assets total approximately $1.7 billion.

I became the Chief Investment Officer of the University of Illinois Foundation (UIF) on January 15, 2013 and inherited a portfolio and one operations employee who lived in another state and worked remotely. The portfolio had been well-stewarded by an Interim CIO and the UIF Investment Committee since the previous CIO’s departure. It was composed primarily of large, well-established fund-of-funds and advisory relationships across the main asset classes. Up until 2012, the programs’ general direction had been toward an external advisor/quasi OCIO model. What prompted the change that led to my recruitment?

Timing is everything: The political Sturm and Drang that is normal in the state of Illinois has been well-publicized. As a land grant institution our University recognized, perhaps a bit belatedly compared to some of its peer “Public Ivies,” that it needed to actively diversify its revenue sources in order to begin the long process of becoming less dependent on State allocations to public higher education. With a very large, accomplished and loyal alumni base around the world, private philanthropy was an obvious area of future growth and focus. Full-time, professional stewardship of endowment assets was also deemed mission-critical. In 2011-2012, a broad commitment was made to devote the time and resources necessary to build a stand-alone, independent investment office that would improve endowment management in tandem with an increased emphasis on private philanthropic support. Our institutional goal is ambitious but, in our opinion, achievable: to double the endowment through both giving and returns over the next 7-10 years.

Where to begin? In order to build a best in class investment office with a strong endowment program, it was first important to define and articulate the characteristics that distinguish other top endowment programs and what could be intelligently adapted to work for us in Illinois. We wanted to “paddle our own canoe” and not attempt to slavishly mimic other programs.

We found that the best and most long-term successful programs have:

1. Experienced and entrepreneurial investment committees with good governance,

2. Sufficient resources: budget, staff and technology,

3. Access to best in class investment managers who are aligned with institutional mission

4. The ability to communicate with many different (internal and external) constituencies that an investment in the endowment is critical to supporting the mission of the University today and into the future – endowment provides the margin of excellence we seek, and

5. Continuity of investment team and board leadership.

Many of you have kindly asked how things have gone these past three years and to what I might attribute significant successes or failures. Upon reflection, I am happy to note the relative smoothness and effectiveness of this major transition: from a committee-driven consultant model with a small investment team embedded within the Foundation infrastructure in Central Illinois to a fully independent, staff-centered model based in Chicago. That’s a lot of change.

The goal of this article is to identify and discuss – with the advantage of some limited hindsight – what specific things have helped (or hindered) our successful new office build out. I do not (yet) define success in terms of investment performance: that would be laughable after only two fiscal years of massive change. Rather, I define success based on the achievement of mutually-agreed upon goals set for the first three years of the program.

Top Ten Things I Have Learned

1. CIO fit with the institution and its leaders is critical: Choose an institution that shares your vision. It is important to understand that the institutions we serve have a life cycle relative to finances and endowment. We were searching for one that was ready and truly committed to building something new the right way from the start because – as my boss pointed out, “Ellen, you are only going to do this once, right? Do it the right way!” Having observed and experienced a lot of [Continued on Page 10]
This article will describe the evolution of Rotary’s spending policy as a result of the financial crisis and adoption of UPMIFA in Illinois. Learn how Rotary’s Fund Development and Finance staffs worked together to develop a policy that addresses donors’ concerns, yet is financially sound.

The Rotary Foundation established its endowment fund in 1982. Through donations and investment return, the fund grew to $321 million and nearly 1,200 endowed units as of December 31, 2014. Similar to other organizations, Rotary’s endowment fund provides perpetual support to its foundation’s programs and some support for operating expenses. The fund is constructed to generate a level of return that equals or exceeds the expected inflation rate plus the spending rate.

The fund’s spending policy evolved over the years from one that included only dividends and interest to one that calculates spendable earnings for each endowed unit based on the funded status of the endowed unit. From inception of the fund through 1995, annual spending equaled the sum of interest and dividends. The spending policy changed in 1996 to one commonly used by endowments that resulted in more consistent and predictable spendable earnings. Spending was based on a percent of the average endowment fund market value over the prior 12 quarters, provided the market value of the fund was greater than the cumulative gift value. If the fund was under water (i.e., the market value of the fund was less than the accumulated gift value), then no spending occurred. While most or all of the spendable earnings were allocated to programs, the spending policy provided flexibility as to how the spendable earnings could be allocated, and up to 10% was commonly allocated to operating expenses.

Because spending was based on whether the entire endowment was above or underwater, steep declines in the value of the endowment meant there were some fiscal years without any spendable earnings. Those occasions typically occurred at the same time more resources were needed to maintain program and operating levels. In addition, many donors were disappointed at the lack of spending. Some whose endowments were above water wanted spending from their funds, while others who had more recently established a fund were concerned not only about investment performance, but didn’t have the satisfaction of seeing their contributions benefit Rotary’s programs. These factors made it even more difficult to attract repeat donors during a challenging economic climate.

UPMIFA (Uniform Prudent Management of Institutional Funds Act) was a welcome change when it became the law in Illinois on June 30, 2009 because it permitted spending from underwater funds. Rotary took advantage of the new UPMIFA law to create a new spending policy that would enable spending from underwater endowments. The new policy was based on the following objectives:

1. Maintain a balance between the needs of today and those of tomorrow to ensure endowment spending for current and future generations is reasonably equitable.

2. Enable spending from gifts with market values exceeding their historical gift values.

3. Minimize complexities in spending policy and administration.

The decision to spend each year from those funds that had market values equal to or exceeding their historic gift values was an important first step in providing needed financial resources and improving donor stewardship. The following initial changes were made to Rotary’s spending policy:

◆ Instead of determining spendable earnings based on the value of the total endowment fund, annual spending was determined for each endowed gift.

◆ Spending was still calculated as a percent of the rolling 12-quarter market value.

◆ The same spending rate was applied to all gifts.

◆ Only endowed gifts that were “above water” had spendable earnings.

[Continued on Page 14]
You’ve just been offered a prestigious CIO job. Congratulations! You must feel like a talented chef who’s being handed the keys to the kitchen of a fabulous restaurant. Before you grab those keys, however, remember that a restaurant is not a food truck; you can’t just drive away if you scout a better location or more supportive customer base.

So before donning your new toque, how can you discern whether this job represents an opportunity to showcase your best work for decades to come or, instead, a dreaded set-up-to-fail situation? Looking at five simple tenets provides a straightforward method for making this crucial distinction.

1. Partnership
A chef cannot plan a menu and start cooking in isolation. He must work with the owner to make sure they have a common understanding regarding the establishment’s branding and target market. He has to collaborate with the general manager to ensure that the service and ambiance complement the food and meet customer expectations. And all three need to coordinate their efforts so that the operation turns a profit.

An institutional CIO may run the proverbial kitchen, but he or she certainly does not own the restaurant. Success requires a strong partnership with ownership (the board and/or investment committee) and management (senior executives) in which each party embraces each other’s specific roles and responsibilities along with a set of common goals and objectives.

2. Authority
Speaking of roles and responsibilities, no partnership will succeed without certain boundaries. The kitchen door represents perhaps the most important boundary in a restaurant. Regardless of how much cooking experience the owner or general manager might possess, any input regarding the food needs to be proffered with the clear understanding of who’s getting paid to make the final decisions. If the person charged with running the kitchen does not feel empowered to direct his staff, purchase ingredients, and prepare menu items as he sees fit, then he or she is merely a cook – not a chef.

A CIO worthy of the title cannot run around like Eric Cartman in *South Park* shouting, “Respect my authoritah!”

3. Credibility
Authority and credibility are two sides of the same coin. As critical as the former is inside the kitchen, the latter is critical on the outside. A successful chef requires strong authority over his immediate domain, but he also needs to command the respect of his suppliers, critics, competitors, and customers. This is only possible if his partners reinforce his professional credibility wherever possible.

Just as a chef’s ability to do great work in the kitchen depends in part on external preparation, a skillful CIO needs to exchange ideas with peers, cultivate relationships with potential managers, and garner broad support from a broad range of stakeholders. In this regard, credibility is currency that, spent wisely, can enhance results, which means that everyone involved in the investment process must row in the same direction and do their part to maintain and enhance the CIO’s credibility.

4. Competence
In a 3-star restaurant, no one presumes to know more about wine than the sommelier. Others may have preferences and opinions, but it would be preposterous for someone without the specialized training and years of experience necessary to earn the position to assert greater knowledge or insight. But wine is just one element of a meal, and the excellence of the entire dining experience is the chef’s responsibility. The sommelier’s job is to select wines that showcase the chef’s food – not vice versa.

Quite often accomplished portfolio managers will join investment committees with an eye toward applying their specialized expertise to the decision making process. But the challenges of managing an institutional investment program differ from those of managing an individual portfolio. From day one everyone involved in the investment process needs to acknowledge that the CIO job comes with a presumption of competence, and that with regard to the task at hand no other individual’s experience supersedes that.
In Growth Markets, It’s About Cities

When CIOs seek to allocate exposure to emerging markets (or growth markets as we call them) they tend to think in terms of regions or countries. While regional and country level indicators provide an important framework for analyzing investment opportunities in growth markets, The Abraaj Group believes that cities represent the most relevant geographic unit of analysis.

Urbanization and economic development
Across the world, cities are the actual centers of economic opportunity. In the U.S. today, 90% of GDP comes from cities, with the top ten producing more than the bottom 36 of its 50 states.1 Cities are the economic engines of the modern world. As a rule of thumb, a 20 per cent increase in a country’s urbanization rate will double the income per person.2 Urbanization drives higher productivity and innovation as urban settings benefit from economies of scale by bringing together factors of production, reducing transaction costs and attracting skilled workers. Economic growth and urbanization are directly correlated: no country has reached middle-income status without a significant population shift to cities.3 Within countries and globally, cities are the biggest contributor to GDP, and today, the 300 largest cities in the world are responsible for roughly half of global GDP.4

Growth market cities: drivers of global growth
Globally, for the first time in human history, there are now more people living in urban than rural areas, and 35 years down the line, two-thirds of the world’s population will be urban.5 Importantly, developed markets are already largely urbanized and the global urbanization trend we are witnessing today is, in both absolute and relative terms, essentially a growth market phenomenon. Of the 2.5 billion people expected to migrate into urban areas by 2050, nearly 90% are African and Asian.6 What we see playing out in these markets is actually not that different from what we witnessed in the U.S. from the 1950s onwards – a rapid rise in urbanization, coupled with an increase in consumption and wealth. Lagos alone is expected to grow by more than half a million people each year for the next decade.7 By mid-century, nine of the world’s ten largest cities will be located in growth markets, including Karachi, Delhi and Cairo, with only Tokyo retaining “top ten status” among developed markets.8

Perhaps more interestingly, cities in growth markets are now driving global GDP growth. While Jakarta, Nairobi and Riyadh are expecting average annual growth rates of 6-7% in the coming decade, New York, London and Berlin are expecting growth in the range of 1.6%-1.8%.9 The center of gravity of global growth is clearly shifting south and east, with 440 growth market metropoles expected to drive almost half of global GDP growth between 2010 and 2015 according to McKinsey. Most are not megacities, but rather ‘mid-sized’ cities with populations of less than 10 million, such as Cali, Kochi, and Pune,10 unfamiliar to most of us.

Fine tuning the investment focus
Understanding where growth lies is crucial to succeed. For investors and businesses looking to enter growth markets, cities are therefore the right place to focus. In fact, investors are rarely exposed to entire countries or vast regions in the first place. Nobody is actually investing in “Africa,” a continent that can literally house China, Europe, India, and the U.S. combined. Of the 50+ countries in Africa, only a handful are institutionally investable today and just ten account for an estimated 80% of Africa’s private consumption.

It follows that most investment activity is concentrated in the same cities that are the center of economic activity. For example, investors in Peru are typically going to invest in companies operating primarily in Lima. For those looking to deploy capital in Southeast Asia, it is important to understand that while Bangkok accounts for only around 10% of Thailand’s population, it creates over 40% of GDP, and that 70% of Indonesia’s GDP comes from its cities.

In fact, it is the consumption part of GDP that most investors will be interested in and across the board urban spending levels tend to outstrip national averages. As an example, healthcare expenditure in Dhaka is twice the Bangladeshi average, and Lagos is 150% more than the Nigeria average!

Moreover, the risks at the city-level are very different from those attributed to countries. Many will associate Boko Haram with Nigeria, when in fact their activities are almost exclusively concentrated in the north east of the country. It may not be obvious that, from a holistic risk perspective, Lagos has more in common with Accra in Ghana than Nigeria’s capital Abuja. Indeed it is a feature of many growth market countries that the major cities significantly pre-date the national boundaries. In any event, there is much more to analyzing investment risk in private equity than high-level assessments around ‘country-risk’.

The Urban Investment Opportunity
The urbanization trend playing out across growth markets is arguably the largest commercial opportunity globally today. One billion

[Continued on Page 15]
es of longer lock-ups provide very real operational constraints for institutional fund managers with constant pay out needs. The higher the net draw, the more significant the operational challenges associated with longer lock ups and the greater the need to ensure that the benefits outweigh the costs.

Attempts at quantifying liquidity premia are notoriously difficult. A myriad of analytical challenges threaten, including time period selection, serial correlation of returns, survivorship bias (the managers still in our roster have probably tended to outperform) and many others. Perhaps most importantly, we seek to look beyond the simple notion of premium as defined by excess return over a benchmark. While excess return is important, it is not the sole determination of the value of a manager in a portfolio. Volatility, as measured by standard deviation of returns, and correlation to other managers in the portfolio are equally important in the construction of a truly resilient investment program.

For us, the Eureka moment came during our annual discussion of the University’s policy portfolio. One of our more notable and analytical board members, Jim Simons, threw up his hands in exasperation and said more or less “we don’t hire asset classes, we hire managers and that’s what we should be optimizing.”

From this insight grew the idea that we could and should categorize our managers by contractual liquidity and understand the full opportunity set (in terms of risk and reward) available to us with our current roster within each category.

A standard Markowitz Mean-Variance analysis enabled us to incorporate each manager’s return, volatility and covariance characteristics into our assessment of whether or not the University was getting paid for surrendering liquidity in the aggregate and how much each individual manager contributed to the whole. We simplified the liquidity categories into three buckets labeled: Liquid (monthly or better liquidity), Semi-liquid (quarterly or better liquidity) or Illiquid (annual or worse liquidity). We did not include draw down vehicles or private partnerships of any type. For purposes of this analysis, illiquid managers were those with annual terms or 3-5 year lock ups. Then we ran a variety of time period analysis for net returns over the past decade.*

As the chart below illustrates, (Figure 1) we learned a lot. The three curves illustrate the highest possible return available for each unit of risk over the decade ending June 30th, 2015 using the managers we currently retain. As is clear from the distance between the Green (longest lock up) and the Blue (monthly lock up) lines we found compelling evidence that we were being compensated for longer lock ups. In fact, in the aggregate, we found that our longer lock up managers afforded the University as much 600 basis points or even more incremental return over their liquid counterparts. If this result proves accurate, this “lock-up” premium would be highly competitive with the liquidity premium assumed for most private partnerships. That is to say, we may get as good a liquidity premium or better in liquid managers with long lock ups than we do in traditional private equity or real estate draw down partnerships where we have virtually no control over the timing of capital flows.

In addition, and perhaps equally importantly, we found that the curve shapes differed substantially across the different groups. The risk return curve is much steeper for both groups of longer lock up managers. Or, put differently, we found that we were less able to generate incremental return for incremental volatility in the most liquid group of managers.

The combination of these results – higher overall returns and a steeper risk reward trade-off for our least liquid managers prompted us to think long and hard about

---

**Markowitz Efficient Frontier Analysis of Managers Sorted by Liquidity Terms**

![Efficient Frontier Chart](chart.png)

**While excess return is important, it is not the sole determination of the value of a manager in a portfolio.**

*Figure 1*
In Praise of Lock Ups

Using Design Thinking Principles to Inform the Investment Process

[Continued from Page 2]

the value of liquidity. Importantly, it has led us to question the wisdom of preserving liquidity in volatile asset classes. In essence, why waste liquidity on a volatile asset class? We want our liquidity to pay our bills, rebalance and in order to fund opportunities as they arise. We need it to be there when we need it and we aren’t even getting paid as much to risk it.

Finally we had to grapple with where our actual manager weightings would have fallen relative to the theoretical optimal curves (indicated by the Xs on the chart). While we are not prepared to wholesale abandon asset class weightings for a variety or reasons, the analysis confirmed the wisdom of less is often more from a manager standpoint. In general, we found we probably retain too many managers who are too similar. In particular, relatively high correlation across many equity managers suggests that pretty ruthless weeding may be appropriate.

As always any analysis like this is fraught with potential error ranging from random time period biases to inconsistency in marking positions. There is no simple answer or formula for judging the value of liquidity or even a manager’s contribution to a portfolio. At its most basic level, the analysis rests entirely on historical data posing genuine selection bias risk. We’ve stuck with the managers we have because they did better historically and we are measuring how they did historically.

That said, there is no reason to suspect that our selection bias in terms of manager retention was skewed by liquidity – indeed we are probably more likely to retain managers with long lock-ups past the time we would have liked. We did run the exercise across a range of time periods to try to see if the results were persistent. We found some variance in our results but the primary conclusions were remarkably resilient through various market cycles and time frames. We also adjusted for serial correlation – or the tendency for less liquid managers to have assets that are not marked as frequently resulting in an artificially lower volatility. The results were entirely unaffected.

What we could not do was broaden our sample. Without broader study, we can not be sure that our results are not unique to Rockefeller. Perhaps we were lucky or more careful when choosing managers with whom we knew we would have to endure a long relationship. Perhaps our small sample size is a random accident. Maybe managers with good track records can command better terms (from their perspective) and so there is that left out variable that separates correlation from causation. But maybe, just maybe, there is something to be said for managers not having to manage with an eye on redemption risk. Maybe, just maybe, aligning long-term capital with long-term commitments really does result in a true market advantage, one that endowments and foundations are uniquely positioned to exploit. I’d certainly like to think so.

*For the handful of managers that did not have ten years of performance data, we substituted indices for earlier years.

This article resulted from work done by the entire Rockefeller University Investment Office staff. I’d like to thank Tianhao Wu, in particular, who carried the brunt of the statistical work as well as my colleagues, Tom Lenihan, Ilene Spitzer and Lance Lively whose contributions were also enormously valuable.

◆ Encourage integrative thinking: Integrative thinking is "the ability to face constructively the tension of opposing ideas and, instead of choosing one at the expense of the other, generate a creative resolution of the tension in the form of a new idea that contains elements of the opposing ideas but is superior to each."

Most investment problems are non-linear, and outcomes are uncertain. We try to craft our investment dialogue and ultimately memos to reflect and embrace the nuance and complexity of an idea, even at the expense of weakening the “pitch”. I encourage all investment team members to step out of their comfort zones and explore a broad range of areas (e.g. strategies, asset classes, geographies) to ensure their thinking remains broad rather than narrow.

◆ Embrace learning and experimentation: As noted by my colleague, Greg Walsh, embracing learning is one of those things that everyone agrees with in principle, but it’s often stifled by organizational hierarchy or internal politics. He frames it better than I could: “the ability to embrace learning and experimentation is predicated on an existing foundation or culture that allows for failure without consequences. It would have been perfectly fine if Sharon (another colleague) came away from her


◆ Be mindful of process: One of the things I really like about design thinking is that it doesn’t treat creativity as magical happenstance. It is highly structured while at the same time leaving a lot of room for idea flow within the structure. A core principle is to know where you are in your process, what methods to use in that stage, and what your goals are. Typically exploration into the energy space without finding any investment opportunities. She wouldn’t have been retaliated against, so wouldn’t have felt the need to “find something to do” there. But her learnings would still have been valuable and potentially useful in the future, or in discussions with public managers that have exposure to the space or when looking at MLPs.” Greg’s comments illustrate that we view our investment process through an iterative, adaptive lens. It is built as a tool to encourage thinking and learning, which means that when parts of the process stifle discussion or creativity, we do our best to change them. We spend time discussing and analyzing our mistakes. Why have they happened? How can we capture our learnings and use them to improve the process? Post-mortems on managers no longer in the portfolio can provide good insight into how a process can be strengthened, and leave room for experimentation to improve it.
Using Design Thinking Principles to Inform the Investment Process

this principle refers to the “design process”, which I discuss below, but it can apply to any investment process. We have a multi-faceted investment framework and process, as almost every institutional investor does. To help us organize our workflow by stage, we rank each prospective and current manager on a 1-5 scale by a) our interest/priority level and b) the amount of work we have done/our level of conviction and organize the team accordingly. This simple process helps frame our discussions and our time.

◆ Encourage radical collaboration: Radical collaboration is defined, loosely, as bringing together innovators with varied backgrounds and viewpoints. The goal is to enable breakthrough insights and solutions to emerge from a diversity of perspectives. The Brandywine team has a diverse array of experiences and strengths, as does any team. We are always thinking about ways our team can collaborate internally and externally to efficiently reap the benefits of multiple perspectives. At times this has meant working closely with other institutions to research managers to deepen our work. At times it means taking a team-driven approach to reference checks, reaching as far into each other’s networks as possible to allow for different information to emerge from varied modes of questioning.

The second set of principles has the potential to impact how we communicate our ideas, both internally, with our families, and with our investment committee:

◆ Show, don’t tell: What is the most impactful way to communicate? How can we tell the best story? Where can we use pictures instead of words? My colleague, Sharon Roush, created the following picture (Figure 2) to explain to our families the “language gap” that can exist when investing in the oil and gas space and hone in on the importance of having a relatively focused understanding of the space prior to making an investment. This picture allowed the family members to quickly understand an investment challenge without the need for a lengthy discussion.

The final, critical principle has the potential to impact how we interact with and evaluate managers and each other:

◆ Take a human-centered approach: Design thinking is centered on using empathy as a creative tool, with the core belief that deeply understanding the people with whom you interact at any level is fundamental to good outcomes. This generally means that research should rely on direct observation whenever possible. Good investing begins and ends with people. Empathy is highly relevant to investing in funds in which we make a bet on a team and its leadership to fulfill a stated objective. We try to have a “note taker” at every manager meeting separate from the individual leading the meeting so we can focus more deeply on a manager’s nuance and body language. When trying to build trust and connection with a manager, it can be helpful not to have a computer between you two while you talk.

Design Thinking Tools At Brandywine
We have found a number of ways to incorporate the principles of design thinking into our work at Brandywine, and we have also borrowed heavily from the design thinking process itself. Two examples are below:

◆ Define and ideate: We have used quick, target ed brainstorming sessions to define and articulate problems and devise possible solutions. Brainstorm-
ing allows a team to leverage the collective thinking of group by engaging with each other, listing, and building on each other’s ideas. These sessions generally begin with a seed question (e.g. “how might we...”), and their goal is to create a distinct segment of time when we intentionally turn up the creative, idea-generative part of our brains and turn down the analytical, critical, evaluative parts of our brains before settling on a potential solution.

◆ Prototype: A prototype “should command only as much time, effort, and investment as are needed to generate useful feedback and evolve an idea. The more “finished” a prototype seems, the less likely its creators will be to pay attention to and profit from feedback. The goal of prototyping isn’t to finish. It is to learn about the strengths and weaknesses of the idea and to identify new directions that further prototypes might take.”5 (Emphasis mine.) Our team needed a tool to engage each other and our Investment Committee in a “low cost” way, so we developed a document that was quick to prepare (30 minutes or less) and quick to read (2 pages max). The goal of our prototype, or Issue Memo, is to provide just enough color on a potential investment to spark a healthy, open discussion early in a potential investment’s life — what is it, what excites us, what concerns us. It has changed the nature of our dialogue with our Investment Committee and also helped us to prioritize our work earlier.

The goal of prototyping isn’t to finish. It is to learn about the strengths and weaknesses of the idea and to identify new directions that further prototypes might take. There are many ways to do this. Our prototype, which we called an Issue Memo, was a document we would prepare and circulate among ourselves in a “low cost” way, so we could develop an understanding of the investment opportunity and start to think about what questions we would have to answer.

A prototype “should command only as much time, effort, and investment as are needed to generate useful feedback and evolve an idea. The more “finished” a prototype seems, the less likely its creators will be to pay attention to and profit from feedback. The goal of prototyping isn’t to finish. It is to learn about the strengths and weaknesses of the idea and to identify new directions that further prototypes might take.”5 (Emphasis mine.) Our team needed a tool to engage each other and our Investment Committee in a “low cost” way, so we developed a document that was quick to prepare (30 minutes or less) and quick to read (2 pages max). The goal of our prototype, or Issue Memo, is to provide just enough color on a potential investment to spark a healthy, open discussion early in a potential investment’s life — what is it, what excites us, what concerns us. It has changed the nature of our dialogue with our Investment Committee and also helped us to prioritize our work earlier.

The best way to determine if you will be a good fit with a prospective employer is to be extremely candid and upfront during the interview process. I would discourage you from trying to squeeze your expectations and ambitions into anyone else’s version, as this is a recipe for disaster. Be candid with yourself and the Search Committee.

The UIUC Board, through a Sub-Committee on Governance, hired a well-respected external consultant that worked with them on a plan. Their joint efforts resulted in a report with 15 comprehensive recommendations on how to improve the investment program. This advance work was extremely helpful not only in that it clearly articulated the steps forward starting with a national search for a new CIO, but also it laid out the most significant governance changes. (The consultant’s report served as the basis for my own Three Year Strategic Plan.) Therefore, the most significant aspects of any program including: governance structure; budget; team structure; office location; and CIO reporting structure were agreed upon prior to my accepting the position. This early “buy in” has been extremely helpful since all parties were in agreement from the start. Make sure that you and the institution are a good fit and negotiate all the critical points prior to accepting the position.

2. Understand the institutional context. I moved from a small, private research university to a large and well-established public research university supported by a private foundation. This is a big change in terms of history, mission and institutional DNA. At the outset, the only thing my former and current employer appeared to have in common was the low level of budget dependence on the annual endowment distribution. Both institutions receive less than 2% of their budgets from their respective endowments.

The University of Illinois is the largest school in the state with a $6.0 billion annual budget, three primary campuses and a big medical school, the latter based in Chicago. Complexity is king across the institution that uses a matrix organizational structure: lines of responsibility and reporting intersect across three planes: system-wide at the top, decentralized on each of the three campuses, and the foundation that supports everything. Initially, it seemed to me that everyone had at least two

The Elegance of a Clean Slate Key Takeaways from Building a De Novo Investment Office

The State is in parlous financial condition. As I write, the Springfield legislature and the Governor do not see eye to eye on the budget for the current fiscal year begun on July 1st. No matter how financially stable our institution is, we cannot afford to be naïve about the political environment in which we work: the University counts on the State’s annual allocation for approximately 11% of its budget. As a land grant institution, the State will always be a critical part of the budget conversation even as its contribution declines. The Foundation leadership believes that building a strong and successful investment program places us squarely in the “part of the solution” camp relative to Illinois’ funding issues since everything we do today moves us closer toward greater financial diversification and lower state dependence.

The University has also seen its share of front page news over the past five years. There has been turnover at the most senior levels of the administration and at the Foundation due to retirements and departures both anticipated and unanticipated. Through it all, I have been fortunate to have excellent continuity of direction and leadership from the Foundation’s board and, in particular, the Investment Policy Committee and Investment Policy Group. They have convinced me and the team that we were fully supported and should move forward with all of our projects turning a deaf ear to politics if possible. If you work for a prominent State institution, you should expect to be in the papers a lot.

Beyond institutional complexity, the other challenge in large university systems with multiple campuses is more pragmatic – geographic distance. The Investment Office was intentionally located in Chicago just south of the UI-Chicago campus but 170 miles away from the Foundation’s “mothership” in central Illinois. The vast majority of UIF personnel reside on the flagship campus in Champaign-Urbana. For this reason, I started my employment at the Foundation offices in Urbana and was able to get acclimated during three months and work face to face with the senior team and campus leaders. We continue to explore ways to be “in two places at once” and to build interdisciplinary connections with our colleagues all over the state.

3. Start with the most difficult tasks. When there is everything to do, it’s vital to figure out where to begin, especially since everything seems important. I divided the first year into three main parts: Governance; Team and Budget; and Portfolio Structure. I began with the “hard stuff” for any new CIO – i.e. governance – and spent the first six months on the job focused almost exclusively on the policy design that would delineate and guide the future actions of both the new investment office and of the Investment Policy Committee. All proposed changes and projects were summarized in the CIO’s Three Year Plan that was approved by the Foundation’s President and the IPC leadership.

The policies and practices that were created, reviewed and amended included:

1. Bylaws of the Foundation,
2. Charter of the Investment Policy Committee,
3. Investment Policy Committee re-structure (to reduce the number of members by 50% and allow external experts),
4. Governance Policy Statement (new document),
5. Endowment Investment Policy Statement,
6. Strategic Policy Portfolio Allocation (10-year forecast inputs and expected return profile),
7. Short-Term Investment Policy Statement (new document),
8. Investment Office Budget (new since the budget was previously embedded within the Foundation’s budget), and

By the June, 2013 board meetings, all of the above items, including the first “lift-out budget” of internal investment oversight costs for the new fiscal year, had been approved by the requisite committees and the full board of the Foundation. It took a tremendous amount of work, education, communication and effort on the part of my committee and Foundation administrators; however, looking back, we appreciate the value of getting this framework in place at the very beginning of my tenure. The hardest thing for me was to avoid a deep dive into the actual portfolio work prior to having the Policy Portfolio ready in mid-June, 2013.

4. You cannot over-communicate: be flexible and prepared to adjust the pace of change with feedback. Any transition from a committee-driven process to one with a full-time professional staff – no matter how well planned and anticipated – is challenging. Most humans have a high degree of ambivalence about all types of change.

In moving through all of the above-listed governance changes, it was important to have consistent and frequent communication with the IPC. This took many forms: regular meetings, special meetings, conference calls and
calls with the IPC and the UIF Administrative leaders. I also did a lot of writing and established a Monthly Investment Report to the IPC that summarized everything that was going on not only within the new office but also in the global markets and portfolio. Discussions about the endowment and issues that matter the most to the University and its Foundation are ongoing. I have received helpful feedback from our partners across the Foundation and the University community. Be prepared to adjust the rate of implementing change based on the feedback you receive. Invariably, you should expect that everything will take longer than you estimate with a start-up.

The IPC, with the guidance of the Investment Office, continues to spend a lot of time talking about key principles or guidelines. What defines our mission as a program? What are our core competencies? What do we believe in? Based on an excellent suggestion from Mary Cahill, CIO at Emory University, we committed to paper the most important concepts and goals that had been debated over the previous two years. This resulted in the Statement of Guiding Principles of the UIF Investment Program. The document helps keep the group on track with what truly matters and provides a framework to talk about those items that are typically challenging for investment committees: how we define risk; the value of being different, the types of manager relationships we seek; the importance of being opportunistic; and, how to best prepare for the next “100-year flood” investment cycle. These principles also encourage us to get comfortable with speaking and evaluating performance in terms of three, five and 10-year blocks of time. I would encourage you all to go through this exercise of writing your own “Ten Commandments!”

5. Take the time you need to build a team with the right people. I knew that Chicago would be a good location to recruit talent. I decided at first to see if I could recruit without the help of a full-time recruiter given my own industry contacts and general level of awareness that I was building staff. This worked well since we had over 100 applicants for every position, even for our Receptionist! I was deliberate in my hiring, consciously preferring to shoulder any extra workload for longer instead of hiring too quickly while I was still thinking through the true needs of the organization and its best structure. From the start, I knew that I wanted to manage a small group of people within a very simple hierarchy. Every position would matter a lot and had to make sense not only with today’s endowment but also for the anticipated future growth. I sought people from diverse backgrounds with evidence of good mentoring and experience who could take a leadership role on one specific part of the portfolio and who desired exposure to other asset classes that weren’t their primary area of expertise.

The work environment would by definition be entrepreneurial and applicants had to understand upfront that the team would remain small. I was surprised initially that many people in the endowment and foundation world are not natural risk takers when it comes to their own careers and weren’t anxious to risk a move to a new enterprise. Therefore, I sought people who were attracted to a “start-up,” often coming from larger organizations who wanted to contribute in a big way to our future success as an office and a team. I also looked for people with complimentary investment skills and experience to my own background in marketable and non-marketable alternatives.

Last but not least, building a collegial office environment and strong culture was extremely important to me: I sought individuals who understood and embraced the unique aspects of mission-driven investing and understood and were happy to make the necessary trade-offs required by a not-for-profit position.

I made my first hire in June, 2013 (my Chief of Staff) and we moved together into the newly refurbished office space on his first day. Staffing and portfolio work started immediately thereafter. Fast forward two years, the staff is now built and gelling nicely. We just said good-bye to our second class of summer interns from the University and have begun a three-year Analyst program to support all aspects of the team. The portfolio is largely re-modeled and well on its way to being “normalized” with the exception of the private asset portfolio. (See Number 8 below.)

6. Figure out how to build on your institution’s core competence. We cannot as an institution nor as an investment office excel at everything. Early in my tenure, it became apparent that the University of Illinois had tremendous depth in a number of key academic areas including agriculture. We were encouraged by our Board to explore Agriculture as a long-term investment component that would differentiate our program from other endowments. In this way, we could build on our historical and inherent strengths as a land grant agricultural university. We began by putting together a cross-disciplinary team of academics, investment, advancement and operational professionals to work together on this idea. Our goals are multi-faceted: to manage donated farms for enhanced yield and income (we have approximately $150 million today); to work with the top fund managers around the world in agriculture and agribusiness; and, to explore innovative ways to use agriculture as an emerging asset class within the endowment portfolio. We hope that ten years from now, our name will be synonymous with excellence in agriculture investing.

7. Dealing with conflicts. Conflicts exist everywhere. I faced several since my arrival at the University of Illinois. At the end of the day, I concluded that it is preferable to acknowledge that conflicts exist and discuss and debate them openly with all of the parties concerned. I am particularly grateful to the IPC for encouraging me to deal with all real and perceived conflicts of interest in a forthright manner. We live in a world of conflicts and instead of pretending they do not exist, it is far healthier for you and your institution to acknowledge that they do exist and discuss them with as much transparency as possible.

8. How to jump-start a private investment program and build credibility within the GP community? My Director of Private Markets inherited a rather dusty private equity and real estate portfolio composed on 2006-2008 vintage year funds. How would we reinvigorate the privates program and build our reputation within the GP
community as good long-term partners? We were not interested in allocating money too hastily into structures with long-term lock-ups at this point of the market cycle but were well below policy portfolio targets. After taking delivery of the remaining funds from the external PE and RE advisory firms, we first looked closely at what we had and made the decision to hold onto all of the remaining funds. They were close to the end of the fund life and we did not wish to take a haircut by selling on the secondary markets. We didn’t need additional liquidity.

Instead of spending time chasing harder to access, well-established managers within private equity, venture, and private real estate and real assets, we decided to focus instead on building relationships with smaller, first time fund managers so that the UIF program could “mature” along with our GP’s over time. We are also exploring other creative, less traditional means of building the private part of the portfolio using direct or co-investment vehicles. This requires a greater amount of due diligence to compensate for the additional risk of investing with newer teams but we are comfortable with the trade-off. Besides, one cannot easily predict when the next period of market dislocation will throw up some surprises and the chance to invest with a top tier manager. We can wait.

9. Campus presence and outreach are really important. Now that the office is fully staffed in Chicago, we are committed to being a regular presence on all three campuses. This is a physical challenge but an important one: we want to be closely aligned with the academic mission that we support. This is an ongoing project for me and the entire investment team but one that we are serious about accomplishing.

We are also developing our internal and external web communication resources with the help of the Foundation so that our donors and prospective donors can understand how their endowed gifts are being stewarded. As a senior representative of the institution, I give a number of “stump speeches” as we work to communicate our activities across the institution. As a new program, it is very important to build awareness.

We have established a summer internship program for rising seniors from the University of Illinois that just finished its second successful year. From this pool of committed young adults, we select one intern who will then join the office upon graduation for a three-year analyst program. We will expose our analysts to all aspects of the endowment management world and also support the analyst to study and sit for the CFA exam during his/her three year stint with our office.

In the end, we know that the best way to support our institution is by building and managing a great investment portfolio that will provide funds for current and future generations of students, faculty and programs.

10. Balancing Act: “Festina Lente” Roughly translated from the Latin as “make haste with care,” this expression describes the competing pressures of moving through a lot of changes while maintaining a thoughtful, careful eye to avoid mistakes. It is to be expected that a new CIO and investment team will bring a different approach to the portfolio that often requires significant changes to the existing asset allocation and manager composition. The most challenging thing about the last three years has been to undertake a major portfolio overhaul (from Fund-of-Funds to direct managers) that results in above average liquidity during what has been until recently a raging bull market. As thoughtfully as possible, we reduced a large US equity overweight starting in 2013 and broadened the portfolio in a number of areas including European equities; Japanese small/mid cap equities, emerging market equities and natural resource equities. We tried to be as opportunistic as possible given that valuations were unappealing in many sectors of the market at least until late 2014. We chose to retain liquidity instead of using ETFs and index funds and bore the opportunity cost (and reward) in a richly valued investment landscape. This was the hardest aspect of my work as CIO over the past three years.

So what is left to accomplish? The portfolio remains our primary focus as it gets closer to being “normalized.” I am also working with the Foundation’s President to determine how best to engage our large and talented alumni base scattered around the globe and working in meaningful investment and finance roles. They are an obvious source of advice and counsel as we evolve.

In closing I would like to extend thanks to all of you who shared helpful advice, insight and strategies with me during the past three years. I owe a particular debt of gratitude to the following individuals: Will McLean (Northwestern University); Alice Handy (Investure); Erik Lundberg (University of Michigan); Mark Schmid, (University of Chicago); John Pomeroy Jr., (Penn State University); Colette Chilton (Williams College); Ellen Shuman and Nina Scherago, (Edgehill Endowment Partners); and, John Powers, (the former CIO of Stanford University). Your guidance has been much valued and appreciated.
This policy enabled spending from longer-term gifts that were above water while protecting those endowments established just prior to the Great Recession of 2008-09 by rebuilding the gift value to par before permitting spending. After this policy was implemented, donors with above-water endowments were pleased that spending was again occurring from their endowments given the two-year suspension in fiscal years 2009 and 2010. However, donors with endowments that had been underwater expressed dissatisfaction that no money had been spent from their funds during the past several years.

Therefore, a tiered spending rate policy (Figure 1) was developed that enabled all endowment funds with market values equal or greater to 90% of accumulated gift values to have some spending from their funds. Total endowment fund spending was greater than under the prior policy due to the benefit of spending at higher rates from very well-funded endowed gifts (those whose market values exceeded 110% of their accumulated gift values) even though less well funded gifts spent at much lower rates, or had no spending at all.

The ability to spend in accordance with the endowed fund donors’ intent generated positive experiences for the donors, which led to additional contributions for the Foundation. The end result is that Rotary is now in a much better position to report to donors the impact that their giving is having today, while being good stewards of the endowed assets.

**Rotary’s Tiered Endowment Fund Spending Policy**

- **ABOVE GIFT VALUE**
  - > 10%: PROGRAMS: 4.5% OVERHEAD: 0.5%
  - > 0% BUT ≤ 10%: PROGRAMS: 3.5% OVERHEAD: 0.5%

- **BELOW GIFT VALUE**
  - ≥ -10% BUT ≤ 0%: PROGRAMS: 2% OVERHEAD: 0%
  - < -10%: NO SPENDING

**5. Focus**

A chef deals with myriad details that may be invisible to anyone outside the kitchen but critical to the food it produces. The restaurant’s owner and manager have every right to care about food quality, cost, throughput, etc., but exactly how the chef achieves these results should be of minimal concern as long as the results are more than satisfactory.

This forest vs. trees distinction makes intuitive sense in the world of fine dining, but for some reason the nature of institutional investing invites more peeping under the hood than any self-respecting chef would abide. Governance, investment policy, legal matters, staffing levels, compensation, resources, public relations, and, of course, results, all represent issues of strategic importance that deserve the attention of those outside the investment office. It’s not a healthy situation if the vast majority of a CIO’s time spent working directly with his partners ends up focusing on activities that take place day-to-day inside the proverbial kitchen.

Few restaurants can succeed when they switch executive chefs every few years. But while almost all endowments and foundations claim to be long-term investors, not enough of their investment offices have enjoyed anything approaching true long-term continuity. In theory, the key ingredients in the recipe for a stable and successful investment office – partnership, authority, credibility, competence, and focus – should not be difficult to muster, but not enough institutions make the effort to define the qualities essential for excellence and then make the commitment to adhere to them. If more organizations did so, they would enjoy better results over time, which in turn would enhance their ability to fulfill their respective missions – making the world, or at least their corner of it, a better place.
people are expected to enter the global consuming class in the next decade – most of them in growth market cities. Enormous demand is projected in both consumer staples and discretionary items, from clothing to home appliances to casual dining. Further, these cities and their newfound consumers need infrastructure in the broad sense of the term – energy, housing, transportation, education and healthcare. Not only do they suffer underinvestment, but they also exhibit high levels of latent demand and rapidly increasing purchasing power.

While the massive needs of growing cities are often portrayed as challenges, they simultaneously offer significant opportunities for savvy investors, if properly understood and considered. Capitalizing on growth markets therefore requires an understanding of the geographical unit in which the opportunity ultimately lies – the growth market city.
Mark Your Calendar for
Upcoming NMS Management Forums!

ENDOWMENTS AND FOUNDATIONS

<table>
<thead>
<tr>
<th>Membership Forums</th>
<th>Roundtable Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Holiday Forum for Members</strong></td>
<td><strong>Investing in Hedge Funds Roundtable</strong></td>
</tr>
<tr>
<td>December 3, 2015</td>
<td>April 17-19, 2016</td>
</tr>
<tr>
<td><strong>The Winter Investment Management Forum for Endowments &amp; Foundations</strong></td>
<td><strong>CIO Spring Roundtable</strong></td>
</tr>
<tr>
<td>February 6-9, 2016</td>
<td>June 5-7, 2016</td>
</tr>
<tr>
<td><strong>The Fall Investment Management Forum for Endowments &amp; Foundations</strong></td>
<td><strong>The CIO Roundtable</strong></td>
</tr>
</tbody>
</table>

WEALTH MANAGEMENT EVENTS

<table>
<thead>
<tr>
<th>The Family Office Networking Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 16, 2016</td>
</tr>
</tbody>
</table>

NMS MANAGEMENT, INC.
500 North Broadway, Suite 236
Jericho, NY 11753
www.nmsmanagement.com