Middle and Back Office

Performance, Risk and Analytics

March 2022

Welcome to an overview of Performance, Risk and Analytics, part of the BNY Mellon Client Training Program for asset owners.

I'm Frances Barney and I'm excited to share with you some of the services we provide to asset owner clients.

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This session will focus on the performance and risk analysis services, and how our clients are using these capabilities to manage their investment programs. I'll provide a few examples of fintechs we're collaborating with to simplify our client's operating models and share some of the future vision for how these services will continue to evolve.

A few key points to note: Accurate performance measurement is dependent upon accurate accounting information. Different methodologies for performance and attribution are appropriate for different asset classes, strategies and use cases. Risk means a lot of different things to different people. BNY Mellon is investing in these tools to help our clients manage their investments in support of their critical missions.

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BNY Mellon supports about 900 clients with performance measurement and risk analysis services globally with a broad set of capabilities. Asset owners are responsible for asset allocation and selection, and oversight of internal as well as external managers. Asset owners have a growing need for more frequent and more detailed analysis on increasingly complex investment strategies.

Allocations to alternative investments, derivative overlay strategies, and evolving regulatory requirements are all presenting challenges to institutional investors. Our services enable our clients to understand the investment returns as well as the risks inherent within their investment programs. Peer group analysis helps our clients understand aggregate investor behavior beyond market benchmarks.

Institutional investors are fiduciaries, they have to demonstrate that they're managing the overall program, including delegated investment managers with appropriate metrics. The tools described here are intended to help make your job easier.

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One common use case for these services is to communicate overall investment plan performance, asset allocation and risk within an executive summary reporting. Whether it's a high-level presentation to the board, or a detailed meeting within an investment committee, there are common elements. Starting outside in, presentations often review recent market activity told through benchmarks, sometimes with economic commentary.

The specific investment objectives fit in the context of the markets, frequently illustrated as asset allocation pie charts or target ranges.

Investment performance and attribution relative to policy benchmarks within the asset class framework helps to describe how well the program is performing, relative to market and sometimes peer benchmarks. Defined benefit plans often compare asset performance to specific liabilities, in line with the investment objectives.

Risk and compliance analysis help demonstrate due diligence and effective oversight, consistent with the fiduciary responsibilities of the investment office.

When these services are used for a specific manager review, there's less focus on overall asset allocation and more focus on the specific investment process of the manager, to evaluate whether the manager is meeting the expected risk and return objectives of the mandate.

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Performance measurement helps explain how well your portfolios are growing relative to their target benchmarks. A time-weighted rate of return can be described simply as the ending market value divided by the beginning market value, adjusted for cash flows. Accurate performance measurement is highly dependent on a careful integration of accounting data, because each transaction may have different treatment on the rate of return calculation.

The industry is trending toward more frequent, more granular and more flexible performance measurement calculations. For separately manage, liquid portfolios, daily security level performance is common. Asset owners who use a significant number of commingled funds, or hedge funds or private equity funds, often choose to have performance measurement calculated only on a monthly basis, because the funds are frequently valued monthly or sometimes even quarterly.

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If performance measurement tells you how your portfolios are growing, performance attribution attempts to show why. Macro attribution or total fund attribution can help answer questions like which asset class is contributing the most to the outperformance of the total plan relative to the policy benchmark, and is the outperformance coming from asset allocation decisions or manager selection decisions. This kind of analysis is frequently included in investment committee presentations.

Performance attribution for a single portfolio is often used in due diligence reviews with a specific investment manager. In this case, the discussion focuses on asset allocation decisions to specific countries or sectors relative to the benchmark, and value added from security selection. Fixed income portfolios are often evaluated with a multi-factor attribution model to help explain the impact of interest rates and credit quality in addition to currency and sectors.

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Peer group comparison data, sometimes called universes, provide another kind of benchmarking. Instead of comparing your performance to the entire market, with Asset Strategy View, you can evaluate your total fund and asset class returns relative to your peers. You can filter on specific types of investors, like corporate defined benefit or endowments and foundations, or specific sizes of investors, like greater or less than a billion in total assets. Since asset allocation is a key driver for total fund performance, you can compare your asset allocation to peers with similar asset allocation ranges.

With manager universes, you can compare the returns of your individual managers to the performance of other managers with a similar mandate. Manager universes may not show you how you're performing relative to your peers, but this kind of analysis can offer insights into how a given manager is positioned relative to their peers.

Investment returns come with elements of risk. There are different ways to define investment risk, depending on context and preference. For example, some people define risk as exposures to issuers or countries, and some define risk as the volatility of returns.

Enterprise risk analysis is one way of evaluating the total risk exposures within an investment program. Here are some of the ways we see asset owners using enterprise risk analysis to understand their risks: Some investors develop or monitor a risk budget using enterprise risk analysis. Value at Risk is an estimate of the expected loss with a given time horizon and a given confidence level. For example, 95% of the time, you might expect losses to be less than a specific number or a specific month or day. So that means 5% of the time, you expect to lose more than that number during that period. Stress testing can show the expected impact of a specific factor, like if interest rates were to rise by x amount. Scenario analysis estimates the potential impact on the portfolio of an historical period or hypothetical combination of factors. For example, a period of market turmoil.

Many asset owners review structural analysis and security characteristics of their portfolios, to understand another dimension of risk. BNY Mellon calculates hundreds of security level characteristics, so you can easily slice and dice your portfolios by a variety of different factors and frameworks. You can compare portfolios to benchmarks, or a group of portfolios to each other, or analyze a single portfolio across time.

For example, country or sector weights, duration or credit quality buckets, top or bottom, performing securities, market cap exposures and so on. This kind of analysis is relevant for portfolios where you have or can obtain the underlying positions. We leverage a "look-through" service to collect holdings from our clients' commingled fund managers, and then the system automatically connects a pro-rated portion of the assets of the fund to the relevant client portfolios.

The same fundamental characteristics that make up the Structural and Exposure Analytics reporting underpin the investment compliance monitoring reporting. Whenever you hire an investment manager, there's usually an investment policy statement that sets out investment guidelines the manager is expected to follow. When an asset owner hires a new manager, they can send the investment policy statement to BNY Mellon, and we will extract the quantitative guidelines to code the measurable tests.

For example, some types of guidelines would be "no more than X percent of the portfolio can invest in a particular issuer, or a particular type of security", or "no more than X percent greater than the duration of the benchmark". We also see combinations of guidelines. If this then that, this plus this, if this and that, so on.

One common type of guideline we've seen increasingly are securities associated with ESG issues. There are a lot of different ways investors are thinking about ESG analytics, so this is an area where we've built specific functionality in an ESG Data Analytics application to help clients analyze and report on the ESG factors relevant to them.

We've developed a number of fintech collaborations to provide additional capabilities to our clients. The Caïssa Total Plan Platform is a pan-asset class reporting and asset allocation analysis tool.

Some of the ways asset owner clients are using this enhanced portfolio management system include: What-if asset allocation analysis, total fund liquidity analysis, combining private equity pacing and hedge fund contractual liquidity calendars, and intuitive executive summary graphical reports.

This is just some of the ways our clients are using these capabilities. Caïssa also recently merged with Burgiss, another of our key fintech collaborations, so there will be further integration of these platforms over time.

We support specialized private capital reporting through a long-standing integration with Burgiss. In addition to operating as a sub-ledger in support of our private capital administration functions, we give clients who need detailed private capital functionality, access to the Burgiss portfolio management analysis tools.

Private capital performance and analysis involves unique calculation methodologies. For example, the relevant rate of return calculation is not time-weighted, but money-weighted because the managers control the timing and frequency of cash flows. A range of metrics describe investment characteristics, such as vintage year, total value to paid and capital, unfunded commitment, as well as since inception IRR or internal rate of return.

Private capital transparency is available on more than 14,000 funds, as well as private capital universe and analytics to evaluate investments relative to appropriate metrics.

We recently announced a collaboration with Backstop Solutions to offer research management and document management capabilities to our clients.

Research management systems support the manager selection and due diligence activities of asset allocators, to simplify the oversight role that comes with acting as a manager of managers.

Backstop also includes a robust document management function, which can help automate the collection and management of all the documents that come with external managers. Alternative investment strategies in particular have extensive documentation requirements, and these tools have been designed to simplify the experience of managing the documents, so you can focus on higher value added and analysis rather than repetitive administration tasks.

Global Risk Solutions is now integrated within the Data and Analytics (D&A) business. D&A is like a fintech inside BNY Mellon, investing in cloud-enabled technology as the foundation for next generation investment analysis, software and services.

Over time, the data that supports performance and risk calculations will be able to leverage the cloud capabilities of the D&A architecture, which includes a data foundation, cloud-native dynamic calculation, and data visualization capabilities. Our investment is focused on scalable flexibility, scalable to enable us to calculate accurate returns and analytics for several hundred thousand portfolios, and flexible because each client wants to view their investments slightly differently. Our goal is to enable clients to easily extend our capabilities to enable clients to incorporate client-specific data and calculations beyond the services outsourced to us, without having to establish a major additional technology program.

We're one of the world's largest providers of these tools, so we're really excited to talk with you about how we can help you. Please visit our website or contact your BNY Mellon relationship manager to learn more about our capabilities.

Thank you very much.

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