



## Executive Summary

In the current environment of heightened compliance and regulatory scrutiny, the length of time that it takes to go from decision to investment seems only to be increasing.<sup>1</sup> With many funds potentially struggling to meet their stated investment objectives,<sup>2</sup> investors can ill afford to continue to bear the frictional costs and unrewarded risks of multi-month delays. Plans unable or unwilling to streamline the logistical steps taken prior to transitioning may wish to partner with a manager offering a bridge between the decision date and the implementation date through fast, efficient and flexible solutions designed to retain market exposure and mitigate risks.

In a prior paper, “The Quest for Beta: Balancing Risks with Costs and Returns,”<sup>3</sup> we described how the selection of appropriate beta instruments prompts investors to consider how much tracking error they are willing to tolerate to save a certain amount in trading costs. This cost-benefit analysis typically requires a combination of art and science — combining risk tolerance subjectivity with portfolio optimization objectivity. In this follow up piece, we want to elaborate on the science behind the creation of tracking portfolios as a potential interim beta solution. Specifically via a redacted case study, we describe in greater depth an application of beta management with growing appeal to institutional investors for its cost efficiency and flexibility: interim portfolio management.

# Interim Portfolio Management

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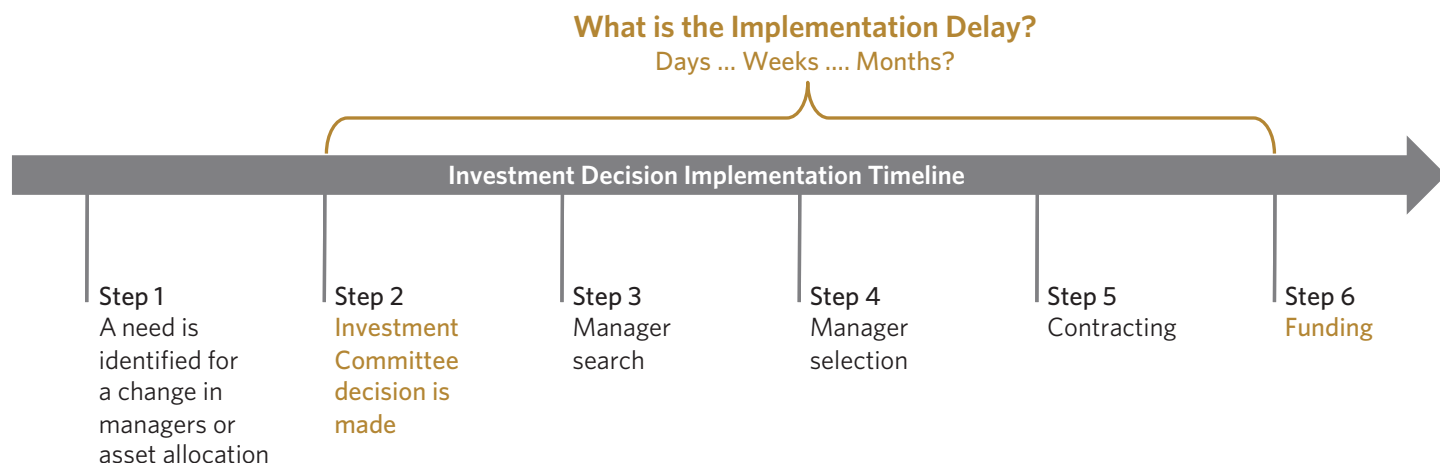


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1 In a widely covered release in May 2011, Mellon Transition Management, the transition management specialist for BNY Mellon Asset Management, reported on how institutional investors are taking far longer to change investment managers or asset allocations than they did before the 2008 financial crisis. Press release available at <http://us.bnymellonam.com/core/press/2011/2011.html>

2 For example, BNY Mellon Pension Services measured the funded status of a typical US corporate pension plan to be less than 84% as of August, 2011.

3 Available at [www.mellon.com/transitionmanagementservices](http://www.mellon.com/transitionmanagementservices)



Data Source: BNY Mellon Beta Management, 2011.

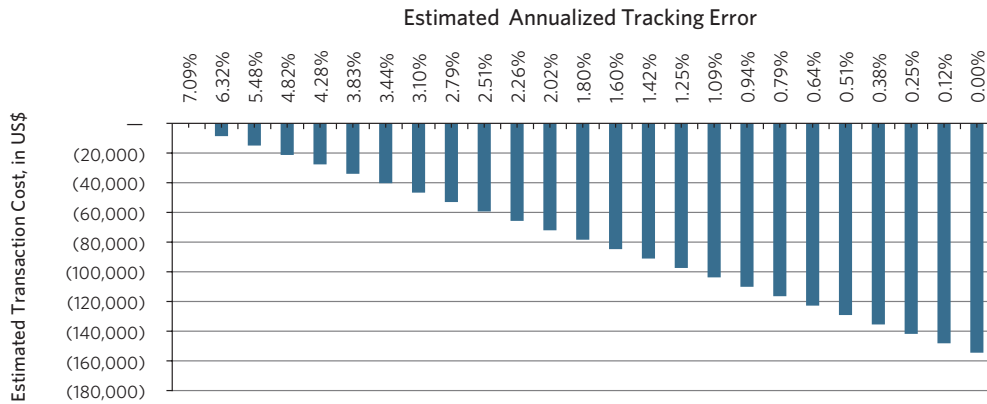
### Interim Portfolio Management: In Theory

In a perfect world, investment management decisions would be implemented immediately after an investment committee approves an asset allocation shift. However, due to the length of the typical fund procurement process involving manager selection, due diligence reviews, contract negotiations, and other fund governance related measures, it is not uncommon for an institutional investor to take months to go from decision to implementation.

Interim portfolio management is a process for assigning a beta or “exposure” manager the task of obtaining a desired market exposure (or beta) over a short to intermediate horizon (anywhere from a single day up to one year, typically) in a cost-effective and risk-controlled manner. While such beta management may be obtained through a futures overlay, for example, the focus of our paper is on instances when derivative options are limited or where there exists a significant possibility to manage costs and risks by using “in-kind” securities (those positions which can be retained from a terminated strategy to fund a new strategy at zero cost.)

The first consideration for any such assignment always must be to answer this fundamental question: is an interim step absolutely necessary? Transaction costs can be a significant drag on fund performance. When compounded over time, they can impair a fund’s ability to satisfy its liability — however that liability might be construed. Therefore, the decision to trade should only be made when the expected utility (increased return or decreased risk) outweighs the forecast cost.

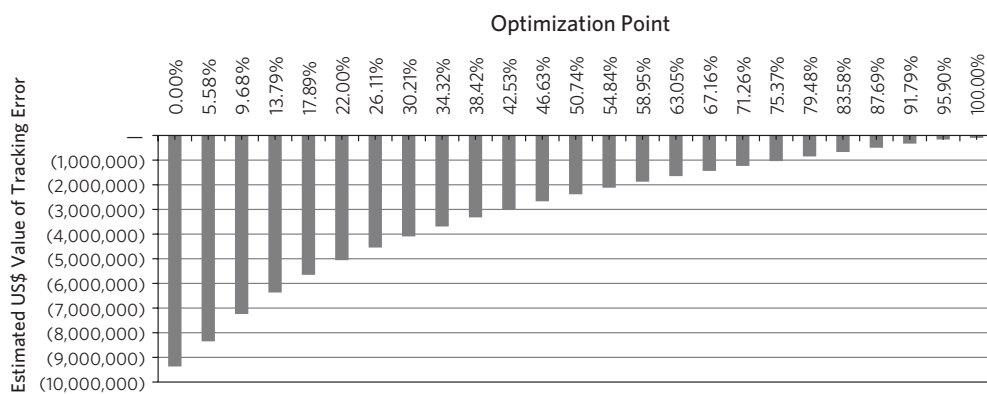
## Exhibit 2 - Evaluating the Expected Utility



### Cost vs. Risk

Moving left to right along the X axis shows the potential reduction in tracking error from the legacy portfolio against the desired benchmark for a given level of estimated cost necessary to optimize the portfolio.

- 7.09% = no optimization of the interim portfolio
- 0% = fully replicating the desired beta index exposure



### Value-at-risk vs. Optimization Point

Moving left to right along the X axis shows the potential estimated \$ implication of tracking error to the interim portfolio against the desired portfolio for a given level of replication.

- 0% = no optimization of the interim portfolio
- 100% = fully replicating the desired beta index exposure

Data Source: BNY Mellon Beta Management, March 2011. For illustrative purposes only. This example is based on a hypothetical optimization of a legacy portfolio with exposure to the Russell 1000 Growth Index, and does not represent actual trading. VAR (Annual) at 95%.

The lower the ex-ante tracking error requirement, the higher the expected trading cost.

When evaluating interim management solutions and rebalancing decisions, one of the fundamental considerations is the trade-off between transaction costs and ex-ante tracking error. Transactions costs can include explicit (commissions, taxes, fees) and implicit costs (spread costs, market impact, etc.). For each optimization point, or level of ex-ante tracking error, there is a corresponding transaction cost along a continuum that ranges from no trading (e.g. negligible transaction costs) to full benchmark replication (negligible tracking error). Stated directly, the lower the ex-ante tracking error requirement, the higher the expected trading cost. This inverse relationship is outlined in Exhibit 2 above. Decisions related to interim management solutions or just the degree and frequency of rebalancing programs can be guided by such a continuum.

This cost-benefit principle holds true for any transition and is important to consider when evaluating interim portfolio management which, by definition, requires introducing an additional step — going from A to B to C rather than directly to C. In such case, the client's legacy holdings would be transferred to an interim manager who would operationally facilitate the transfer, assume management duties, and institute rebalancing guidelines customized to the client's risk tolerance versus rebalancing cost objectives.

## Interim Portfolio Management: In Practice (an Illustration)<sup>4</sup>

### Situation:

A UK pension scheme unexpectedly needed to terminate a large investment due to significant organizational changes at the fund manager. The investment committee was in the process of evaluating a new target asset allocation and expected to implement this allocation in nine months' time. Yet the loss of confidence in the legacy manager required more immediate action. As an interim solution, the scheme selected a passive beta mandate comprised of the FTSE Global Indices. This mandate would be comprised of optimized physical equity positions for the FTSE global indices. The scheme's overriding objective was to replicate the legacy manager's current exposure with minimal costs to transition and minimal ongoing rebalancing costs, until it ultimately could select and implement its new target allocation.

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### Evaluating the Alternatives:<sup>5</sup>

The client evaluated various alternatives to achieve this objective.<sup>6</sup> A few of the potential strategies considered included:

1. Synthetic beta replication with futures and currency forwards
2. Beta replication using Exchange Traded Funds (ETFs)
3. Total Return Index Swaps
4. Physical interim management solution

With each of the different options, the client needed to evaluate the costs, risks, and operational implications of the different instruments while also considering redemption costs. These differed for cash or physical security delivery. Another consideration for this particular client was the as yet undecided target allocation — recognizing that the selection of the interim beta instrument would potentially affect the future transition costs once the new managers had been appointed.

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<sup>4</sup> The example used herein is hypothetical. Although based on actual and/or similar events, certain details have been altered to protect client confidentiality.

<sup>5</sup> The use of derivatives such as futures and swaps involves risks different from, or possibly greater than, the risks associated with investing directly in the underlying assets. Derivatives can be highly volatile, illiquid and difficult to value, and there is the risk that changes in the value of a derivative held by an investor will not correlate with the underlying instruments or the other portfolio investments. Swaps also involve the risk that a loss may be sustained as a result of the failure of the counterparty to make required payments or otherwise comply with the contract's terms.

<sup>6</sup> Please refer to "The Quest for Beta: Balancing Risks with Costs and Returns" for further detail on the alternatives used in this example.

**Exhibit 3 – For each desired exposure or particular asset class, there are factors and costs to consider throughout the interim management process**

	Redemption Process Inputs	Interim Management Inputs	Target Funding Process Inputs
<b>Implementation costs</b>	Costs of physical versus cash redemption from the legacy manager	Commissions, taxes and fees, and estimated market impact  Rebalancing costs, roll costs	Commissions, taxes and fees, and estimated market impact
<b>Risk factors</b>	Active risk from legacy assets to beta instrument	Ongoing tracking error	Active risk from beta instrument to target assets
<b>Operational factors</b>	Redemption windows  Transferability/Ownership changes	Contracting  Monitoring	Final decision date/Contribution windows  Transferability/Ownership changes
<b>Opportunity costs</b>	Effect of decision on potential future transition costs (preservation of inkinds)	Other implications of decision alternatives (e.g., stock lending programs, short-term and intermediate liquidity needs)	Effect of decision on potential future transition costs (preservation of inkinds)

Data Source: BNY Mellon Beta Management, 2011.

After considering each of the alternatives, the scheme decided on physical interim management for most of the developed equity market indices, passive replication with futures and forwards for the Asia Pacific portion of developed equity market indices, and an ETF for the Emerging Markets exposures. Swaps were eliminated as a potential interim beta vehicle, as legal requirements were thought to be more burdensome. Ultimately, the final hybrid solution was the result of a thorough evaluation of the considerations depicted in Exhibit 3 for each component of the mandate.

**Component Decision Framework:**

*FTSE Global Developed Index*

— *Solution: Physical Interim Beta Management*

The selection of the physical interim beta management for the developed markets (ex -Asia Pacific) component of the mandate was based on several key benefits of this particular solution:

Initial trading costs were low relative to a futures or ETF solution, because very little trading was required due to the legacy portfolio’s low tracking error to the benchmark. The pension scheme was also comfortable with maintaining a tracking error threshold similar to the legacy manager which meant that rebalancing costs were also expected to be very low. We have found that rebalancing programs for similar mandates can be very flexible and a client can specify a risk tolerance (i.e., acceptable expected tracking error to its

Once the scheme’s target allocation was finalized, those securities in common between the legacy and target portfolio would transfer across with minimal costs.

benchmark) versus their desired frequency of rebalancing and resultant costs of that trading activity. The scheme then worked with our staff to agree on a rebalancing process whereby, once certain tracking error thresholds were breached, a rebalance trade would re-align ex-ante tracking error to a predefined target.

The trustees were also able to use the flexibility of the physical interim management assignment when there was a need to raise cash. Simultaneously, there was a desire to reduce exposure to UK Equity. As interim manager, we accommodated both of these directives, and optimized a trade to meet these objectives, with the goal of lowering overall tracking error.

Another consideration that appealed to the scheme was the ability to maintain a legacy third-party securities lending program with the interim management assignment and, therefore, continue to capture the lending revenue.

A final benefit of this solution was that by maintaining the physical positions, the scheme preserved the opportunity for in-kind savings. Once the scheme’s target allocation was finalized, those securities in common between the legacy and target portfolio would transfer across with minimal costs (e.g., custody costs and certain taxes in some instances). These savings can be significant, as Exhibit 4 illustrates.

**Exhibit 4 - (Hypothetical Example) the potential savings through the preservation of inkind (assuming 15% of £500 million (£75 million) of FTSE All Share transfers inkind):**

Estimated Commission - (5bps): £37,500 X 2	£75,000
Estimated Market Impact - (18bps): £135,500 X 2	£270,000
Taxes - (50bps, assuming Flag 5 exemption <sup>7</sup> )	£375,000
<b>Potential Total Savings - (14.4bps of £500 million)</b>	<b>£720,000</b>

Data Source: BNY Mellon Beta Management, 2011. This example is being shown for illustrative purposes only and does not represent actual trading.

<sup>7</sup> Represents the potential savings when a Flag 5 exemption is applicable. A Flag 5 exemption is an example of a relief/exemption that allows a UK pension scheme to avoid paying the 50 bps Stamp Duty Reserve Tax otherwise applicable to all purchases of UK securities or securities transfers (such as in-kinds) if such purchase or transfer would result in a change in beneficial owner, such as transferring from a segregated account to a commingled fund. Other taxes may still apply.

### ***Asia Pacific Component of the FTSE Global Developed Index***

#### ***— Solution: Futures and Forwards***

A key driver in the beta alternatives decision process was the legacy manager's redemption fees. For the developed indices ex Asia Pacific, the redemption fees were negligible whether a cash redemption or physical redemption was selected. For the Asia Pacific mandate component of the FTSE Global Developed Index, the redemption fees to deliver physical in-kinds were significantly higher than cash redemptions. This differential made the passive replication of the benchmark with futures and forwards a more attractive option than transferring and managing physicals. As interim manager, we coordinated the implementation of the futures and forwards with the removal of the legacy exposure.

### ***FTSE Emerging Markets***

#### ***— Solution: Emerging Market ETF***

For the emerging market component, due to local regulations, the transfer of physicals was not possible for some markets. Further, liquidity and tracking error were significant issues when attempting to replicate passive exposure using futures and or/partial physical positions. For primarily these reasons, the scheme selected an ETF to achieve its desired emerging market exposure. As interim manager, we coordinated the implementation of the ETF exposure via the creation process against the legacy redemption.

The use of a pre-approved beta manager can be a potentially cost-effective mechanism for a plan looking to buy time when making decisions.

## Conclusion: The Role of the Interim Portfolio

Unavoidable delays, due to fund governance requirements, unanticipated changes to manager structure or other reasons, may well warrant taking an interim step. In such a case, the use of a pre-approved beta manager can be a potentially cost-effective mechanism for a plan looking to buy time when making decisions. Interim beta solutions, like tracking portfolios, are designed to satisfy fundamental investment objectives. A dedicated beta manager can offer a range of valuable services, including but not limited to:

- Identification of strategic options for execution
- Retaining the desired market exposure
- Mitigating portfolio risks
- Managing transaction costs
- Rebalancing and liquidity management
- Handling of corporate actions and proxy voting over the interim period
- Delivery of portfolio management within guideline risk and cost thresholds including regular reporting on performance, risk and cost

With institutional investors under considerable pressure to achieve their funding objectives, managing cost and implementation risk remains of paramount importance. In those instances when a client cannot (due to logistical or governance reasons) move directly to a new set of investments, interim portfolio management may be a risk-controlled and cost-effective alternative to consider. An experienced central beta manager specializing in risk management and the efficient implementation of tracking portfolios may provide a very valuable service to investors needing to span the gap between decision and investment.

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