Vanguard Institutional Advisor's Alpha™: Quantifying the value of a consultant

Vanguard Research

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- Investment consultants play a central and growing role in institutional advice, but industry consolidation and rising client expectations have intensified the industry's competitive pressures. Consultants report that the greatest threat to their firms is an inability to distinguish themselves from their competitors.

- Vanguard Institutional Advisor's Alpha outlines how consultants can further differentiate their value proposition by focusing on controllable outcomes in order *to advance society by giving institutional investors the best chance of achieving their mission, be it charity, education, or retirement.* Consultants can enhance and distinguish their value by placing even more emphasis on their fiduciary expertise, their experience with investment policy statements, and other topics such as retirement plan design.

- Consultants to defined benefit, defined contribution, and nonprofit clients can add value to each client engagement and many are already doing so, but the nature of the services and the potential benefits will vary significantly by client type and circumstances.

- We believe that, when executing the Vanguard Institutional Advisor's Alpha framework, consultants can add, on average, about 2% to 3.5% in value.

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Institutional advice landscape

Vanguard has long believed in, and written about, the value of high-quality financial stewardship. We created the Vanguard Advisor's Alpha concept in 2001 to help financial advisors redefine, articulate, and quantify their value propositions. In this paper, we expand this research franchise to include institutional advisors and consultants.

At its core, the Vanguard Institutional Advisor's Alpha concept outlines how consultants can further differentiate their value proposition by focusing on controllable outcomes, giving institutional investors the best chance of achieving their mission, be it charity, education, or retirement. In a future where institutions have better access and transparency to compare outcomes across various consultants, those who focus on their clients' best interest will be positioned to compete most effectively.

By perfectly aligning the interests of the consultant, the institution, and the end beneficiaries of the institutional assets, we identify the rare situation in which everyone benefits. And that is in the best interest of the entire industry: Aligning the interests of those providing advice with those whose assets they are stewarding will elevate the entire profession and the demand for services.

The role of the consultant

Institutional investors range from small-business owners seeking to provide employees with qualified retirement plans to the largest public state pension plans. For the purposes of this paper, we focus on how three particular subsets of institutional investors engage with the consulting community[1]: defined contribution plans (DC), defined benefit plans (DB), and nonprofits.[2] In the case of DC and DB retirement plans, the assets will be used to secure the retirements of individuals and families. In the case of nonprofits, the assets will be used to fund the ongoing operations and investments of educational or charitable organizations.

The consultant is an essential partner for the many institutions that do not have the expertise, willingness, or access to execute on their goals. Even those that have these capabilities often find it beneficial to engage with consultants. By providing dedicated resources and expertise, consultants can help their institutional clients achieve their goals and fulfill their fiduciary responsibility in an environment of growing operational complexity and regulatory scrutiny.

Growing influence, significant headwinds

Institutional assets in the U.S. have increased to over $20.7 trillion (Cerulli, 2017b). As these assets have grown, so, too, has the intermediated nature of the industry. Approximately 65% of surveyed managers' net flows in 2016 involved a consultant (Cerulli, 2017a).

While investors' preference for low-cost investments[3] is often in the headlines, institutions continue to push for lower fees on the service side as well. This has led to a variety of responses from consultants and their firms. Some firms have expanded their service offer via mergers and acquisitions to better capitalize on economies of scale and serve institutional investors looking to reduce the number of their relationships. Others have focused more on niche specialization. All of them, though, have placed greater emphasis on customization and personalized service.

1 Throughout this paper, we will use the term *consultant* to refer to institutional advice providers of all types, including traditional investment consultants, retirement plan advisors, benefits consultants, outsourced chief investment officers (OCIO), and others. Given the broadening spectrum of institutional advice and the increasingly diverse service offerings, the principles discussed in this paper could apply to all or to just a small subset of these audiences, depending on the topic.

2 Throughout this paper, we will use the term *nonprofits* to refer to public and private endowments and foundations.

3 According to Vanguard research, for the ten-year period through December 2017, cash flows into the lowest-cost quartile funds totaled $829 billion compared with an outflow of $893 billion total for the three highest cost quartiles.

Figure 1 shows that the biggest challenge facing consultants is differentiating themselves from competitors. Surprisingly, of the top ten self-reported threats, only one relates directly to investments. What this suggests to us is that for consultants, greater opportunities lie in articulating the big-picture value proposition than in the details of how to do their jobs.

While Vanguard will continue to produce in-depth research on the specific topics discussed in this paper, Institutional Advisor's Alpha should be considered more of a practice management toolkit to further help consultants differentiate and articulate their value proposition as institutional advice providers. But differentiating and articulating your value proposition are not enough. In a future world of fully homogenized service offers, execution of your value proposition will be the differentiator.

Figure 1. Greatest threats facing investment consultants in 2017

		Major threat	Moderate threat	Little or no threat
1	Inability to differentiate firm value-adds relative to competition	21%	47%	32%
2	New competition from entrants in the outsourced CIO space	17%	50%	33%
3	Continued mergers and acquisitions among investment consulting firms	16%	47%	37%
4	Challenges finding new growth opportunities in the traditional/advisory space	16%	47%	37%
5	Perceived expertise in alternative investments	11%	58%	32%
6	Increased competition from peers that are expanding into new market areas	11%	63%	26%
7	Pressures to reduce fees to remain in line with competition	11%	63%	26%
8	Difficulty finding talented research analysts and consultants	5%	32%	63%
9	Conveying to clients the value-add of investment consultant services	5%	47%	47%
10	Client pressures to reduce fees	5%	47%	47%

Source: *The Cerulli Report: U.S. Investment Consultants 2017: Strategies for Engaging Partners, Competitors, and Gatekeepers.*

A shift in mindset

Vanguard believes that one potential key to success in institutional consulting is to emphasize your value proposition as one focused on elements within a consultant's control. These elements may include increased attention to non-investment issues such as regulatory developments and retirement plan design. By creating and articulating a value proposition based on areas that are in your control, setting and meeting client expectations becomes an exercise in executing on your differentiated value proposition—rather than hoping the markets or your active managers perform as you said they would. This may not be easy, but that's precisely why it can be so valuable.

Institutional consultants who focus on the areas discussed in this paper can add significant value to their clients and their clients' end beneficiaries or participants.

We have approached this research in a modular format in which we discuss and quantify the value added for four best practices in institutional consulting. These four modules are not meant to be an exhaustive list of the areas where consultants can add value, but we believe it's a strong starting point. Modules 1 and 2 cover the fiduciary considerations and the investment policy statement process, which are applicable for various institutional clients. Module 3 covers plan design and monitoring, which is specific to DC plans. Finally, module 4 covers investment strategy, which is relevant for both DB and nonprofit clients.

For each of these modules, we lay out evidence to establish a baseline for the average experience. We then compare that baseline to an alternate experience in which the consultant applies and executes on these best practices. In each case, we tried our best to err on the side of conservatism and we intentionally use "about" to account for the possibility that some consultants are already adding the value discussed, and that for others, adding each module's numbers together may double-count the value-add.

As a result of this comparison, we believe implementing the Vanguard Institutional Advisor's Alpha framework can add on average about 2% in value for the typical DB client, about 2% for nonprofit clients, and about 3.5% for the typical DC client, as shown in **Figure 2**. As with any approximation, the actual amount of value added may vary significantly, depending on clients' circumstances.

As with the traditional definition of investment alpha, Institutional Advisor's Alpha should not be thought of as a discrete, annualized guarantee. It's uncertain and is often delivered in episodic bursts. It can even be negative at times. Ultimately, it doesn't show up on a statement, hence the difficulty and importance in articulating it.

Conclusion

Many consultants are already applying these best practices and adding this value; others have the opportunity to move closer to these outcomes for their clients. In sharing the Vanguard Institutional Advisor's Alpha approach, we hope to provide a guide for consultants to demonstrate their value and in doing so, help shape the success of their practice.

Figure 2. Vanguard quantifies the value-add of best practices in institutional consulting

Module	Defined benefit	Nonprofit	Defined contribution
1. Fiduciary considerations	> 0 bps	> 0 bps	> 0 bps
2. Investment policy statement	150 bps	150 bps	150 bps
3. Plan design and monitoring	N/A	N/A	200 bps
4. Investment strategy	45 bps	70 bps	N/A
Total alpha	**About 2.0%**	**About 2.0%**	**About 3.5%**

Notes: While we sum the numbers for DC consultants, we make the distinction throughout the paper that the value attributed to the investment policy statement accrues to the plan sponsor and involves decisions made by the plan sponsor, whereas the value attributed to plan design and monitoring accrues to the end participants and involves decisions made by the participant, though influenced by the plan sponsor and consultant. Bps stands for basis points; 1 basis point is one one-hundredth of a percent.

Source: Vanguard.

Module 1: Fiduciary considerations

Institutional consultants can deliver > 0 bps in value for their clients by doing the following:

- ☐ Ensuring that your approach to fiduciary considerations is grounded in the applicable fiduciary duties and fiduciary best practices for your client type.
- ☐ Developing deep case law and legal precedent knowledge so as to proactively ensure operational compliance and in doing so guard against current enforcement action and litigation.
- ☐ Proactively monitoring the evolving fiduciary landscape to anticipate the direction of judiciary rulings and regulation as well as the subsequent enforcement actions and litigation in order to build fiduciary safeguards accordingly.
- ☐ Conducting thorough and ongoing fiduciary training to educate clients on relevant fiduciary considerations, including the key differences between 3(21) and 3(38) fiduciary services.

The evolving fiduciary standard

Effective consultants deeply understand the complex landscape of fiduciary law and regulatory compliance, shown in **Figure 3**, as it relates to their clients. They will also communicate this understanding to clients while applying best practices and conducting fiduciary training. But the best consultants? They will diligently do the above while simultaneously looking to the future. Increased regulation has resulted in intensified enforcement actions and litigation over the past few years. The best consultants balance compliance with today's fiduciary standard with proactive research on trends and shifts in regulatory focus and litigation, setting their clients (and their business) up for success.

It's important to note here that the fiduciary standard looks different for DB and DC plans than it does for nonprofits. The Employee Retirement Income Security Act of 1974, also known as ERISA, imposes the fiduciary standard on DB and DC plan sponsors. Because ERISA does not provide direct governance for the non-employee-benefit investment activities of nonprofit clients, the term *fiduciary* has a different connotation in the nonprofit space. Nonprofits are guided by a number of statutes adopted by the National Conference of Commissioners on Uniform State Laws (NCCUSL), the most recent of which is the Uniform Prudent Management of Institutional Funds Act (UPMIFA).[4] That said, helping clients act in the best interests of their beneficiaries

Figure 3. The U.S. regulatory framework

The principal regulatory authorities

Fiduciary law	Tax law
Body of law: Employee Retirement Income Security Act of 1974 (ERISA)	Body of law: Internal Revenue Code
Regulator: Employee Benefits Security Administration, U.S. Department of Labor	Regulator: Internal Revenue Service, U.S. Department of the Treasury

Other regulatory authorities

DB plan funding	DB accounting	Company stock in DB/DC plans
Regulator: Pension Benefit Guaranty Corporation (PBGC)	Regulator: Financial Accounting Standards Board (FASB)	Regulator: Securities and Exchange Commission (SEC)

Source: Vanguard.

4 For more details on fiduciary duties and best practices for retirement plans and nonprofits, please see the Vanguard publications *Best Practices for Plan Fiduciaries* and *Fulfilling Your Mission: A Guide to Best Practices for Nonprofit Fiduciaries,* respectively.

is a value-add by consultants, whether required by law or not. For the purposes of module 1 quantification, we focus largely on organizations governed by ERISA, but for the Advisor's Alpha concept, we believe the importance of fiduciary duties applies to all institutional clients.

Being a dynamic fiduciary

By effectively navigating the regulatory backdrop and helping clients avoid lawsuits and enforcement actions, consultants can add a significant amount of fiduciary alpha. Nobody knows which or how many plans will be subject to fiduciary penalties in any given year, but we assume that the *possibility* of such action is the baseline experience. While settlements and even the mere defense of lawsuits can be extraordinarily expensive for plan sponsors, the headline risk to the consultant cannot be understated, either. Given the client-specific nature of fiduciary considerations for different types of institutions, we designated the value-add relative to the baseline experience as > 0 bps. **Figure 4** reinforces this point.

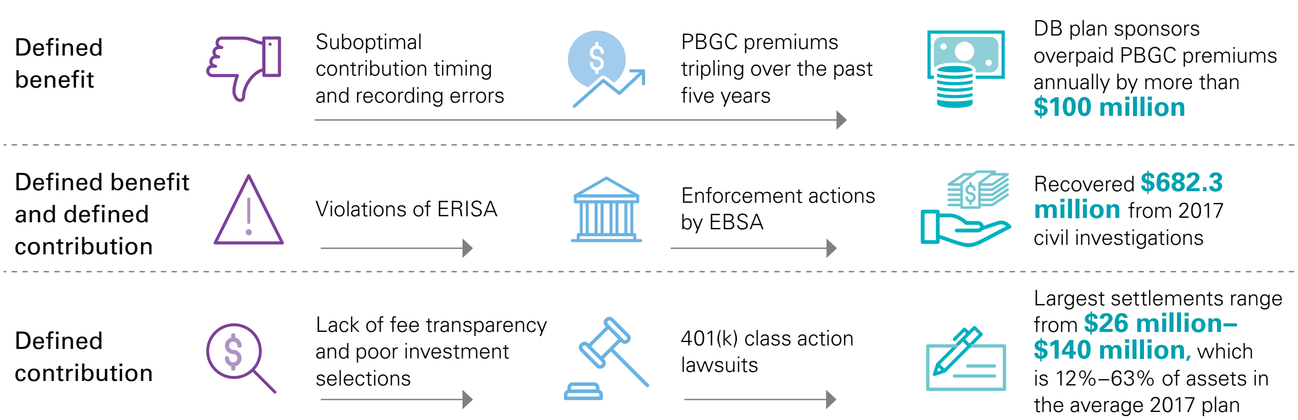
As shown below, one key fiduciary consideration for consultants with DB clients are the premiums charged to plan sponsors by the Pension Benefit Guaranty Corporation (PBGC). The PBGC insures benefits for plans' beneficiaries if employers are not able to fulfill their obligations. These premiums have tripled in the past five years and are slated to increase by another 25% to 50% by 2019 (October Three, 2018). According to this report, plan sponsors have exacerbated the financial burden of these premiums through suboptimal contribution timing and recording errors, resulting in sponsors' overpayment of more than $100 million annually.

By engaging with the clients' actuaries to promote best practices around effective premium management and developing a deeper understanding of premium reduction strategies, consultants can add significant alpha for their clients.

Another element of fiduciary alpha is avoidance of enforcement actions. As demonstrated in Figure 4, Employee Benefits Security Administration (EBSA) civil investigations can result in sizable sums levied against DB and DC plan sponsors alike. The third element shown in Figure 4, specific to DC plan sponsors, highlights the largest sums paid to settle 401(k) class-action lawsuits. These lawsuits have typically focused on excessive fees paid by participants for plan administration and investment management.

Consultants can take steps to protect their clients from incurring costs from class-action lawsuits by promoting fee transparency and evaluating the plan's investment lineup on an ongoing basis with a proactive focus on monitoring fiduciary trends and shifts. In addition, consultants can help prepare clients for inevitable surprises by ensuring plans are set up so that swift, prudent action can be taken. By approaching fiduciary considerations in a comprehensive and forward-looking way, consultants can give their clients the best chance to carry out their mission and drive success for their end beneficiaries.

Figure 4. Costs of regulatory oversight, enforcement actions, and litigation settlements have grown



Notes: According to Vanguard data in *How America Saves 2017*, the average plan has 2,315 participants, each with an average balance of $96,495. This results in an average plan balance of $223.39 million.

Sources: *How America Saves 2017*, the U.S. Department of Labor's Employee Benefits Security Administration statistics, Pension & Investments, The PBGC Premium Burden Report 2018 by October Three Consulting, and InvestmentNews.

Module 2: Investment policy statement

Institutional consultants can deliver ~ 150 bps in value for their clients by doing the following:

- [ ] Building a deeper relationship with your client when partnering to create a comprehensive IPS. The IPS should be durable with regards to portfolio objective, asset allocation policy, risk management principles, and governance procedures.
- [ ] Leveraging your relationship with your client and your ability as a behavioral consultant to help the client adhere to the IPS over the long term. Opportunities for this include making manager hire/fire decisions, promoting positive investment committee behaviors, rebalancing, and benchmarking the portfolio.
- [ ] Monitoring the IPS on an ongoing basis to ensure its alignment with the client's circumstances. This involves maintaining a process for reviewing and updating the IPS when material inputs to the IPS change, clearly documenting the rationale for any changes.

Maximizing the institutional IPS

The responsibility for overseeing an institutional pool of assets inherently involves quite a bit of decision-making. Understanding how institutional clients make these decisions is crucial for consultants to build a strong foundation for their working relationship. A Vanguard research paper, *Reframing Investor Choices: Right Mindset, Wrong Market*, found that investment decision-makers often use decision heuristics, or shortcuts, in order to make what they feel is a more informed decision. Further complicating investment decision-making in the institutional space is the potential for behavioral derailers that uniquely arise from the investment committee structure (Bosse et al., 2017).

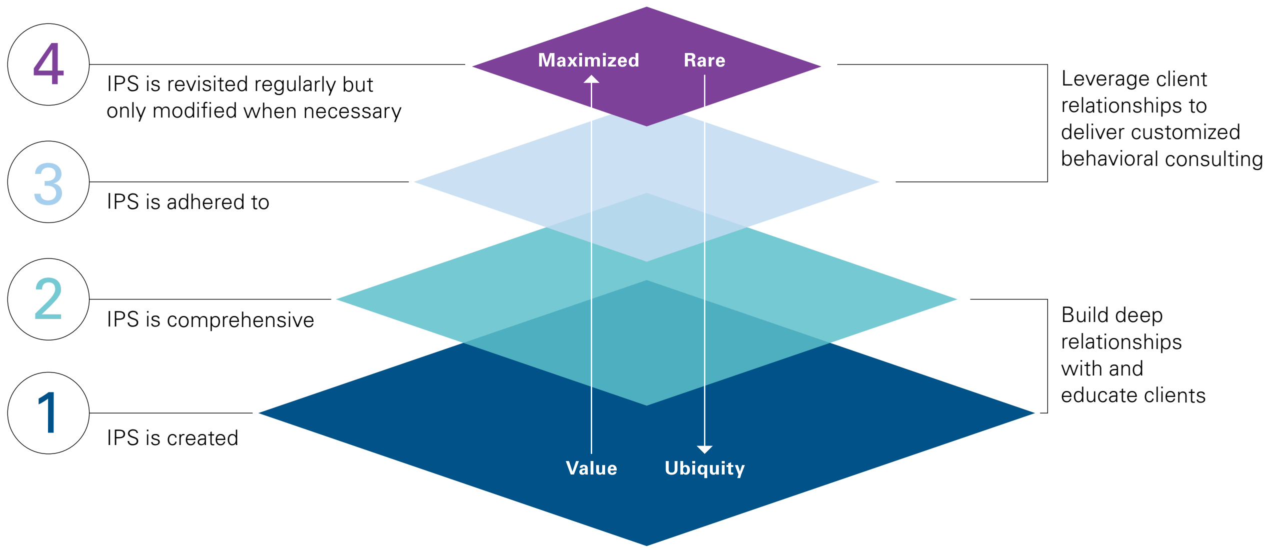
A commonly used decision heuristic is a ratings system based on the assumption that past performance will continue in the future. While a shortcut like that may prove effective with decisions such as buying a car or selecting a university, they can be risky when making investment decisions for a portfolio. And this type of past-performance, relative-comparison mentality is deeply ingrained, as it works very effectively in most other decisions. Although shifting away from it can be difficult, consultants should use one of the most important tools at their disposal to do so—a document that essentially acts as a guide for decision-making.

By helping clients create and adhere to an investment policy statement (IPS), consultants can add significant value and help prevent behaviors such as performance-chasing and market-timing. What should the process of developing an IPS look like? We believe that the vast majority of institutions create an IPS, but it may not always represent a high-quality plan. This can prevent the institution from being able to rely on the statement's contents over the long term.

As shown in **Figure 5**, consultants can deliver the next level of value by ensuring the IPS is comprehensive enough—emphasizing detailed processes, realistic goals, and clear articulation. Crucial elements include the portfolio objective, asset allocation policy, risk management framework, manager search and oversight process, and committee governance procedures.

After a high-quality IPS has been developed and put in place, adhering to it often presents the consultant with a larger challenge. Factors such as committee turnover, market corrections, and manager underperformance can make it challenging to stick to a long-term approach laid down within the IPS—and harder to resist performance-chasing and market-timing. Additionally, given the current emphasis on alternative investments and active managers, the more complicated nature of traditional institutional portfolios provides more opportunities to take action *based on performance*.

Figure 5. Moving up the IPS value stack using behavioral consulting maximizes value



Source: Vanguard.

Consultants can combat these challenges by emphasizing a thoughtful IPS and behavioral consulting to tap into the third level of value in Figure 5. Keep in mind that some clients may already be operating at their optimal level. That means they have a high-quality IPS in place that they adhere to in a disciplined manner, and they do not succumb to the potentially harmful value-detracting behaviors that we'll discuss.

However, evidence abounds that this is far from the norm—cash flows clearly show that there's an opportunity to do better (Kinniry et al., 2016a). This difficulty is denoted in Figure 5 by the decrease in ubiquity going up the IPS value stack. The fourth and final layer of value in Figure 5 represents ongoing oversight for the IPS, which includes revisiting the IPS regularly to ensure alignment but modifying the IPS only when necessary. While an IPS should not be etched in stone—there certainly can be appropriate reasons to modify it, such as a change in objective or in the regulatory landscape—it should not generally be changed based on market movements.

By putting in the time up front to build a deep relationship with and educate the client during the period represented by the bottom two layers of this value stack, consultants can leverage this relationship to effectively navigate the top two layers. In doing so, consultants can maximize the value of the IPS through behavioral consulting.

For DC clients, the types of decisions they need to make will vary significantly given that the assets themselves are invested by the end participant. However, ensuring that clients are maximizing the value of the IPS at the plan level is still important in identifying the plan's objective and detailing processes for selecting and monitoring the investment lineup. As stated in the Vanguard research paper *Framework for Investment Policy Statement*, DC fiduciaries still risk overreacting to the latest performance trends without such documentation in place.

The value of behavioral consulting

The studies shown in **Figure 6** find that clients and consultants alike can be swayed by historical performance, which detracts from returns.

We present these academic studies to paint a picture of the average institutional investor experience. While we can't perfectly quantify each institution's experience, this is the baseline from which consultants can add value. Being different from the below set of facts can be a powerful differentiator to help deliver better outcomes. However, going against peers, consensus, intuition, and human behavior is very difficult. Which is exactly why consultants who do this well can add substantial value relative to their peers within the consulting community.

While prior Vanguard research (Vanguard, 2017d) has addressed evidence that investors, in aggregate, tend to time the markets at the asset-class level, for purposes of this paper, we address performance-chasing one level deeper: at the actively managed fund level.

Several years ago, Vanguard released a study (Wimmer et al., 2014) in which we used a sample of over 3,500 funds and over 40 million hypothetical outcomes to quantify the impact of chasing fund performance based on selling underperformers and replacing them with top performers using a three-year evaluation window. The study found that it could cost between 160 to 400 basis points per year in lost returns. (See **Figure 7** for a detailed breakdown.) As with the academic studies previously noted, that differential does not include transaction costs.

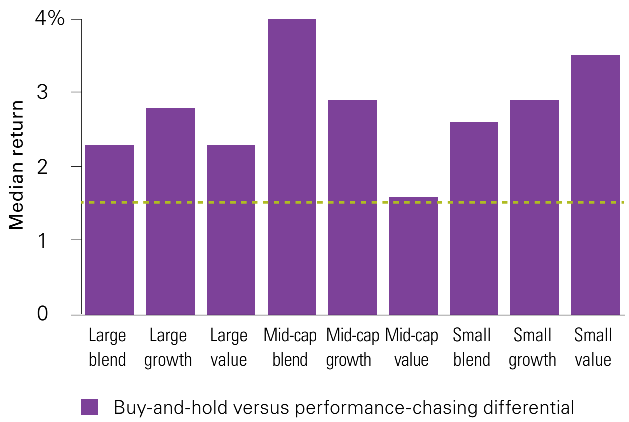
While we cannot determine for certain the actual evaluation period for every institutional investor, State Street conducted a study in 2015 of 400 institutional investors around the world and found that nearly 90% of them looked for a replacement manager after just two years of underperformance (State Street Global Advisors, 2016).

Based on this Vanguard study and the portrait of the average experience painted below, we believe that the investment policy statement process can, conservatively, add 150 basis points in value, a number that is reinforced by the academic studies highlighted in Figure 6. Given

Figure 6. Academic research shows that institutional clients and consultants are swayed by historical performance

Goyal and Wahal, 2008 *The Selection and Termination of Investment Management Firms by Plan Sponsors*	Plan sponsors frequently fire underperforming managers, and replace them by hiring investment managers in large part due to large positive excess returns. The researchers further prove that these returns do not persist and that the return-chasing behavior does not lead to positive outcomes.
Jenkinson et al., 2016 *Picking Winners? Investment Consultants' Recommendations of Fund Managers*	Consultant recommendations do indeed drive the investment decisions of institutions but they do not, on average, add any value in the traditional sense of investment outperformance. In fact, the researchers found that products recommended by consultants actually produce returns around 100 bps lower than those that are not.
Stewart et al., 2009 *Absence of Value: An Analysis of Investment Allocation Decisions by Institutional Plan Sponsors*	Institutional investors cost themselves $170 billion in lost returns from performance-chasing. That estimation does not account for transaction costs, which could significantly increase the dollar amount.
Jones and Martinez, 2017 *Institutional Investor Expectations, Manager Performance, and Fund Flows*	"Plan sponsors allocate funds, not so much to those asset managers they think will do well in the future, but to those that they think did well in the recent past and to those recommended by investment consultants. This behavior points to agency problems in that it is consistent with trustees basing their decisions on the most defensible variables at their disposal: past performance and advice received from investment consultants."

Figure 7. Return differentials favor a buy-and-hold strategy relative to performance-chasing



Notes: Although the results are not displayed here, we performed this analysis using a variety of trading rules and time periods and observed similar outcomes. For more information, see *Quantifying the Impact of Chasing Fund Performance* (Wimmer et al., 2014).

Source: Vanguard.

Buy-and-hold

- **Initial investment:** Invest in any fund.
- **Sell rule:** Sell only if a fund is discontinued.
- **Reinvestment rule:** Reinvest in the median-performing equity mutual fund within the relevant style box.

Performance-chasing

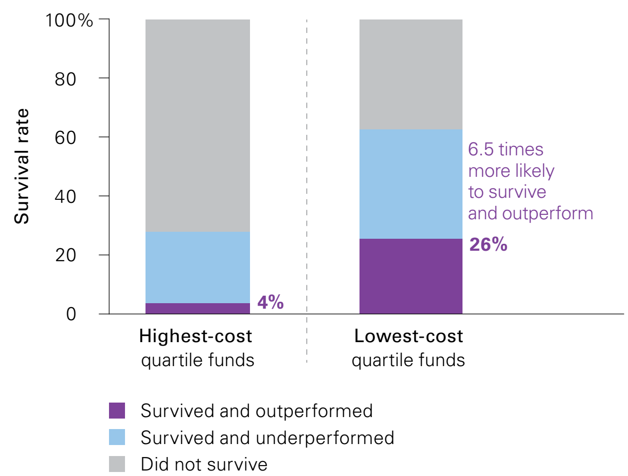
- **Initial investment:** Invest in any fund in existence for the full three-year period from 2004–2006 that had an above-median three-year annualized return.
- **Sell rule:** Annually evaluate three-year rolling returns and sell any funds that achieved below-median three-year annualized returns or that were discontinued.
- **Reinvestment rule:** Following a sale, immediately reinvest in each fund that achieved an average annualized return within the top-20 performing funds in the style box over the prior three-year rolling period.

the difficulties in quantifying the objective reality of an institutional investor adhering to its IPS, and the inherently hypothetical nature of this exercise, we decided to round down to 150 basis points, though the argument could be made that the value is actually much higher. Previous Vanguard research on the value of financial advisors to individual investors similarly concluded that an advisor acting as a behavioral coach to his or her clients is worth approximately 150 basis points annually in net returns (Kinniry et al., 2016a).

Fundamentally, this alpha comes down to modifying the behavior of the institutional investor via the consultant relationship to eliminate the deleterious effects of performance-chasing.

So how do you modify that behavior with regard to selecting managers or funds for an investment lineup? Start by examining the IPS for allocations that may be off-target and addressing them appropriately. Then, when implementing, sort on the basis of costs and take a long-term approach. **Figure 8** demonstrates that low-cost funds are 6.5 times more likely to survive and outperform than high-cost funds. In fact, high-cost funds are 18 times more likely not to survive than to outperform.

Figure 8. Survival and outperformance are much more likely for low-cost active funds



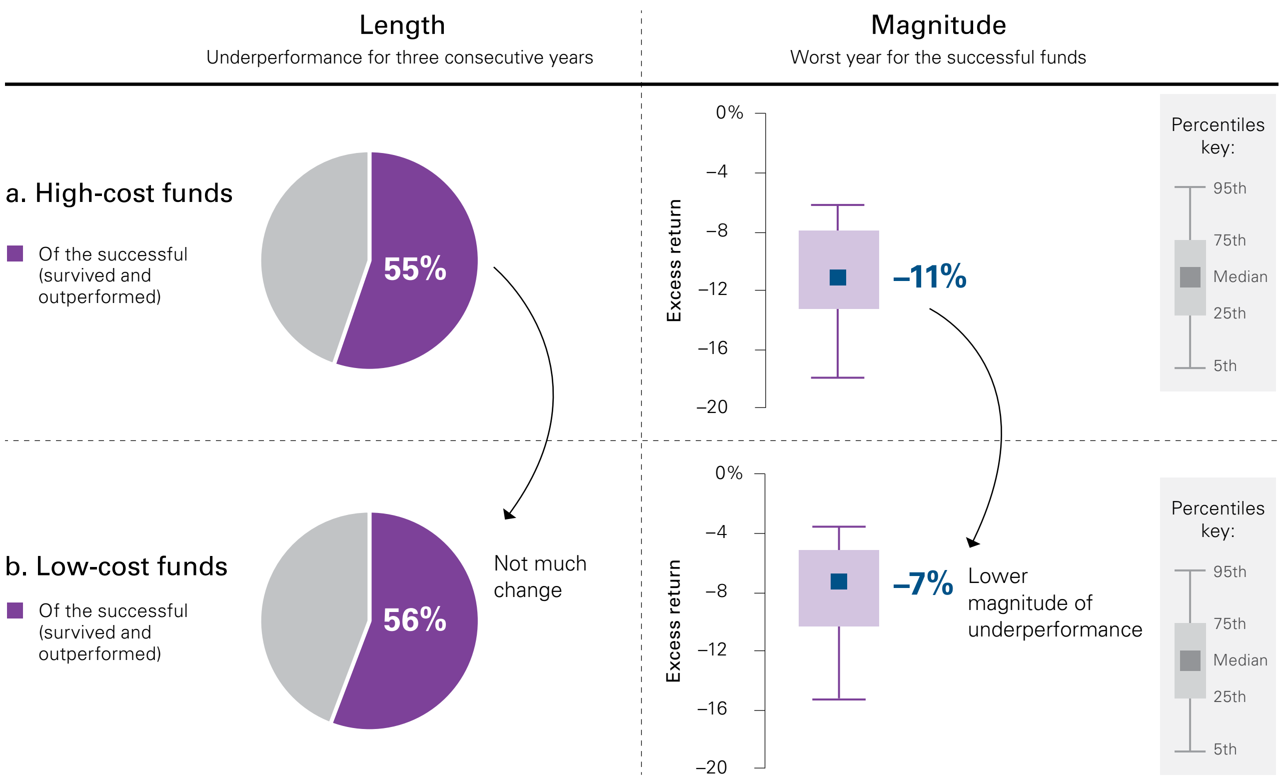
Notes: The figure covers the 15-year period ended December 31, 2017. Successful funds are those that survived for the 15 years and outperformed their prospectus benchmarks. Our analysis used active equity funds that were available to U.S. investors and in existence at the start of the analysis period and that fell within the lowest quartile and the highest quartile of expense ratios. The performance of a fund was compared with that of its prospectus benchmark. For this analysis, funds that were merged or liquidated were considered underperformers.

Sources: Vanguard calculations, using data from Morningstar, Inc.

Even so, behavioral consulting is still required because, as **Figure 9** shows below, of the surviving and outperforming funds, regardless of costs, more than half underperformed for three consecutive years. That can be a challenging period for your client. You can imagine that those "Year 3" conversations are not particularly easy. However, low-cost funds can make the conversation easier because of the lower magnitude of underperformance in the down years and the overall greater chance of outperformance to begin with.

That's not to imply that costs are the end-all and be-all of investment selection. Costs matter most when there is a significant gap between options, but when cost differentials are low, other factors matter even more (Wallick et al., 2015).

Figure 9. Persistence requires patience, even for low-cost funds



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Sources: Vanguard calculations, using data from Morningstar, Inc.

Module 3: Plan design and monitoring

Defined contribution consultants can deliver ~ 200 bps in value for their clients by doing the following:

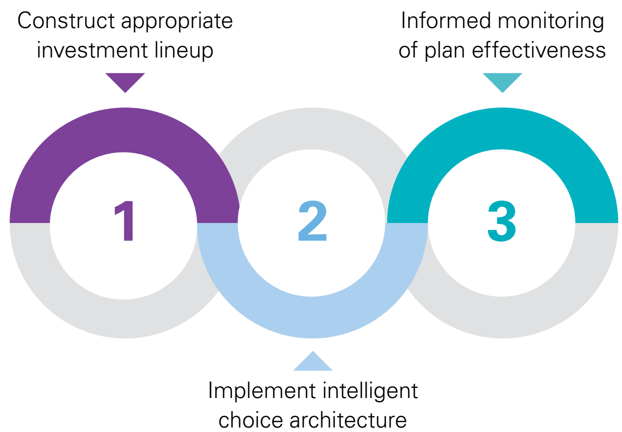
- [ ] Applying the tiering method to construct an appropriate investment lineup that will help accomplish the primary goal of the plan sponsor as well as the plan participants.
- [ ] Developing a deep understanding of participant behavior and leveraging this understanding when implementing intelligent choice architecture in order to drive participant wealth creation.
- [ ] Employing an informed monitoring strategy for measuring participant wealth creation and evaluating plan effectiveness.

Driving participant outcomes

According to the Investment Company Institute, nearly a third of the approximately $28 trillion in U.S. retirement assets (ICI, 2018) were held in DC plans in 2017. The tens of millions of individuals participating in this system (participants)—often with little to no investing education to speak of—are the ultimate decision-makers of how to allocate their hard-earned savings or whether to even save at all.

Given the high stakes of securing the financial futures of a large portion of our country's population, and the overwhelming evidence supporting the efficacy of plan design and monitoring in driving participant outcomes, consultants working with DC clients have an enormous opportunity to help end investors achieve their best chance for investment success. We propose a three-pronged approach, shown in **Figure 10,** to plan design and monitoring in order to maximize participant outcomes.

Figure 10. Three-pronged approach to maximizing participant outcomes



Source: Vanguard.

Constructing an appropriate investment lineup

Vanguard research has defined four best practices for constructing a DC investment lineup: (1) identifying plan objectives; (2) focusing on the fundamentals of investing; (3) creating a tiered lineup that reflects plan objectives; and (4) ensuring active, ongoing oversight (Chism et al., 2016). **Figure 11** explores in more depth how the concept of tiering, or grouping of investments into logical categories, can help accomplish the primary goal of the client.

Implementing intelligent choice architecture

Constructing the investment lineup, while important, is only the first step in creating a robust retirement savings experience for plan participants. Consultants can use the accumulated knowledge of human behavioral tendencies to drive better outcomes through implementation of plan design features.

In physics, inertia refers to the tendency of matter to continue in its state of rest or uniform motion unless that state is changed by an external force. For better or worse, inertia also applies to human behavior.

This matters because participants who are offered the opportunity to participate in a DC plan are much less likely to participate if they have to take affirmative action to do so (opt-in). Conversely, participants who are automatically enrolled in a savings plan are much more likely to stick with the status quo and participate rather than opt out. If you know that participants are unlikely to take action either way, then that inertia can be beneficial when the correct choice architecture is applied.

In 2008, Richard Thaler and Cass Sunstein coined the term "nudge" (Thaler and Sunstein, 2008) to describe this type of action (or inaction). Informed by Thaler's earlier work, the Pension Protection Act of 2006 was signed into law, and the popularity of automatic enrollment slowly increased.[5] Still, only 45% of all DC plans employ an automatic enrollment feature (Vanguard, 2017b) and only 15% of small-business plans do this (Vanguard, 2017c).

Taking choice architecture a step further, the same principles can apply to regularly scheduled savings rate increases (auto-escalation) and investment choices (qualified default investment alternatives, or QDIAs). According to the Investment Company Institute,

Figure 11. Tiering can be used to meet a variety of plan sponsor's goals

	1	2	3	4
Primary goal of plan sponsor	Simplify	Maximize returns by keeping costs low	Potential outperformance	Streamline fund oversight across DC and DB plans
Rationale	Minimize the chances for portfolio construction errors	Investment costs are the primary driver of investor returns	Low-cost active management can outperform	Leverage existing knowledge and research about certain active managers
Tier 1	Index-based TDF	Index-based TDF	Actively managed TDF	Hybrid index/active TDF
Tier 2	Underlying TDF funds: broad-based, low-cost options	Index-tier: broad-based, low-cost index options	White-label funds: major asset classes	Index/active core funds
Tier 3	Supplemental choices: not necessary	Supplemental choices: low-cost index funds covering all style boxes	Supplemental choices: broad-based, low-cost active options and/or brokerage window	Supplemental choices: broad-based, low-cost index and/or active options

Source: Vanguard.

5 In their 2004 article "Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving," Richard Thaler and Shlomo Benartzi demonstrated that behavioral finance techniques could be used to drive higher savings rates, leading to the development of auto-escalation.

only 20% of DC assets are allocated into an appropriate QDIA option (ICI, 2018). Despite the overwhelming evidence on the effectiveness of using plan design features, the fact is that this baseline DC plan experience remains one in which participants must make active decisions to save at all, save more, and invest wisely. This means that there is a tremendous opportunity for consultants to both add value by creating wealth for participants and to differentiate themselves by leading the industry in plan statistics.

Using data from Vanguard plan participants on how these plan features drive participant behavior (Clark and Young, 2018), we quantified the hypothetical future wealth creation that may occur from the application of plan design features relative to the baseline experience described above.

Using the proprietary Vanguard Capital Markets Model® (VCMM), we modeled the wealth creation that could be expected to occur if today's behavioral patterns were to persist in the future. By starting with a plan that includes no plan design features and using the average participation and deferral rates, we were able to simulate the total wealth accumulated per covered employee over 30 years in this hypothetical plan. When automatic enrollment is added to our model, it increases the plan's participation rate, adding 140 basis points to the wealth of the average covered employee over 30 years. Adding an automatic escalation feature in which participants' savings rates increase on a regular schedule unless they opt out increases the total number an additional 20 basis points to 160.

By using Morningstar data on fund returns versus investor returns, we examined the difference in returns between underlying funds and QDIA options such as a target-date fund (TDF)[6] and used this number to reduce the VCMM "return capture." Our model estimates that the value-add on top of the 160 basis points is an additional 40 basis points attributable to minimizing the negative effects of market-timing and performance-chasing.

Figure 12 shows the wealth creation effect from each plan design feature we included in our model as well as the lever by which it does so, adding about 2%[7] per covered employee. This annualized figure can have a significant impact on long-term outcomes through the power of compounding. It's important to remember that this isn't alpha in the sense of additional portfolio returns,

Figure 12. Plan design features drive wealth creation relative to the average experience

Feature	Auto-enrollment →	+ Auto-escalation →	+ QDIA
Lever	Participation rate up	Average savings rate up	Behavior gap down
Total annualized wealth creation (per covered employee) over 30 years	1.40%	1.60%	2.00%

Notes: This is per covered employee versus the "average experience" of not having any of these features. The wealth creation numbers include capital contributions and the compounding of capital contributions.

Source: Vanguard.

IMPORTANT: The projections and other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM are derived from 10,000 simulations for each modeled asset class. Simulations as of December 31, 2017. Results from the model may vary with each use and over time. For more information, please see the Appendix.

6 Appropriate QDIA target-date fund options may include those that are "bundled" as well as "unbundled" options.

7 Vanguard research has estimated that the value of a custom TDF strategy is 10 basis points of utility (Aliaga-Díaz et al., 2016).

but rather the plan design alpha that can be added in the form of annualized participant wealth creation. **Figure 13** shows the distribution of wealth, or average plan balance, relative to starting salary, at the end of our 30-year analysis period. An employee in a plan with none of the discussed plan features would accumulate 3.6 times his or her starting salary compared with 7.9 times for an employee in the most robust plan.

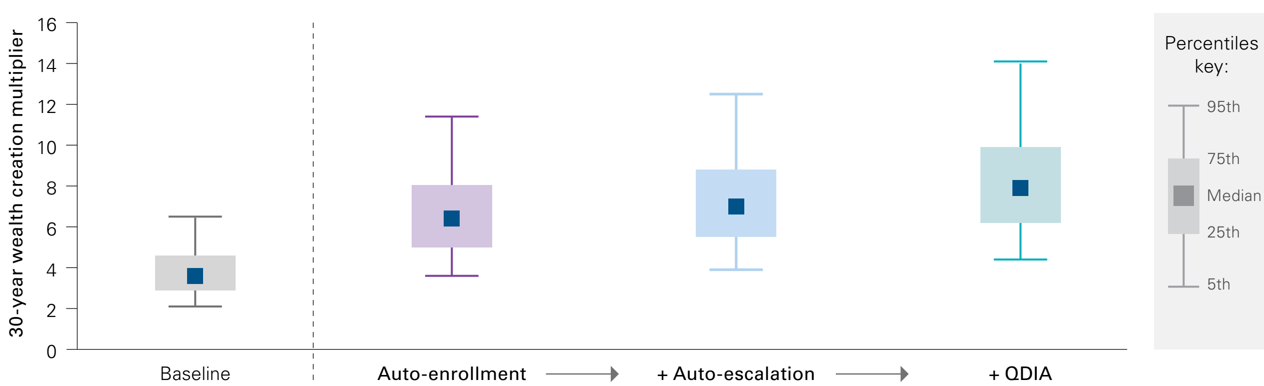
Informed monitoring of plan effectiveness

Monitoring the effectiveness of a DC plan ensures that the time, effort, and capital invested in constructing an appropriate lineup and implementing intelligent choice architecture have been well-spent. Even a well-designed plan can continue to be improved to help deliver the wealth creation discussed above. Monitoring of plan effectiveness can begin by capturing and analyzing metrics such as participation rates, savings rates, and investment decisions. Insights gleaned from this analysis can then be used to determine a course of action to further improve the plan's effectiveness.

For example, plans with high participation rates but low contribution levels could focus on educating participants about the importance of savings or offer broader financial wellness programming. Perhaps a plan has high participation and savings rates, but participant investment decisions leave room for improvement; that's when the consultant and plan sponsor's efforts may best be spent revisiting the lineup and the QDIA. Using a targeted next best action model to send a customized nudge to each participant could drive plan effectiveness on the participant level. Those who succeed at providing these nudges and can demonstrate improved plan effectiveness will further differentiate themselves from their competitors given that plan statistics may become the next horizon for evaluating a fiduciary's value.

For many consultants, executing the necessary analysis and reporting *and* having the experience to advise their clients on how to maximize impact could be the key to ensuring that the 2% in potential value added is actually compounded over time, leading to outcomes like those in Figure 13. Even if all consultants were to recommend plan design features such as auto-enrollment, those who can best drive adoption by the end participants can add the most value and create the most wealth.

Figure 13. Plan design features lead to increased wealth over time



Note: Wealth creation multiplier refers to the ending balances in year 30 of our model as a ratio to the covered employee's starting salary.
Source: Vanguard.

Module 4: Investment strategy

Nonprofit consultants can deliver ~ 70 bps in value for their clients by doing the following:

- [ ] Utilizing broadly diversified, low-cost portfolios as a benchmark to select and validate the appropriate strategic asset allocation in the context of helping the nonprofit achieve its goals based on its unique profile.
- [ ] Leveraging the impact of lowering institutional portfolio costs, whether implementing with active or passive investment vehicles.

Defined benefit consultants can deliver ~ 45 bps in value for their clients by doing the following:

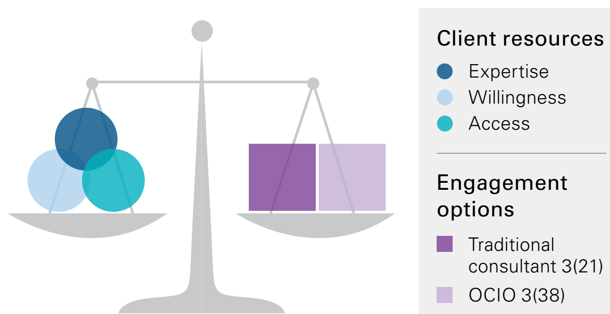
- [ ] Maintaining a dynamic balance between return-seeking and liability-hedging assets as dictated by the funding status and portfolio objective.
- [ ] Incorporating a liability-driven investing approach, encompassing liability hedging and a derisking glide path, in order to maximize funding status while minimizing funding status volatility.

The OCIO conversation

The framework for Vanguard Advisor's Alpha highlights the client's expertise, willingness, and access to top managers and investment talent as crucial determinants in the decision to partner with an advisor (Kinniry et al., 2016a). Carefully weighing these factors is vital when selecting not only the type of consultant to work with, but also the appropriate level of engagement with that consultant.

As indicated in **Figure 14**, consultants should ensure that clients have weighed their resources against their options and engaged accordingly before their consultants guide them through the investment strategy process. Clients with high levels of expertise, willingness, and access may require fairly minimal engagement, while those at the other end of the spectrum may be best suited for an outsourced chief investment officer (OCIO) model. Prior Vanguard research has explored this engagement decision in much greater depth for nonprofits (Wallick and Wimmer, 2014) and DB plans (Bosse and Klein, 2015).

Figure 14. Less expertise, willingness, and access internally indicates the need for a heavier engagement with a consultant externally



Note: Under ERISA, 3(21) traditional consultant refers to nondiscretionary consultants while 3(38) refers to those consultants who exercise discretionary control over the institutional portfolio's investment decisions.

Source: Vanguard.

Asset allocation is the foundation

In the seminal 1986 study *Determinants of Portfolio Performance*, Brinson, Hood, and Beebower found that the asset allocation decision explains approximately 90% of return variability within a non-tactical, broadly diversified investment portfolio. This conclusion was confirmed by the results of Scott et al. (2017). Given the magnitude of these findings, we believe consultants should employ strategic asset allocation as a means of driving their investment strategy.

Employ simplicity and sophistication

Given the importance of asset allocation and its role in enabling nonprofit institutions to meet their objectives, particularly spending targets, it's critical for consultants to ensure that their clients have the appropriate strategic asset allocation (Wallick et al., 2014). A high-level benchmarking process—one that zooms in on the institution's specific circumstances and tunes out the noise of peer performance—can be highly effective in accomplishing this.

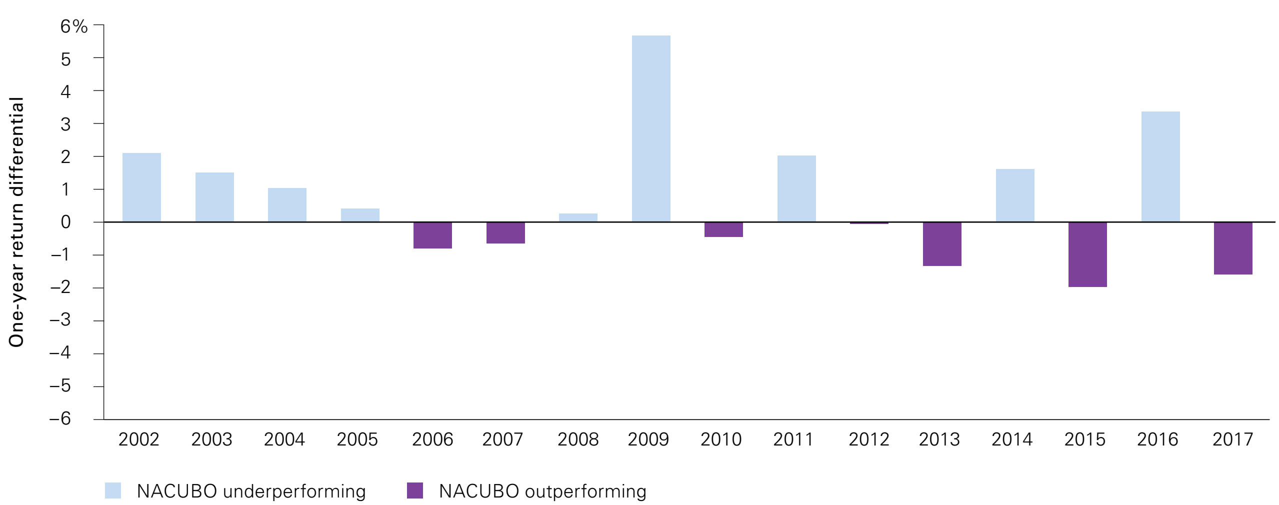
Nonprofit institutions will often vary widely in their cash-flow needs, ability to raise capital, donor requirements, spending policy, risk profile, and time horizon. Therefore, using a peer institution's portfolio as a benchmark to validate your strategic asset allocation can be much less effective than using a basic portfolio that employs simple yet sophisticated principles such as diversification and cost.

In order to illustrate this, we took a look at how the average endowment portfolio fared compared with a low-cost, broadly diversified balanced portfolio.

The annual study published by the National Association of College and University Business Officers (NACUBO) provides us with data on the asset allocation and portfolio performance of over 800 U.S. university endowments and affiliated foundations. Using the Total NACUBO Institutions Portfolio as our proxy for the average endowment, we compare its performance against an indexed 60% stock/40% bond portfolio.

In **Figure 15**, the x-axis represents the Total NACUBO Institutions Portfolio's performance. The figure demonstrates that the balanced portfolio outperformed

Figure 15. The Total NACUBO Institutions Portfolio underperforms



Notes: Data are as of June 30 for the previous year through June 30 of the stated year. For the 60% stock/40% bond portfolio, U.S. equity (36%) is represented by the Spliced Total Stock Market Index, and international equity (24%) is represented by the Spliced Total International Stock Index. The Spliced Total Stock Market Index is comprised of the Dow Jones Wilshire 5000 Index through April 22, 2005; the MSCI US Broad Market Index from April 23, 2005, through June 2, 2013; and the CRSP US Total Market Index thereafter. The Spliced Total International Stock Index is comprised of the Total International Composite Index through August 31, 2006; the MSCI EAFE + Emerging Markets Index from September 1, 2006, through December 15, 2010; the MSCI ACWI ex USA IMI Index from December 16, 2010, through June 2, 2013; and the FTSE Global All Cap ex US Index thereafter. Domestic fixed income (28%) is represented by the Bloomberg Barclays U.S. Aggregate Bond Index, and ex-U.S. fixed income (12%) is represented by the Bloomberg Barclays Global Aggregate Index ex USD. The average return differential between the two portfolios is 0.70%. The performance of an index is not an exact representation of any particular investment as you cannot invest directly in an index. We used a 60% stock/40% bond allocation because we believed it conservatively represented the liquid public market equivalent for the average nonprofit asset allocation, according to NACUBO. NACUBO returns are net of fees. A portfolio of actual index funds would be subject to fees and expenses that do not apply to indexes. Past performance is not a guarantee of future returns.

Sources: Vanguard and NACUBO-Commonfund Study of Endowments.

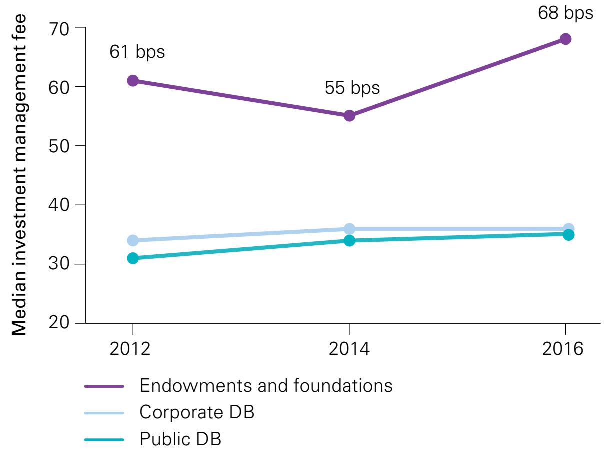
the NACUBO portfolio over 9 of the past 16 years, with outperformance of 70 basis points on average per year. Over the past 20 years, endowments of all sizes have continued to increase their allocation to alternatives, a shift that is crucial to understand when analyzing NACUBO's relative underperformance.

Vanguard has long advocated that introducing complexity into a portfolio for complexity's sake does not lead to superior returns. Figure 15 serves as a powerful reminder that simplicity and sophistication are not mutually exclusive for nonprofit portfolios. This is a message that consultants should communicate to their clients as they evaluate whether the appropriate asset allocation is in place. Factors to assess include asset class selection, sub-asset exposure, and active/passive allocation.

By employing simplicity and sophistication, consultants can add up to 70 basis points in value for their nonprofit client relative to the average experience.[8] This range was calculated by taking the average of the return differentials between the two portfolios for the timeframe depicted. We acknowledge that certain factors may affect the performance of the Total NACUBO Institutions Portfolio relative to a benchmark portfolio. These factors include manager transition costs, cash allocations to cover operating expenses, and the strength of the U.S. market over the past ten years relative to the international market (Carlson, 2018). However, even though this range is a moving target, it highlights the potential for a consultant adopting this framework to deliver Institutional Advisor's Alpha relative to the average experience.

While we addressed the impact of performance-chasing in the prior module, we must not forget about the deleterious effect of costs on investment returns. As shown in **Figure 16**, the portfolio costs for endowments and foundations have been rising. In 2016, the median investment management fee paid by nonprofits was 68 basis points, due in large part to the costly allocation to alternatives (Callan, 2017). The fee for an indexed portfolio that tracks the 60% stock/40% bond portfolio used above costs 10% of that, with a total expense ratio of 6.8 basis points.[9] The cost differential enables consultants to add 60 basis points in value, but in the interest of conservatism, we did not deem it appropriate to add this figure to the NACUBO return differentials discussed above, given that the self-reported NACUBO returns were net of fees and that high expenses could reasonably explain some of the differential itself.

Figure 16. Investment management fees increase for institutions



Source: The Callan Institute 2017 Investment Management Fee Survey.

Balance return-seeking with liability-hedging

For consultants with DB clients, the process of setting and implementing an investment strategy will diverge from that of developing a nonprofit investment strategy because of the difference in objective. Because a pension plan's mission is to fund the plan liability, and in doing so secure the retirement of its beneficiaries, the portfolio should balance maximizing funding status with minimizing funding status volatility, a significant pivot from the traditional risk-return framework (Wallick et al., 2016).

Therefore, the assets within the portfolio can be segmented into two categories: return-seeking and liability-hedging. Return-seeking assets aim to improve the funding status by generating excess returns relative to the plan liability. The principles covered earlier in this module regarding nonprofit portfolios are vital for consultants to keep in mind concerning the return-seeking portion of the pension portfolio. Liability-hedging assets seek to reduce funding status volatility by matching the liability's key interest rate risk factors.

8 While this value-add number is the arithmetic average of the one-year differentials, the geometric average over the time period was 68 basis points. We found this number to be time period-specific in both the observation period and the evaluation period, but our methodology fell on the conservative end of the spectrum on each count.

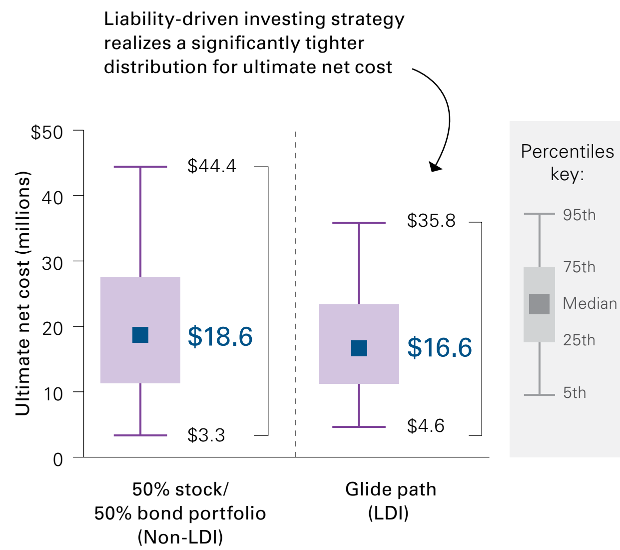
9 Weighted expense ratios for Admiral Shares of Vanguard Total Stock Market Index, Total International Stock Index, Total Bond Market Index, and Total International Bond Index Funds as of year-end 2017.

For these portfolios, the funding status and other plan-specific factors will dictate the portfolio objective, which in turn will dictate the balance between the two types of assets. This balance should be dynamic and shift away from return-seeking assets as the plan hits certain funding status targets; in other words, the consultant should implement a dynamic asset allocation based on the plan's funding status (commonly referred to as a glide path).

The analysis[10] in **Figure 17** quantifies the value of adopting a liability-driven investing strategy, which includes implementation of liability hedging as well as a glide path that reduces return-seeking exposure as funding status improves. We start with two identical 50% stock/50% bond portfolios, with only one portfolio adopting the liability-driven investing (LDI) strategy, and examine the difference in the ultimate net cost incurred by modeling the ten-year plan outcomes using the VCMM engine. Ultimate net cost in this analysis is defined as cumulative contribution requirements plus the unfunded liability at the end of the ten-year projection period.

As shown, the portfolio that implements a liability-driven investing strategy realizes a significantly tighter distribution for ultimate net cost. The difference in median "alpha," measured as the difference in net contribution costs as a percentage of the starting asset value, is approximately 45 basis points per year. While this is not expected alpha in the traditional sense, this is the value that a consultant can provide by understanding the nuances of each individual pension plan and using that knowledge to apply this approach.

Figure 17. Applying a liability-driven investing approach significantly reduces the median outcome for ultimate net cost



Notes: Contribution projections are based on simplified modeling of Pension Protection Act provisions, including subsequent amendments, and are not intended to precisely replicate actual contribution requirements. Unfunded liability projections are based on U.S. Generally Accepted Accounting Principles (U.S. GAAP). This sample pension plan is closed to new entrants with a funding policy of meeting the IRS minimum required contribution.

Sources: Vanguard, Vanguard Capital Markets Model, PFaroe.

10 Special thanks to Brett Dutton and Justin Clinger, Vanguard's investment actuaries for Vanguard Institutional Advisory Services, for their contributions to this paper in the form of this analysis.

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Appendix: About the Vanguard Capital Markets Model

IMPORTANT: The projections and other information generated by the Vanguard Capital Markets Model regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More important, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

The Vanguard Capital Markets Model® is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

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