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LGPS Overview and context

The Local Government Pension Scheme (LGPS) is a public service, defined benefit pension scheme with, in England and Wales, a total membership of over 5.0million and assets valued at £190billion as at 31st March 2014 (source: 2014 Fund Report and Accounts).

As a funded pension scheme, its stakeholder group is wide and includes councils, employers, members, pensioners, trade unions, local tax payers and regulators. Consequently, there is a need for increased transparency of costs and charges, not only so that committees overseeing investments are able to do so effectively, with strategic decision making supported and audited, but also to ensure that the high level of public accountability expected of a public service pension scheme is met.

The LGPS in England and Wales is made up of 91 separate funds each managed by an administering authority named in regulation. These funds vary greatly in size from £200million to £13billion, membership profile and investment strategy.

Asset classes and investment management

What all funds share, like most pension funds and institutional investors, is an increasing exposure away from the traditional equity/bond asset classes and diversification into emerging market equities, infrastructure, private equity and hedge funds and many other asset classes besides.

Investments in the LGPS can be managed in-house; which is more often the approach adopted by larger pension funds; outsourced to investment managers, often via pooled investment vehicles; or a combination of the two. Different ways of allocating costs by the individual administering authorities running LGPS pension funds can mean it is difficult to compare costs and expenses from one organisation to the next, not least between funds that outsource services and those that use in-house management.

Transition Management

The need for transition management occurs when a Pension Committee decides to change the fund investment strategy, the fund portfolio benchmark or investment manager. During the transition the objectives are to reorganise the portfolio to the new benchmark as soon as possible and/or, in the case of a change in manager, maintain benchmark exposure throughout the transition period.

This shift in long-term asset allocation strategies has materially impacted transition management. In recent years, the trend in investment transition has been the move from balanced investment manager portfolios towards specialist manager mandates.

With the differing liquidity and trading frequency of more specialised asset classes, investment transitions can take longer to complete - perhaps over the course of months rather than a few days. This in turn increases the attention that should be given by Pension Committees to each transition event.

The market for specialist transition managers has increased accordingly. Pension funds with the resources and capability may complete transfers in-house, whereas more complicated transitions may benefit from commissioning a specialist transition manager. Whether via a transition manager, or in-house, the Pension Committee should still have a good awareness of the process involved and have the knowledge to scrutinise the transactions so that they may ensure value for money. Typical undertakings could include the following:

- Reviewing potential risks, both market and operational, and possible mitigations.
- Reviewing investment manager (and transition manager, if applicable) mandates looking at methodology, performance measurement and proposed reporting standards
- Minimising all transition costs, e.g. transferring assets in-specie where possible (maximising portfolio retentions), internal crossing, netting and best execution.

- Completing a post transfer reconciliation report and providing a full audit trail. This should cover confirmation that all stocks, cash, income, dividend and tax accruals are transferred.

In order to accurately monitor the transition costs, clear and transparent monitoring of day to day investment costs is a prerequisite. This is an area where the LGPS is improving. Among the objectives of the Scheme Advisory Board is to improve transparency and comparability across the scheme and across funds. The Scheme Annual Report 2013 begun by establishing a baseline from which to move forward.

Transparency in practice

The second Scheme Annual Report provides an aggregation of all individual fund report and accounts in England & Wales as at 31 March 2014. The funds range in size from over £10bn (3); between £2bn and £10bn (29), between £0.5bn and £2bn (52) and less than £0.5bn (7). Some investments/funds are managed internally, while most funds are externally managed portfolios or pooled funds. Reported investment expenses aggregated for the entire scheme total 0.30%, however, fund investment expenses range from 0.02% to 1.13%.

Analysis of costs disclosed in audited accounts for the Annual Report have proven that direct fund for fund comparisons do not give an complete or accurate picture. Differences in administration and investment management structures coupled with disclosure requirements open to interpretation are some of the reasons for this.

Administration and investment expenses were found to be listed in over 27 different types of cost headings. The transparency around cost is also blurred by the line between administration of the 'fund' and of the fund investments. Only a handful (five) of local authority funds itemised transaction costs in their accounts. In practice, most administration and investment expenses were listed under half a dozen broad headings.

Steps have been taken to improve the situation, and the Chartered Institute of Public Finance and Accountancy's (CIPFA's) guidance for 2015, which local authority pension funds must have regard to in preparing their accounts, has been updated to include a third cost category (Other Internal Expenses/Oversight and Governance). This has been done in an attempt to provide a reporting structure that will give more clarity and comparability in how pension fund expenses are reported from one fund to the next.

Transaction costs

Currently, there is no universally accepted definition. For example, the Federation of Dutch Pension Funds, which is some way down the road in improving transparency, includes the hidden cost in the bid/offer spread in its definition, whereas the applicable accounting standard for the LGPS does not.

CIPFA Guidance for the LGPS adopts the definition of transaction costs as defined in the accounting standard and the Code guidance does not require these costs be quantified and disclosed but the notes to the financial statements should explain their existence. In practice, only five of 91 LGPS Funds in England & Wales itemise transaction costs in their annual report and accounts.

Investment Expenses

The current LGPS reporting regime is effectively based on reporting invoiced fees as expenses and including other charges (for example transaction costs, FX fees and fund of fund layer fees) in the net return figure. This situation results in a number of issues which full and consistent transparency of charges could address. In practice, while all funds disclose total investment expenses in the face accounts of their financial statements, the level of detail in the notes varies considerably.

Internal Expenses (Other, Oversight and Governance)

CIPFA guidance introduces a third expense category for 2015. A range of costs (commonly classified as administrative or investment related, or both) could be more accurately described as oversight and governance costs. The addition of a third cost category should allow for better comparability year on year as charges for cyclical services, such as actuarial work, are filtered out.

LGPS, wider industry issues and moves toward transparency

In September 2013 the actuarial firm Hymans Robertson and the benchmarking firm CEM investigated investment charges across 12 LGPS funds and compared them to a peer group of large international funds. The resulting report found that:

'Actual investment costs are double what is currently disclosed under current accounting conventions (c63bps vs c32bps – £0.32 per £100 of assets per annum)'

It must be stated however that the extra charges discovered did not point to a lack of value. Indeed it appeared that LGPS funds were achieving fee rates comparable with, if not better than, the peer group. Nevertheless the report concluded that:

- There has not been sufficiently clear instruction on fee disclosure requirements (e.g. what should be in the reported data including layers of fees on pooled funds and funds of funds) and some information is hard to get.
- The impact of the undisclosed fees is reflected in fund performance measurement so the lack of transparent disclosure has not resulted in an overstatement of returns.
- Transparency and full disclosure should become the norm. This would include disclosure of all layers of fees.
- Greater transparency will allow like-for-like comparisons to be made and enable the understanding of the true cost of running LGPS investments and how that is changing over time.

More recently, the DWP consultation, "Call for evidence on improving the disclosure of information about transaction costs in occupational and workplace personal pension schemes" drew the attention of the Defined Contribution sector. However, there is consensus that there is a need for increased transparency of costs and charges in non-money purchase schemes more broadly.

Pension Committees overseeing investments need to ensure the fund is getting value for money. Greater transparency around investment management costs will help to improve this and the LGPS community keenly await DWP's response to this consultation, as any such extension to the proposals covering transparency should support a greater degree of understanding and accountability for scheme investment costs.

Introduction to Transition Management

Asset owners are familiar with the complexities of making changes to their assets, such as switching investment managers or rebalancing activities resulting from an asset/liability study. However, when it comes to making that implementation efficient and cost-effective, the best way forward isn't always clear.

To help investors manage these complex projects, a wide range of financial institutions have created transition management teams. These teams specialise in asset movements and project management to minimise the cost and risk of transitions, in turn allowing the owner of the assets to focus on their core management responsibilities.

However before employing a Transition Manager it is important to understand what they do and most importantly, whether they add value.

What is a Transition?

In our view the best definition of a transition is any movement of assets from point A to point B, this can capture asset allocation changes, manager changes, manager funding or redemptions amongst other events. By their nature no two transitions will be identical. While one transition might involve a relatively simple switch between equity managers, another might require a wholesale asset rebalance to set up a new fiduciary management mandate for a client.

Importantly, while transitions differ in their complexity, the goals are the same: move the assets but minimise cost, minimise risk and ensure an efficient and timely completion of the overall project.

While some firms, like Russell, have been providing a Transition Management service for the last 30 years, it is in the last five years that has seen the wider recognition among asset owners of the value that transition management can add.

Why consider Transition Management?

Changes in portfolio composition expose portfolios to costs and risks. Costs can arise whenever assets are moved between portfolios or transacted. These costs include broker commissions, custody fees and spreads. There are many potential risks associated with any restructuring of securities and at Russell we split them broadly into two categories, financial and operational. Financial risks include exposure risk for example, operating in different markets in different time zones which could lead to unintended exposure and trading risks resulting from executing trades through a single venue rather than multiple platforms. Operational risks include communication risk where miscommunication can trigger investment risk and cause administrative issues for the client and currency risk where incorrect currency balances will result in an overdraft in at least one market.

A Transition Manager should therefore add value in a number of key areas; minimisation of cost, minimisation of risk and project management.

Minimising Cost

It is the job of the Transition Manager to minimise all costs associated with the transition, both explicit and implicit. Explicit costs include pooled fund transaction fees, commissions and taxes. Implicit costs are typically harder to measure, and include market spread and impact.

The first step in minimising costs is to create a well designed transition strategy. The Transition Manager will develop a detailed understanding of the risks and costs associated with the required changes and design a strategy to minimise them in alignment with the clients overall objectives. This would include, for example, the analysis of pooled fund exit options. Facing potentially steep anti-dilution levies for redeeming in cash, it would be prudent to investigate the option of a security redemption (a so called "in-specie transfer") with the potential of significantly reduced costs.

Second, the strategy will clearly outline when and how any necessary trades are to be executed. Crossing trades with other transition clients, accessing multiple execution venues to discover liquidity, maintaining client confidentiality, and utilising the latest trading techniques are just a few of the cost saving methods a Transition Manager could, and should, consider.

Minimising Risk

The Transition Manager needs a robust risk control platform. There are many potential risks associated with any restructuring of securities but they can be split broadly into two categories, financial and operational.

Financial Risks

Managing the structure of the portfolio-in-transition

Portfolio structure is the main driver of performance and is managed at all times using a variety of methods described in this proposal. During the transition, The Transition Manager should closely manage many different performance drivers such as (but not limited to) sector, capitalisation, country, currency.

Other financial risks include: **market exposure risk, trading risks and information leakage.**

Operational Risks

Experience in the industry has taught us that communication is the largest non-investment related risk of any transition event. The Transition Manager should minimise this risk by actively coordinating all activity between the managers, brokers, custodian, and client throughout all stages of the project (pre-transition, implementation, and post-transition periods).

Communication Risk

One of the primary goals of transition management service is to extend client's resources by transferring the event's administrative and operational burden to the Transition Manager. The Transition Manager should act as lead project manager to ensure that each party involved has clear instructions of what they need to do and when.

Additional operational risks include: **settlement risk, trading risk (incorrect securities or amounts traded) and currency overdrafts**

Project Management

Without proper planning (and significant experience in managing transitions) it is impossible to minimise cost, risk and ensure the project is managed in a timely manner.

Amongst other things, employing a Transition Manager will:

- **Remove workload:** A transition often takes up significant client resources over an extended period of time and can often be taking place in the context of other activity. A Transition Manager removes this burden while ensuring the client is fully in control and aware of all activities.
- **Provide sound governance and improved accountability:**
- **Avoid performance holidays:**
- **Provide detailed reporting:** "What gets measured gets managed".

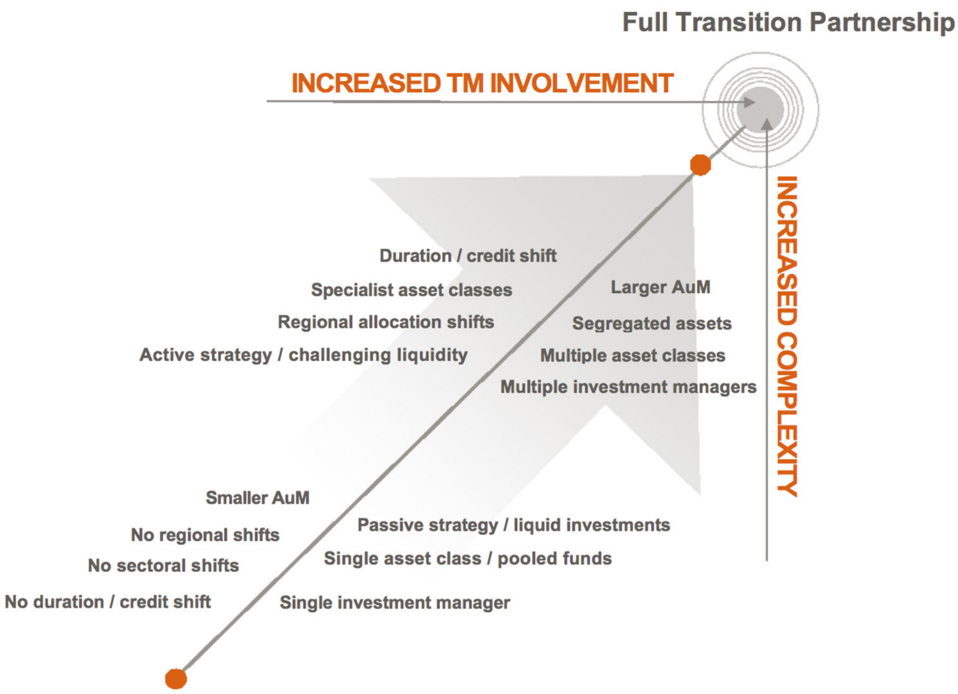
So what does a transition cost?

While there are a number of factors that influence the cost, the three most influential are:

- **Time to implement:** In general a faster, but more aggressive, trading approach leads to higher cost due to market impact. A more patient approach can often reduce or eliminate such costs, but needs to be balanced with the opportunity cost of a longer trading time horizon.
- **Market/Capitalisation/Asset Class:** In general, developed markets are less expensive to transition than emerging markets, large cap securities are less expensive than small cap securities, and government bonds are less expensive than corporate bonds.
- **Commonality of assets:** In most transitions there are legacy assets that can be used to build the new structure. Instead of trading these securities, they are ring fenced from trading and therefore attract no costs. The percentage of securities that can be retained during a transition will have the biggest impact on the expected cost during a transition - the higher the percentage of such common assets, the lower the transition cost.
- **What about commissions?** Actually in most case trading commissions are less than 20% of the total cost of a transition1. (Source: Investment Technology Group. U.S. Trading costs: Commissions and implementation shortfall based on ITG's peer group (Q4 2013 peer data are preliminary). Data Jan.1 2007 to Sep. 30, 2014.)

When to consider Transition Management?

A period of change for an institutional investor can present significant challenges and stretch resources to the limit. Employing an expert to assist is a prudent solution. A Transition Manager, in addition to assuming full project management responsibilities, will ensure the change is implemented in a cost effective and risk controlled manner while allowing the client to continue their daily activities with minimal interruption. A number of key considerations when assessing if the appointment of an external Transition Manager is appropriate are highlighted in the diagram below:



Project Management Consultation

A Transition Manager can be employed in a number of different roles. Starting from a consultative role to a full outsourcing solution where the transition provider assumes full responsibility for strategy and implementation of the event.

A Transition Manager may add less value within very simple re-organisations, where the transitions are within a single organisation, instrument type and asset class or when they are between pooled funds where inspecie transfers are either not available or not cost optimal. Although each of these events will be unique, a common observation will be a low tracking error estimation between the legacy and target structure. In essence this is a reflection of the lower risk associated with these types of events and thus the lower value added by a Transition Manager. Please note however that there can still be significant investment risk experienced intraday during these events if market exposures are not maintained appropriately.

However, within a simple manager restructure within a specialist asset class, for example emerging markets or corporate bonds, the client can still benefit from the involvement of an external Transition Manager. A Transition Manager can utilise local experience, expertise and broker relationships in markets which offer less transparency into liquidity and spreads and thus significantly lower the expected cost of the event and reduce the overall investment risk.

If the proposed restructuring has sufficient factors that would enable an external Transition Manager to add value then the appointment of an external provider in a full outsourcing solution should be considered. These factors include, but are not limited to:

- Segregated assets / in-specie available or requested
- Exposure shifts
  - Duration change
  - Credit rating shift
  - Regional asset allocation shift
  - Sector allocation shift
  - Strategy shift (e.g. passive to active strategy)
- Multiple investment managers
- Multiple asset classes
- Inclusion of specialist asset classes
- High value of assets involved
- Specific trading benchmark required (i.e. VWAP)

Russell believes that it can be of benefit to consult a Transition Manager in the planning stages for all potential transition events. If the activity is a straightforward, low value, pooled fund re-allocation, while it may not be appropriate to appoint a Transition Manager to manage and execute this event, it may be possible to derive benefit from a consultation process. A transition specialist can assist in the planning stages of an event of this nature to help ensure the objectives are fully met with optimal risk and cost. An example would be ensuring that the points of investment and disinvestment are timed to minimise out-of-market risk.

Transitions involving pooled funds

Russell's transition management business was born out of our commitment to optimising the investment returns of our own multi-manager funds, so we have a unique insight into the additional complexities involved in managing transitions where pooled funds are concerned.

Broadly speaking these can be broken down into four main categories:

- Planning – pool funds typically differ in three main respects. Timing of trading and settlement, whether in-specie transfers are permitted and notification/instructions.
- Instructions – whether the Transition Manager can instruct, the existing investment manager or the client themselves can instruct the subscriptions/redemptions. Who instructs and the notice required can have a significant bearing on the timing of any restructuring.
- Execution – in-specie transfers, where possible, can assist in maximising the amount of securities retained and therefore help reduce transaction costs as well as help manage market exposure. Where cash is being redeemed futures may need to be considered to manage exposures during the transition.
- Cash flows – managing cash flows becomes a key component of the transition, as the settlement cycles of the pooled funds may differ from those of the other investments in the transition, as well as the redemption/ subscription currency.

The dedicated Transition Manager, working alongside quantitative analysts, will conduct an in-depth analysis to determine the best course of action for pooled funds including a cost/benefit analysis to determine the optimal redemption process taking investment and operational risks into consideration. Upon completion of the process the Transition Manager will also prepare the relevant documentation for the client for final sign off.

The transition team will work then with both the legacy manager and custodian to coordinate any security transfers to the transition account if in-specie transfers are deemed the most appropriate way to proceed.

Managing the nuances of pooled fund redemptions and subscriptions is an integral part of each Transition Manager's role and Russell has devised customised forms, checklists, pro-forma e mails and letters to assist in this process.

In general, pooled funds add considerable extra planning to ensure all parties are coordinated and all cost alternatives have been reviewed in order to give the client given the optimal transition strategy.

In order to develop a strategy for managing an event where pooled funds are involved, first you need to understand the mechanics of the funds themselves. To aid in this Russell have developed a series of procedures that our Transition Managers follow, the first of which involves sending a detailed questionnaire to the managers involved to garner all the specific information required. Typical areas covered include:

Main details and pricing:

- Full Client Name(s) and any internal code(s).
- Name of the fund the Client is invested in, including any Bloomberg quote or identifier.
- Number of units held, latest price, currency and valuation.
- How is the fund priced, daily, weekly, other?
- How often does the fund trade? Next available trade date? Crossing opportunities?
- What is the pricing point of the fund? (Close of business on trade date, other?)

Investment / Redemption details:

- Costs associated with a cash subscription/redemption? (dilution levies, fees, etc.?)
- Subscription/redemption currency.
- Cash settlement cycle
- What is required to amend any cash wire instructions currently held on file?
- Is there a pre-notification period for cash redemptions?
- Is a specific subscription/redemption template required?
- What authorised signatories are on file and when were they last updated?
- Is in-specie available?
- Tax implications of in-specie transfers.
- Are there any outstanding investment management or custodial fees?

Answers to the questions above then form the basis by which we can compile a detailed matrix of all the separate components of each fund involved. Only once this has been completed can the Transition Manager perform an in-depth analysis on each fund to ensure all of the specifics of the particular fund are fully understood.

Regardless of whether the destination portfolio is completely segregated or includes pooled funds a detailed cost/benefit analysis will be undertaken to determine the most cost and risk effective way to either redeem or subscribe. This analysis will then drive whether we look to secure a cash or in-specie redemption/subscription and will also drive how we managed the underlying risks involved.

It should be noted that depending on the size of the transaction, and the prospectus of the fund, in certain instances in-specie transfers are not allowed and the only option is a cash redemption/subscription. In these cases it is important that the Transition Manager incorporates this into the overall transition plan to ensure appropriate market exposures are maintained.

Fixed Income transitions

Overview

Hiring a dedicated manager for the transition of equities portfolios is now considered best practice for pension fund trustees and fiduciaries. Yet still today fixed income transitions are often left unmanaged. Despite the opaque nature of fixed income markets, many of the trade- and risk-management practices in equities transitions have proved effective in fixed income transitions as well. Regardless of the asset class involved, a plan fiduciary should always seek to manage an investment transition in a manner that is consistent with the principles of prudence and due diligence.

Why hire a fixed income Transition Manager?

Historically, trustees have put less emphasis on the management of fixed income transitions. The risks and costs associated with an unmanaged equities transition are considered unacceptable by most trustees; however, when making shifts that involve fixed income portfolios, sponsors often revert to practices they abandoned years ago within equities – even though the costs are often more significant. In fact, when we compare the alpha expectations for various asset classes to average transition costs, fixed income transitions erode a higher percentage of alpha than equity transitions (see Exhibit 1), in the case shown over double the amount.

Exhibit 1:

Mandate	Benchmark	Tracking error	Target annual gross excess performance [1]	3-year average estimated IS [2]	Transition costs as % of target alpha
Global equities	Russell Global Developed Equity Index	350 bps	200 bps	34 bps	17%
Global fixed income	Barclays Global Aggregate Bond Index	175 bps	100 bps	45 bps	45%

[1] Estimated based on alpha expectations of Russell Funds.

[2] Average estimated TM Implementation Shortfall (IS) costs from Russell Implementation Services Inc. performance database, three years to December 31, 2014. For illustrative purposes only. It is not representative of a projection of the stock market, or of any specific investment. Returns represent past performance, are not a guarantee of future performance and are not indicative of any specific investment.

If a fixed income transition is managed incorrectly or not at all, the erosion of alpha can be significantly worse than the result shown in Exhibit 1. Thus, transition management is critically important in the fixed income marketplace.

Are fixed income transitions unique?

So why is it that trustees still often default to using their existing asset managers when restructuring fixed income portfolios? Are fixed income transitions less complex to manage – is the process simpler than for equities? Do the same principles that apply to transition management not also apply to this unique and opaque asset class? Or do trustees feel that Transition Managers lack the required skills?

Why use a Transition Manager for fixed income?

Historically Transition Managers lacked the skill sets required to offer a viable alternative for clients when deciding how to restructure their portfolios. That situation has definitely changed and Russell, for one, is very focused on providing a first class transition service with a dedicated team.

We believe that fixed income transitions are often ***more*** complex than equity transitions, and that the main principles of transition management apply even more strongly to fixed income transitions. However, from a trustee's perspective, the answers often derive from the fact that measuring the costs of fixed income trading can be harder. This lack of natural transparency can lead an investor into undervaluing the usefulness of transition management in this asset class. Skilled Transition Managers can play a key role here in increasing transparency where too often, little exists, It's through increasing transparency as well as expanding competition in the trading process that a transition manager add significant value.

Russell's fixed Income transition capabilities

Russell has vast experience in managing transition events in all asset classes. However, especially in recent years we have seen significant growth in fixed income and balanced transitions. We have portfolio managers who specialise in this asset class and Russell is also probably one of only a very few Transition Managers who can provide a detailed track record and certainly one going back over 5 years.

Russell trades fixed income though our multi venue platform, our traders are liaising with more than 130 different fixed income counterparties globally. Critically Russell has local broker representation in each region. To obtain best execution and find the best liquidity we solicit multiple bids or offers from various counterparties per line-item.

A key advantage of utilising Russell results from the unconflicted investment management transition business model. Broker dealers actually provide daily indications of interest on their current order flow to us, which further allows us to optimise matching opportunities with the flow of our broker dealer counterparties. Our trading team are able to look at this broker provided information on an intraday basis at a portfolio specific and asset specific level to best target broker approaches and ensure that competitive prices are achieved. This capability and overall approach is particularly important for fixed income trading, for which liquidity is less transparent.

Real savings

The below table[1] helps quantify the savings available through executing via Russell's pure agency multi-venue platform. Highlighted is the difference between where Russell executed on behalf of our clients in 2014 versus the next best quote received (the cover) and the difference versus the average of the quotes received (including the execution):

Fixed Income all 2014	Bps between best execution and next best quote	Bps between best execution and average quote
Government Bonds EUR	1.64	2.08
Government Bonds Non-EUR	1.67	3.63
Corporate Bonds EUR	6.74	9.35
Corporate Bonds Non-EUR	18.11	31.48

It is important to note that whilst the savings represented certainly provide a compelling argument for multi venue trading they do not show the full depth of the market as Russell only requests prices from a selection of counterparties/ venues and this list has already been tailored to incorporate counterparties that are known to be interested/ active in the particular bond.

As a result of the Russell transition business model, broker dealers provide daily indications of interest on their current order flow which allows us to optimise matching opportunities with the flow of the largest global broker dealers. Essentially this means that Russell is able to target broker approaches to ensure that only competitive prices are received.

The Government bond metrics reflect a tighter market and narrower spread savings than the corporate bonds traded in this period. This is because government bonds are typically more liquid and often more readily traded on electronic platforms, making that liquidity much more transparent.

The corporate bond metrics reflect a wider market as a product of the comparatively less transparent liquidity (majority is still telephone trading, limited electronic trading). The benefits of the targeted approaches Russell is able to make are more evident here, observing the differences between next best versus average metrics.

1 Source: Russell Investments. Data for 2014

Transition Manager comparisons

Due to the opacity of the fixed income market there is limited data available to compare execution against other providers. However in a study conducted in August 2012 by MarketAxess (an electronic trading platform provider) of USD denominated trades executed on MarketAxess and compared with comparable TRACE (US regulatory reporting requirements) trades (comparable if executed on the same day, same side of the market and of a comparable size) Russell's execution expertise was further validated. MarketAxess used a universe of 10,000 trades executed by Transition Managers, which was then narrowed to approximately 3,500 data points based upon the ability to match with comparable trades in TRACE. The final data set allowed for statistically significant inferences.

This study found that Russell on average saved 3.94 basis points in yield versus the universe of comparable trades (by asset managers). When compared explicitly to a peer group of Transition Managers, clients in the transition peer group saved approximately 3.6 basis points in yield. The conclusion of the study was that Russell saves 0.34 basis points in yield more than the average Transition Manager on the platform.

	Corporate Bond Execution Quality		
	Cost Saving in Yield	**Wgt Avg Duration**	**Price Improvement**
Russell	3.94	7.5 yrs	29.55
Other Transition Providers	3.60	6.9 yrs	24.84
	Russell Saving vs Other Transition Providers		**4.71**

Source: MarketAxess, as at August 2012

Closing thoughts

Russell is the only major transition provider whose business was developed to serve the needs of a multi-manager investment management business. There is an investment requirement to manage transitions within our multi-manager funds business and therefore transition management is core to what Russell as an organisation provides to clients. For this reason, we can provide clients with a firm assurance of the continuity of our transition service and that Russell must continue to invest the necessary resources to maintain a robust transition management offering.

Alignment of interests

We firmly believe alignment of interest with our clients is fundamental to achieving our overriding transition objective. Our determination to ensure our interests are aligned with those of our clients goes all the way back to the origin of our business. Having built our first multi-manager funds in the early 1980s, we developed transition management capabilities with one objective in mind: to minimise the impact of asset movements within our own funds.

Building the service without any outside business considerations was therefore critical in aligning our interests with clients. In fact, this service was used exclusively within our own funds until 1992 when, responding to requests from clients investing in our funds, we established a third party transition deliverable. Understanding our transition management origins is fundamental in order to appreciate the focus we place on this alignment of interests. It is the common thread running through all aspects of what we do. In particular, four key areas set us apart from the competition.

1. Contracting Method: Investment Manager

We always contract as an investment manager as we firmly believe that transition management is an investment management exercise. Contracting under an outsourcing agreement also ensures that clients receive more stringent fiduciary protections than those included in a broker/dealer arrangement. In summary, these fiduciary duties compel us to do the following:

- We cannot place ourselves in a position where our own interests conflict with those of our clients.
- We must not make profit unduly at our clients' expense – and must clearly and fully disclose our remuneration.
- We owe undivided loyalty to our clients.
- We use information obtained in confidence from our clients only for the benefit of those clients.

2. Execution Method: Pure Agency

We always act in an agency capacity when executing trades for our clients – whether the trading is in equities, fixed income, foreign exchange or derivatives. This means that we avoid the direct conflicts of interest inherent in trading in a principal/proprietary fashion where the Transition Manager acts as the counterparty to a trade.

Taking agency a step further Russell operates as a ***pure agent***. When trading for our clients we only represent one side of the trade – that of our transition client. We don't represent or collect remuneration from the 'other side of the trade' which a normal agency broker would do. This approach allows us to focus solely on our transition clients and at the same time avoid another potential conflict of interest.

3. Sources of Liquidity: Unbiased Multi-Venue

A key advantage of Russell is our unbiased ability to source and access liquidity. We have no bias to trade with one venue over the other, we don't foster relationships with hedge funds for trading purposes and neither do we operate a principal trading account. Russell is a dually registered investment advisor AND agency-only broker – providing our clients full fiduciary oversight and we believe we are able to provide you unrivalled access to liquidity. Our independence allows us to source liquidity wherever it may present itself, free from the business constraints of maximising trading revenue.

4. Remuneration: Fully Disclosed

The industry code of practice, the T Charter, states that Transition Managers should "disclose all sources" of remuneration. At Russell we go even further than this as we disclose our full compensation for performing transition management. Acting in a fiduciary capacity, we have a duty to disclose our remuneration. The fees we disclose are complete in that we take absolutely no other compensation from transition activities, unlike some other providers whose fees can therefore appear much lower.

Experienced team

Russell has a global transition management capability, including teams based in Seattle (global headquarters), London and Sydney. Russell employs over 70 investment professionals focused on transition management and related functions. Globally, the transition management team includes 26 key transition portfolio managers (8 of whom are based in London) with a combined industry experience of 380 years (an average of more than 14.5 years) with tenure at Russell extending up to 19 years (average Russell tenure 8.1 years).[2]

Our transition management team forms part of the wider implementation services team, which includes exposure management (such as policy implementation, currency hedging, liability hedging, cash equitisation etc), speciality asset management (such as interim asset management) and execution management (such as commission recapture and agency foreign exchange).

2 Source: Russell Investments as at 30 April 2015

EMEA clients would be principally served by our London office and these associates will draw on our global resources to manage the portfolio. Our team in London currently contains of senior industry figures, including associates having previously worked at transition teams of UBS, State Street, LGIM and Northern Trust. All EMEA transition associates are full time and are responsible for the management of transition events, acting as daily contact for inquiries pertaining to transitions. The global transition team is expanding and we expect three more transition portfolio managers to join the team in 2015, one in each region.

Our credentials

In 2014 alone we managed 733 events, transitioning assets of over £485 billion. We continue to innovate. Over the last year or so we have assisted a number of clients with 'non-standard' transition assignments and have put in place a number of Interim Asset Management solutions to ensure clients have time to evaluate any changes they need to make while at the same time allowing them to exit from underperforming managers.

As a Transition Manager, we are well placed to handle any challenges that may present themselves to our clients. We continue to be a driving force for transparency in transition management and have been a key contributor to the T Charter best practices document. We have also released an update to the T Standard (a widely used method for calculating performance during transitions) which has been well received by clients, consultants and providers alike.

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The concept of Transition Management

The benefits of transition management are manifold, but often not fully understood by many asset owners.

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Even though there has been much talk about transition management, there are still many asset owners who are unsure as to what the service entails and what they can expect from a provider – a situation not helped by that fact that the service is offered by many different types of institutions ranging from banks, custodians and asset managers.

This article is designed to showcase elements of the theory behind the transition management service and explain how this theory translates into practice.

The Theory

Transition Management is a service used by institutional investors to implement re-allocations of assets. A change in asset structure can involve multiple managers, several asset classes (e.g. bonds, equities, derivatives, pooled funds) as well as multiple legal entities. Because the service is multi-faceted, Transition Managers are required to have a diverse set of skills in areas such as project management, execution and risk management. As a result of the ever-increasing complexity and frequency of transition projects across multiple managers and asset classes, banks and other types of institutions have established specialist teams to handle such projects.

What causes a transition event? There are many reasons that result in the need to re-allocate assets. Examples of these could include:

- Unsatisfactory manager performance
- Asset/Liability mismatch
- Benchmark changes
- Change in investment style (e.g. active to passive)

In essence, Transition Management is a risk management and trading strategy exercise with success dependent on the following key areas:

- Clearly defined objectives and an agreed transition plan
- Use of live market insight to develop a strategy
- Access to continuous liquidity
- Flexibility to tailor solutions and adapt to changing markets

The benefits of hiring a Transition Manager

Ideally, when faced with a re-allocation of assets, an investor would want to implement the change instantaneously when the decision is made and at no cost. In reality though, transitions take time, bear a number of risks and bring with them costs.

The purpose of a transition manager is to implement asset restructures in a risk-controlled, cost and operationally efficient way. In that regard, the list of responsibilities includes, but is not limited to:

- Preserving asset value
- Minimizing costs
- Maintaining market and benchmark exposure
- Minimizing operational risks
- Providing transparency

At this point investors may well ask: “Why should I not simply leave a restructure to be handled by my legacy or my target managers”?

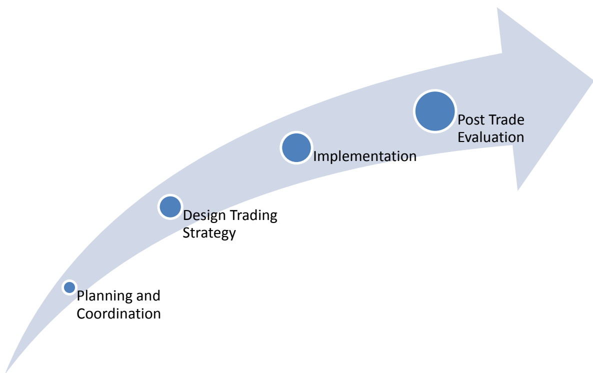
While managers are experts at managing assets, they are not necessarily the optimal choice for the role of a transition manager. In fact, asset managers generally welcome the appointment of an independent transition manager as it offers a neutral counterparty between the legacy and target managers, whose sole purpose is to implement the restructure in a risk and cost efficient manner. More pertinently, legacy and target manager will have concerns about sharing intellectual property – such as portfolio composition and key investment ideas – with competitors. Having an independent party, ideally a bank, provides the necessary barriers to ensure that no confidential information is passed between managers. A final important consideration is that the appointment of an existing or target manager to implement the restructure will lead to a request to accept a performance holiday during the transition period. No manager will accept responsibility for the performance of assets they have not chosen for their own mandate. The introduction of a performance holiday can result in lack of focus on reducing costs, resulting in a less optimal outcome than might otherwise have been achieved by a transition manager.

The Key Steps in a Transition

The transition process can broadly be split into four steps:

TRANSITION MANAGEMENT PROCESS

High Level Overview



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The Key Steps in a Transition - Step One

The first phase is the "Planning and Coordination Stage", extremely important in any assignment from an operational and project management point of view. At the outset of any restructure it is important to define the client's objectives. During this step the legal framework is set, powers of attorneys are put in place and the managers are informed of the upcoming restructure and the appointment of the transition manager. At this stage, any required electronic links and operational links to the custodian and the administrators are put in place. Invariably a transition account is set up to ensure that the restructure does not affect the day-to-day management of existing mandates which are not fully terminated or newly set up. This is also the stage where the first transition plan is drafted, discussed and distributed to all key contacts. The transition plan is a document which outlines all the important steps involved in the project, the objectives, roles and responsibilities, operational processes including corporate action management as well as a timeline. The plan is regularly updated as the transition progresses.

The Key Steps in a Transition - Step Two

During the second phase, the "Trading Strategy Stage", a detailed pre trade analysis is conducted and the trading strategy is developed. This step is the most complex in the process. This pre-trade analysis is conducted on legacy asset lists and the wish lists provided by the managers. Like all roads leading to Rome, there can be more than one implementation strategy available for a particular restructure event. In a pre-trade analysis all available options are presented and subsequently discussed with the client. During this stage, ahead of actual implementation of any required transactions, market developments are monitored. If adverse market developments call for alternative trading solutions to be considered then these will be presented and debated.

The formulation of a trading strategy can be affected by a number of different considerations. These considerations include:

- Trade-off between opportunity and market impact costs
- Timing and market environment around time of execution
- Trade-off between investment and operational risks
- Liquidity constraints (Size to trade versus Market)
- Crossing opportunities
- Agency versus Principal
- Execution venues and distribution channels
- Client objectives: Risk tolerance, time constraints (i.e. deadlines), requirement for capital commitment
- Operational constraints: Settlement constraints (i.e. maximum number of transactions that the custodian and client can process in one day)

The trading strategies available in equities are generally relatively straightforward due to the nature of the equity markets.

For other asset classes careful planning is needed to source the required liquidity and ensure execution is completed at a fair price. For example, in transitions involving Fixed Income instruments, the following strategies can be discussed and considered:

- **BWIC (Bids Wanted In Competition)** - A slice of the portfolio is sent to two or three banks requesting bids. Whichever bank comes back with the best prices underwrites the deal. This can also be done on a line by line basis rather than as a slice of the portfolio.
- **Limit order** – Bank(s) provide an indication of appetite from other trading clients for block trades and work within price limits (e.g. par or better).
- **Risk Price per block** - Bank(s) trade on risk at possible discounts to where the market is trading for standard clip size.

Another element that requires consideration is whether hedging (for example through derivatives) is required. Transitions do not automatically call for the use of derivatives as investment risks can often be managed without them provided the transition manager ensures the client is not over- or under exposed at any time during the transition. However, where this cannot be achieved, the use of hedging instruments can be appropriate. Any hedging requirement and the type of instrument to use will be identified in the pre- trade analysis. Beta products such as Exchange Traded Funds (ETF's) or listed futures could assist in the over-all risk management of a transition in such circumstances. Situations which may result in the usage of derivatives are:

- **Exposure Management** – Relevant where a transition involves divestment or investment into funds and trade dates cannot be aligned - futures or ETFs can be used to manage this out of market exposure.

- **Relocation of assets** between equities and bonds - To assist in a reallocation of funds from equities to bonds (or vice versa); clients can decide to do so with the use of derivatives, such as the sale of an equity index and simultaneous purchase of bond futures.

- **Duration adjustment** - This type of change could be made by either switching out of the current bond holdings (i.e. to longer/shorter duration bonds) or by overlaying the current holdings with futures.

- **Hedging Currency Risk** - Currency overlay is a trading strategy involving derivatives used by some clients to limit the risk from adverse movements in exchange rates. In such instances, the transition manager could arrange for a currency overlay by conducting foreign exchange hedging on the client's behalf and selectively placing and removing hedges to achieve the objectives of the client.

Therefore, if agreed with the client, the transition manager can use derivatives or ETF products in an effort to manage exposure and investment risks including a currency overlay to limit the risk from adverse movements in exchange rates. These hedging tools would be unwound simultaneously to transitioning into the target assets. The transition manager would normally use derivatives only if a hedging strategy was deemed appropriate and agreed with the client.

The trading strategy conclusion

A client's objectives and constraints will determine which strategies are available. Based on the market liquidity at the time of transition, along with a likely timescale, the actual strategy that will allow best price and most optimal implementation strategy will become clear. Most of all, it is important not to narrow down the options until the objectives are defined.

The Key Steps in a Transition - Step Three

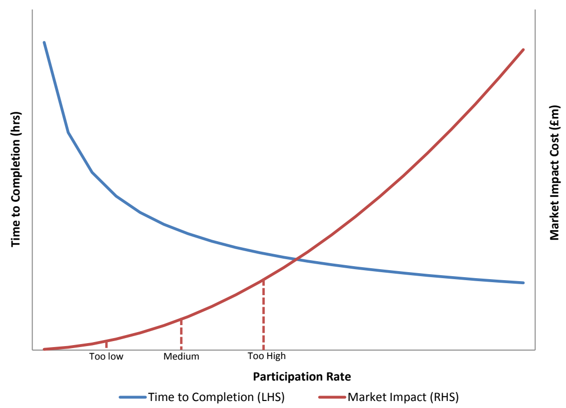
During the third phase, the "Implementation phase", the transition manager receives final legacy asset lists as well as final wish lists from the managers, which are screened for corporate actions and any other potential anomalies. The transition manager then creates a combined target and legacy portfolio, crosses them up against each other and prepares respective trade lists. A final pre trade analysis is conducted the day before trading starts. During the course of the trading days, the relevant trading desks will execute the transactions in line with the agreed trading strategy.

Assessing Market Impact and Opportunity Risk

One area of focus during the implementation phase is how to manage execution and exposure risk. As discussed previously in an ideal world all of the assets would be reorganised at a single instantaneous point in time at no cost. However, liquidity is not infinite and consequently trading all of the assets at once would incur adverse market impact costs. In other words, the higher the demand for a security's available liquidity the greater the impact one can have on the price of the asset. To reduce this, trading is carried out over a period of time. However, there is a trade-off which is opportunity risk. Opportunity risk is the risk of an asset the transition manager is buying becoming more expensive over time versus the price of an asset the transition manager is selling. It is measured as the volatility and standard deviation of returns over time. More details can be found in the glossary of terms at the back of this article.

Reaching the balance is important in being able to deliver a successful result. Therefore, it is important to move the client as soon as possible into the target portfolio with limited or no market impact (adverse price impact).

Market impact and opportunity cost trade-off



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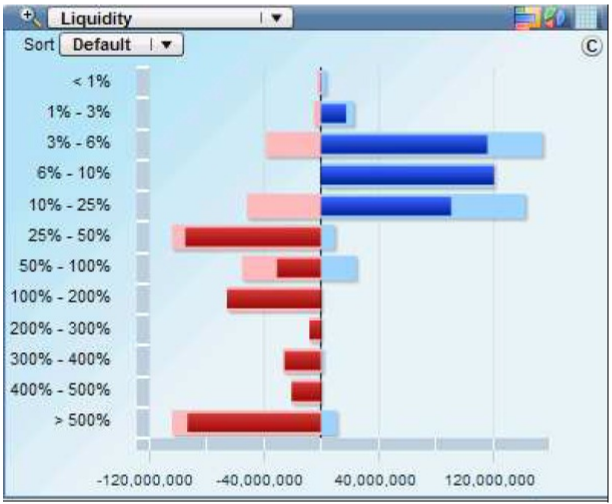
Managing Liquidity Imbalances

If this is not challenging enough, there is another issue most transitions face, which is a liquidity imbalance between the buys and the sells. In very few transitions do you find the required buys and sells of securities having the same liquidity profile. Therefore, one is generally faced with a liquidity imbalance between the two. As such, if the buy portfolio is more liquid than the sell portfolio the transition manager would end up completing the buys before the sells, see example below (dark blue represents net buys, dark red represents net sells).

Example liquidity profile of a Transition



Source: Morgan Stanley Analytics ("MSA")

This in turn affects cash flows. In other words, using the above example, the transition manager could finish the buys much faster (possibly in one day) than the sells, which would require multiple days to complete. Left unmanaged, one would be unable to settle the buy transactions on time due to lack of available cash coming from the sale of the securities. If this was to happen, hefty charges would be incurred for overdrafts or to arrange financing, in addition to the exposure risk implications caused in such a situation. The good news is that the industry has developed state of the art algorithmic technology which enables effective management of these challenges.

One particular algorithm developed by Morgan Stanley is MS PORT. Morgan Stanley specifically developed this algorithm to reduce risks and control implementation shortfall across a basket of securities. Unlike most other algorithms, MS PORT works on a portfolio level and optimises the buy portfolio and the sell portfolio taking into account the correlation between assets. It minimises stock and sector specific risks by trading out of high risk positions early in the trading period and then passively executes the remaining portfolio in line with volumes traded. It can also address the cash balancing constraints.

Aside from managing execution risks and exposure risks during the implementation phase, a key role of the transition manager is also to manage cash flows and ensure that at all times there is sufficient cash in the transition account. Cash flow management has to be pre-planned and may need adjusting during the transition. Cash flow management is particularly important when transitioning assets across multiple accounts, dealing with fund investments (redemption and subscription cash flow restrictions) and trading in different regions. The settlement cycle differs from market to market and product to product. For example, UK equities settle on a T+2 basis whereas US equities settle on a T+3 basis. As much as the overall trade invariably is cash balanced, in each region after each trading day for global transitions, one can suffer from cash flow imbalances within the accounts driven by differences in settlement cycles. This can be managed by extending or reducing the standard cycle and by the transition manager financing the imbalances where required.

Part of cash flow management involves the execution of foreign exchange transactions. These trades should, wherever and whenever possible, be executed simultaneously to the underlying securities to minimize currency risk. This also helps to ensure that the exchange rate prevailing at the time of each trade is locked in so that the settlement value of the underlying security does not fluctuate with exchange rate volatility or price drift.

The Key Steps in a Transition - Step Four

Although the "Evaluation and Settlement" phase is last in line, it is as important as the other three. During this final stage of a transition, the transition manager takes care of instructing and settling the transactions as well

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as the reconciliation of positions and handover to the new managers.

Managing operational risks in a transition is as important as managing the investment risks since failed settlement and un-solved mismatches in cash flows can result in significant interest charges in some markets as well as the risk of being "bought-in" in other markets. A "buy-in" means that an investor will have to repurchase shares or stock because the seller either failed to deliver the shares or did not deliver them in a timely fashion. The buyer notifies exchange officials, who in turn notify the seller of the delivery failure. The exchange assists the buyer in purchasing the stock again, with the original seller having to make up the price difference if the new shares are more expensive than originally agreed to.

To limit settlement and operational risks, it is important to ensure that, where possible, the process is automated and custodians are instructed via SWIFT/electronic means. This minimises the operational risks and should ensure the timely settlement of the underlying transactions.

During this phase, the transition manager also produces a post-transition report, which provides objective performance attribution results and a qualitative commentary on the transition. These results are then presented to the client following completion of the restructure. Both pre- and post-transition cost reporting should be in line with industry standards.

The Cost

Due to the many different types of service providers offering transition management the industry agreed to, and adopted, an industry standard to measuring the costs in a transition. The most commonly used benchmark is the Implementation Shortfall ("IS") benchmark, the standard method to measure the performance and total cost of a transition.

The Implementation Shortfall compares the value of the assets at the end of the transition with the theoretical value of the assets at the start of the transition assuming that the transition was carried out instantaneously and cost free. This offers a simple and effective way of capturing all costs.

In other words, the Implementation Shortfall is measured as the difference between the benchmark price of each security in a transition (i.e. closing value of the position the day before the start of the transition trade) and the execution price achieved for each transaction, including commissions, taxes and other fees.

Broadly speaking, the Implementation Shortfall can be split into two categories of costs:

- **Explicit costs**
- **Implicit costs**

Explicit costs are commissions, stamp duty fees, taxes and exchange fees and therefore are the known factors ahead of the transition.

The implicit costs are made up of a) market impact and bid/ask spread costs and b) opportunity cost.

Implicit costs are different to the explicit costs in that the exact magnitude of the cost is not fixed and is impacted by market dynamics.

Implicit costs arise because of various market factors which can cause the buy and sell portfolios to behave differently. Factors include market volatility and market news. Other factors that can significantly increase these costs are country, sector and market capitalization imbalances between the buys and the sells, as well as cash. It's worth noting that these factors are known ahead of time due to the pre trade analysis but their impact on costs can only be estimated on a best efforts basis based on past transactions and past price performance and volatility.

The opportunity cost, which forms part of the implicit cost, is depicted as a range, i.e. an upper and lower range. This is necessary as no one can predict whether the transition will take place in a rising or falling market or whether the buys will outperform the sells (or visa-versa) during the time of the transition. Therefore, the opportunity costs are shown as a mean cost with an upper and lower range.

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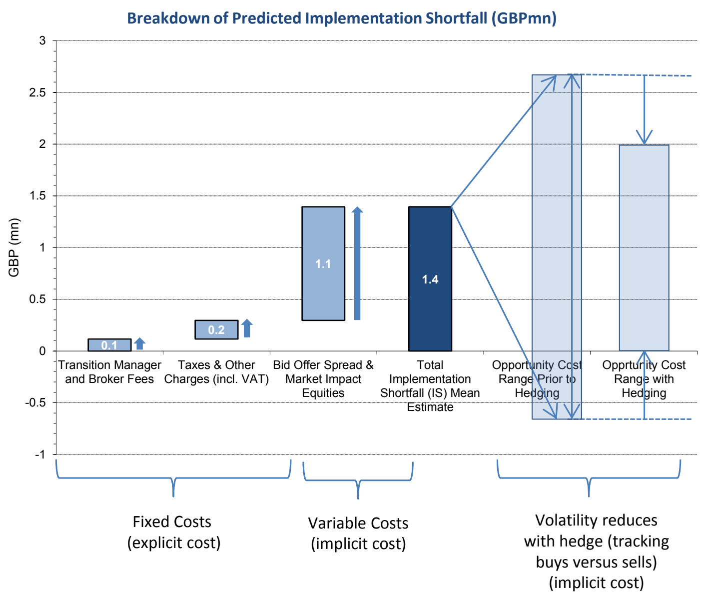
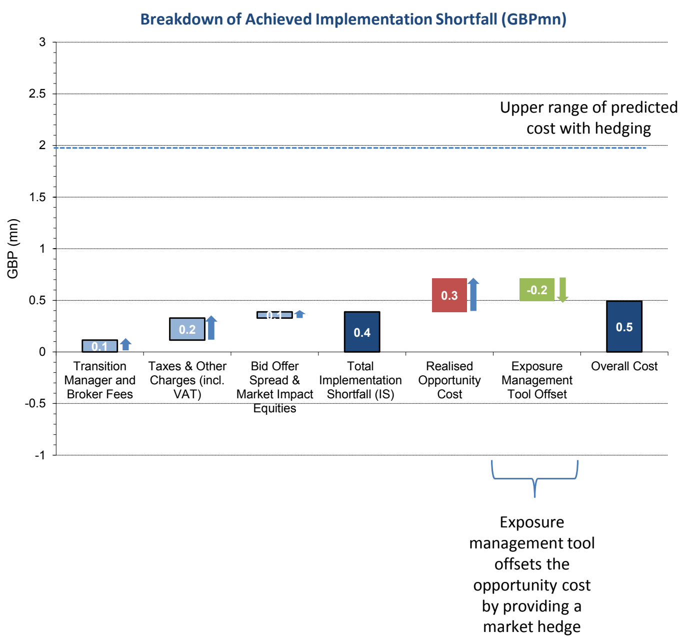
The pre trade analysis clients are provided with before trading begins does not only contain a commentary of the changes and the inherent risks as a result of the restructure, it also provides a detailed cost estimate. The post trade summary then provides a detailed cost summary of the achieved cost compared to the prediction. The post trade result should never come as a surprise though since the client would have been made aware of the risk factors and how that may influence the outcome prior to implementation.





Transparency and Conclusion

Clarity and transparency are important in any walk of life and this also applies to transitions. It is important to ensure that the client and the stakeholders involved have clarity and transparency around cost, status of the transition and progress on execution of the plan. The complexity involved in Transition Management means that it is not simply a question of plugging in the numbers - judgment, experience and expertise are just as critical, making it a combination of both art and science. Transition Management is about managing the trade-off between delivering on the client's objectives through minimising costs in an environment where not all the risks are fully controllable.

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Glossary of Terms

Market Impact Cost

Market Impact is the result when high volume trades affect the market price of a security.
The issue with reducing Market Impact Cost is that it increases your Opportunity Risk and potentially generating a cost.

Opportunity Risk

The risk of an asset you want to own becoming more expensive the longer you wait versus the price of an asset declining over time that you are looking to sell.

Crossing Opportunities

Crossing opportunities can be described as finding a client who wants to sell an asset you want to own or visa-versa. In other words, crossing opportunities can be utilized by finding clients who offer the liquidity to the other side of our transactions. This is beneficial since these two transactions can be crossed up against each other without having market impact at mid prices and you will not need to pay the full bid ask spread costs and eliminates the risk of market impact. Crossing is an important part of any successful transition and can benefit clients when used properly.

Agency Trading

An agency transaction involves the broker dealer acting in the capacity of an agent (middle man) to the stock exchanges for its client. By doing so, the broker dealer acts in the best interest of the client and attempts to fill a client order at the lowest price possible as fast as possible in line with the provided trading benchmark.

Principal Trading

Involves the execution of a transaction where the client faces the broker as counterparty and agrees to transfer the market and price risk of a security to the broker. In this instance, the broker dealer will buy or sell the security at an agreed price from the client and committing its own capital in the transaction.

Volatility

Volatility is a statistical measure of the dispersion of returns for a given security or an index. Volatility can either be measured by using the standard deviation or variance between returns from that same security or market index. Commonly, the higher the volatility, the riskier the security.

Standard Deviation

Standard deviation is a statistical measurement that sheds light on historical volatility. For example, a volatile stock will have a high standard deviation while the deviation of a stable blue chip stock will be lower. A large dispersion tells us how much the return on a security is deviating from the expected normal returns.

Delta One Products

Delta One products are financial derivatives that have no optionality and as such have a delta of (or very close to) one - meaning that for a given instantaneous move in the price of the underlying asset there is expected to be an identical move in the price of the derivative. Delta one products often incorporate a number of underlying securities and as such give the holder an easy way to gain exposure to a basket of securities in a single product.

Execution Venues

Include Exchanges, Crossing Networks, MTFs – Multilateral Trading Facilities (alternative exchanges). With the Markets in Financial Instruments Directive in effect since November 2007, new trading venues have emerged in European equities trading, among them BATS Chi-X.

Block Trade

An order or trade submitted for sale or purchase of a large quantity in a security. A block trade involves a significantly large number of shares or bonds being traded at an arranged price between parties, outside of the open markets (exchange), in order to lessen the impact of such a large trade hitting the tape. Block transactions are beneficial in situations where the liquidity on exchange and the size of the order represents a significant amount of a stocks daily traded volume. In some instances, in transitions, stocks require to be liquidated where liquidity represents more than a few days of volume.

Algorithms / Algorithmic trading

Algorithmic trading is the use of electronic platforms for entering trading orders with an algorithm which executes pre-programmed trading instructions accounting for a variety of variables such as timing, price, and volume.

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Transition Management: New Approaches to Transparency and Risk

When planning a transition, any unintended delays between decision and implementation can impact returns. John Minderides, Head of Portfolio Solutions EMEA at State Street, explains how a new way of measuring these "opportunity costs" can help asset owners calculate — and mitigate — the full scale of the risk.

Investors decide to reallocate portfolios for a wide array of reasons. They may be looking to generate alpha, meet funding levels, remove underperforming managers, or protect a portfolio from pending risks. These reallocation decisions are often critical in achieving long-term risk and return goals. Whatever the reason for the change in investment allocation, it is likely that significant analysis motivated the decision.

While portfolio analysis typically focuses on the return and risk of a new investment allocation vis-à-vis the current portfolio, the implementation costs will also be under the spotlight. If not carefully managed, these costs can erode or even eradicate the projected benefits of the target investment allocation. The potential "opportunity cost" incurred between the point when the investment decision is made and when trading begins — a period that can easily span several months — is often overlooked. Like trading-period costs, external market factors prior to trading can easily erode the benefits of the reallocation.

Focus on timely reallocation

While there has been some focus on implementation cost in the investment decision-making process, the delay cost between the investment decision point and implementation is often underappreciated. This delay period can easily span two weeks to 18 months for some long-term investors, resulting in significant risk to the portfolio. For example, the delay can result in uncompensated risk when an underperforming active manager continues to fall short after the decision to change but prior to termination.

Likewise, for many pension plans, a timely reallocation may be necessary to maintain asset-liability matching or meet key ratios. If a pension plan decides to implement a tilt from its strategic asset allocation, the timing of this tilt will often be a key factor in its success. Any delay can significantly reduce the alpha potential.

A new study conducted by State Street[1] found that asset owners and pension funds may be running significant unmandated and unrewarded risk through unintended delay in implementing changes to asset allocation and investment decisions.

Calculating Event Shortfall

State Street took André Perold's concept of implementation shortfall — intended to measure the cost of effecting investment decisions — and extended the way this is applied to focus on the costs incurred before the "execution benchmark" (i.e., trading-period costs). Event Shortfall is a composite of implementation shortfall and portfolio shortfall — a measure of the opportunity cost incurred between the time the investment decision is made and the execution benchmark. When these two measures are calculated separately and taken together, an asset owner can gain a better understanding of the total cost of a reallocation event — i.e., the total risk — from decision to settlement. That way, it can more effectively organize its decision-making.

State Street analysed almost 6,000 transition events over nine years, looking at the delay between first enquiry and agreed implementation. Although the average period was 23 days, one in six events was between three to six months. This period of appointing a transition manager may be only a small fraction of the total delay in organising the change of investments.

1. "Event Shortfall – The often-unmeasured administrative opportunity costs," State Street Global Markets, December 2014

Understanding tracking error

The bottom line is that there is risk in waiting to implement an investment decision. This risk — realised as portfolio shortfall — can diminish or even eliminate the perceived benefits of the reallocation decision. Furthermore, the delay costs may have an impact on risk and return assumptions as well as allocation requirements (especially in the case of pension plans).

Unsurprisingly, asset classes tend to experience higher tracking over longer periods of time. The same can be said for active managers within the same asset class (assuming the strategy is active and unique). If we assume that a single day's relative index return represents the implementation shortfall, we can get a sense of the relative magnitude of portfolio shortfall using a basic framework below.

For example, the daily tracking error between MSCI EAFE and the Barclays Global Aggregate is 113 bps while the quarterly tracking error is more than 9%. A delay cost of three months could easily eliminate years of alpha expectations. (**See Figure 1**.)

Figure 1: Daily vs. quarterly tracking error[2]

	A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*
Daily TE (bps)	S&P 500	R1000	R2000	R3000	MSCI EAFE	MSCI World	S&P/ TSX Comp.	BC Global Agg	BC Global Agg Hedged	BC US Agg
A										
B	7									
C	71	68								
D	11	5	63							
E	124	124	150	125						
F	58	58	97	60	66					
G	108	107	125	107	113	89				
H	135	135	165	137	113	109	142			
I	135	136	165	137	121	113	147	29		
J	136	137	166	138	125	116	149	36	30	

Source: State Street Global Markets, Bloomberg

Quarterly TE (bps)	S&P 500	R1000	R2000	R3000	MSCI EAFE	MSCI World	S&P/ TSX Comp.	BC Global Agg	BC Global Agg Hedged	BC US Agg
A										
B	43									
C	440	419								
D	65	32	388							
E	450	442	574	440						
F	217	210	456	210	237					
G	618	599	668	595	545	522				
H	825	843	1,055	853	902	842	1,070			
I	833	851	1,063	862	973	883	1,122	210		
J	733	749	962	760	863	775	1,038	303	263	

Source: State Street Global Markets, Bloomberg

2. Index returns from December 1999 – November 2014, Source: Bloomberg, S&P, Russell, MSCI, Barclays

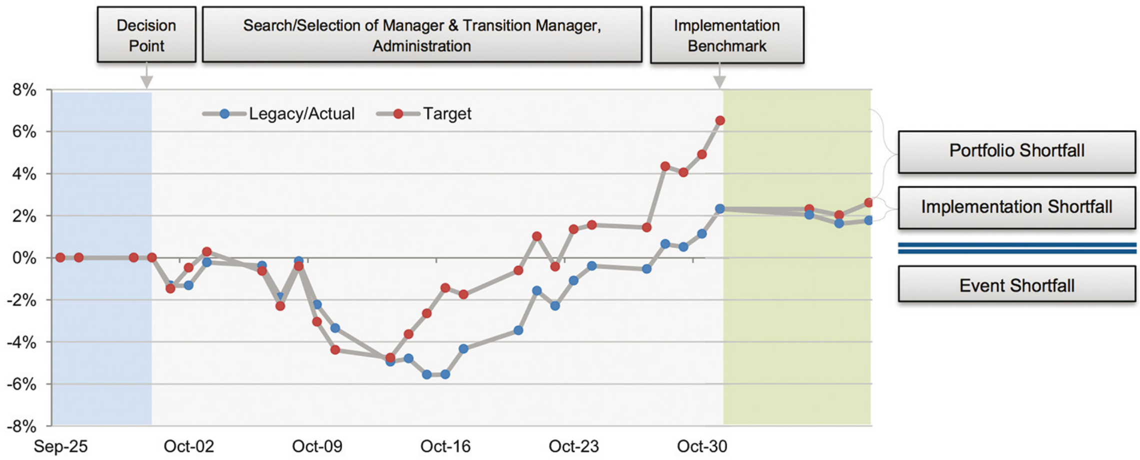
Performance allocation risk

Here's an example to demonstrate the concept of Event Shortfall (and its components). Assume a pension plan decides to increase its allocation to US small-cap equities (proxied by the Russell 2000 Index) and decrease its allocation proportionally to large-cap US equities (proxied by the S&P500 Index). This decision is made at its quarterly board meeting on 30 September. After the meeting, the plan completes both manager and transition manager searches and sets the benchmark date for implementation at 31 October.

Over this period, the Russell 2000 index grows 6.5% while the S&P500 index grows only 2.3%, resulting in a portfolio shortfall of 4.2%. The implementation (transition) is then completed over the following three days, resulting in an implementation shortfall of 59 bps attributed to commissions, bid/ask spreads, market impact and trading-related opportunity costs. The Event Shortfall is therefore 4.79% (4.2% PS + 0.59% IS). In this example, the implementation shortfall is approximately 12% of the Event Shortfall.

Figure 2 shows the components of Event Shortfall. The blue line represents the plan's portfolio, where the portfolio returns mirror the legacy assets (S&P500) until the implementation benchmark. At this point, the portfolio will grow closer to the target portfolio as legacy assets are sold and target assets purchased. For the purposes of this example, we do not consider the relative management fees between the legacy and target managers.

Figure 2: Components of Event Shortfall



Source: State Street Global Markets, Bloomberg

Failing to measure and report benchmark risk from the point of decision may lead to inaccuracies in a fund's statement of overall investment risks. We believe that at present less than 10% of pension funds actively seek to address these risks from the point of decision.

Manager performance risk

Every year there are significant manager terminations due to the departure of key employees, negative press or unacceptable performance. In each of these cases, investors require a nimble, effective solution to manage exposure.

Empirical evidence suggests the protracted delay in terminating an active manager for poor performance may carry higher risks given current performance statistics. Figures show that 80% of actively managed European equity portfolios and 85% of US equities (large-cap) portfolios underperformed their benchmark in 2014, according to Le Temps and Lipper data respectively.

Assume a plan decides to terminate a manager as a result of continued underperformance. The plan can begin a manager search at the decision point and experience portfolio shortfall for several months until implementation can begin. Alternatively, the plan can terminate the manager, and hire an interim manager to de-risk the portfolio, while seeking a new active manager. This strategy eliminates much of the risk that the existing manager will continue to underperform the benchmark, allowing the plan to achieve market-like returns in the interim.

The plan has several options to de-risk the asset allocation, including a programme of managed futures, ETFs or physical exposure. In choosing an appropriate exposure management vehicle, an investor should consider both risk (tracking error) and costs (transaction costs, management fees and administration costs).

Managing interim exposure

Fortunately, a wide array of interim exposure management strategies are available that can be tailored to a particular investor's needs. The optimal exposure management strategy should consider the cost, tracking and operational features across multiple investment vehicles. A range of event-specific factors should also be considered such as holding period, legacy portfolio composition, settlement timing requirements and the level of certainty around the target allocation.

The most effective interim exposure management strategies will balance risk and cost to mitigate portfolio shortfall and ultimately the total cost of the reallocation event — the Event Shortfall. This enables pension funds not only to calculate the full scale of their risk exposure and the resulting potential costs — but also to access solutions to mitigate these risks.

As asset owners seek to optimise their transitions, State Street works with them from beginning to end to restructure their assets, implement their revised investment strategy, and deliver the new portfolio to their fund managers. This includes working closely with clients on the planning and timing of a transition, actively managing the trading risk between target and legacy assets, and efficiently executing the transition without conflicts. We are committed to keeping our clients informed with detailed reporting before, during and after the transition.

Achieving an efficient transition — with a timely reallocation of assets — has never been more important. State Street offers the tools, perspectives and solutions to help you make a success of your transition.

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Notes:

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Russell's pure agency model means your interests are our focus. So when it comes to moving your assets, we will be walking with you every step of the way.

That's why Russell is consistently recognised as an industry leader for transition management, including winning the European Pensions Award 2013 for Transition Management Firm of the Year as well as being Top Ranked in Client Service in the aiCIO 2013 Transition Management Survey.

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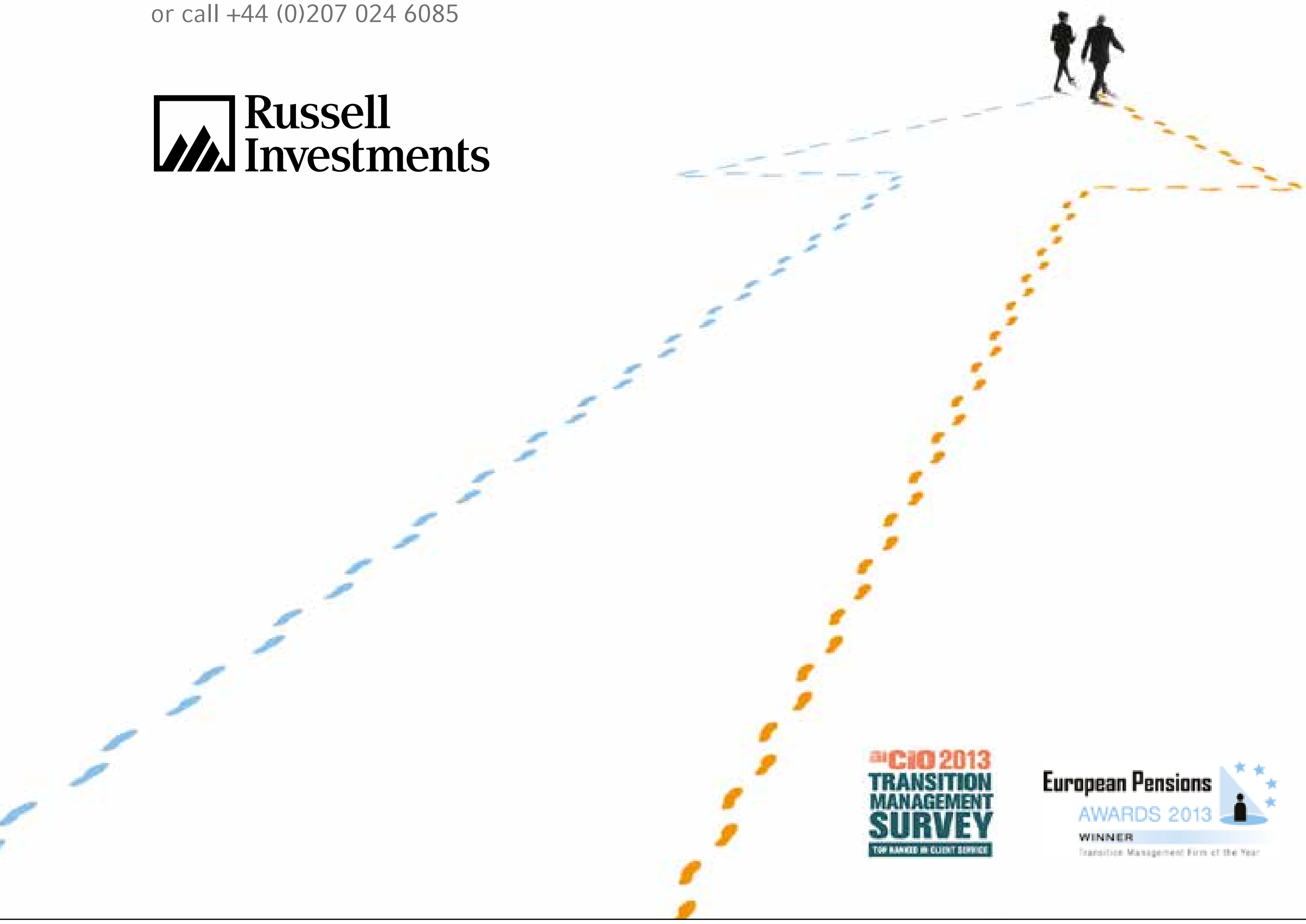

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Event Shortfall – Investment Risk Clarified

When reallocating assets, how do you manage the significant risks that can come from unintended delays between decision and implementation? While few pension funds have the tools to address this challenge, Event Shortfall – a new risk control framework from State Street, developed by analysing 6,000 transitions executed over 9 years – seeks to provide clarity on the risks and costs that can occur. Our interim exposure management services can help you mitigate the risks and costs identified by Event Shortfall and secure the success of the transition of your assets.

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