

## ADDING VALUE IN PORTFOLIO LIQUIDATIONS

**Executive summary**

When liquidating a portfolio, it's often taken for granted that it is a simple exercise and left to the managers to handle themselves. However, when the portfolio is composed of assets with liquidity challenges, transparency on costs and minimising out-of-market risk become important considerations and these lend themselves well to the unique skills of a transition manager. This case study, based on an event we managed in 2016, is still a prime example of how a transition manager with a flexible and solutions-driven approach, can add value even when raising cash from a developed equity portfolio.

**The organisation**

Headquartered in Europe, this large multi-national corporate pension scheme has been working with Russell Investments for more than a decade. Our primary role was to help them efficiently implement changes to the managers used in their Collective Investment Scheme ("CIS") sub-funds. They needed to liquidate a European small cap equity component of a broader European equity fund on the platform.

**The challenge**

The aim, at the strategic European Equity Fund level, was to facilitate the 100% redemption from two European small cap portfolios at a specific month end to cover some immediate cash flow requirements. The small cap exposure was a tactical bet within a broader large cap European Equity Fund and one the client wanted to maintain as long as possible. However, the liquidity profile of the small cap securities held meant that they could not all be sold into the month end pricing point of the fund. The client needed a transition manager who could design a strategy that ensured all securities would be liquidated by the month end, whilst maintaining exposure to the small cap element as long as possible and ensuring the fund was fully invested if some of the liquidations had to commence well before month end.

**One fund. Two very different managers. One liquidation goal.**

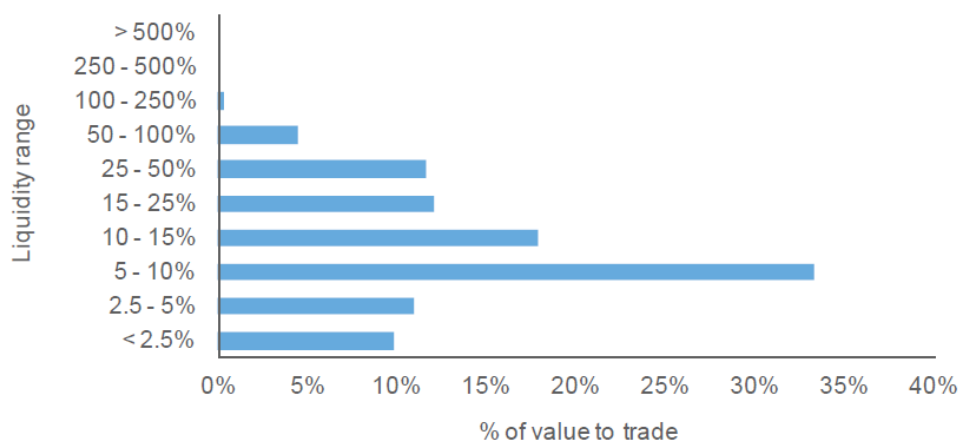
Russell Investments was engaged as a Transition Manager to both devise a strategy for maintaining market exposure while managing the liquidations and utilising our trading expertise to maximise total cash value redeemed. Successful solution implementation required Russell Investments to demonstrate flexibility with regards to engagement on timing, strategy, simulations with futures and FX forwards and estimated liquidity of positions.

Russell Investments analysed each of the portfolios and designed strategies that would keep the small cap exposure in place as long as possible, based on the liquidity profiles of the underlying securities held. Where trading needed to commence prior to month end (to ensure all securities were liquidated), in order to avoid any out-of-market risk all cash raised would be equitised with EuroStoxx 50 futures. The EuroStoxx 50 futures contract was specifically chosen as a good proxy for the fund's existing strategic

benchmark, thus equitising the cash using the EuroStoxx future also had the effect of reducing the tracking error of the underlying portfolios relative to the fund's strategic benchmark. The redemptions were being made in EUR, but it was recommended that any non-EUR cash raised during the month be left in the local currency as the underlying currency exposures of each of the portfolios were a good proxy for the overall strategic benchmark and thus keeping the local currency exposure helped to further reduce the overall tracking error relative to the strategic benchmark.

Portfolio A was broad in nature and contained few liquidity challenges. As illustrated below, over 99% of the portfolio was anticipated to be completed within five days and only 0.5% of portfolio was >100% ADV (average daily trading volume). Therefore, the transition team would not need to begin liquidation until very near the end of the month. A typical implementation shortfall strategy would see ~87% of trading completed on day one with a further four or so days required in order to fully liquidate the portfolio. However, this would negate the small cap exposure desired within the fund and increase tracking error relative to the portfolio which was inherited.

### Exhibit 1: Portfolio A Liquidity Summary

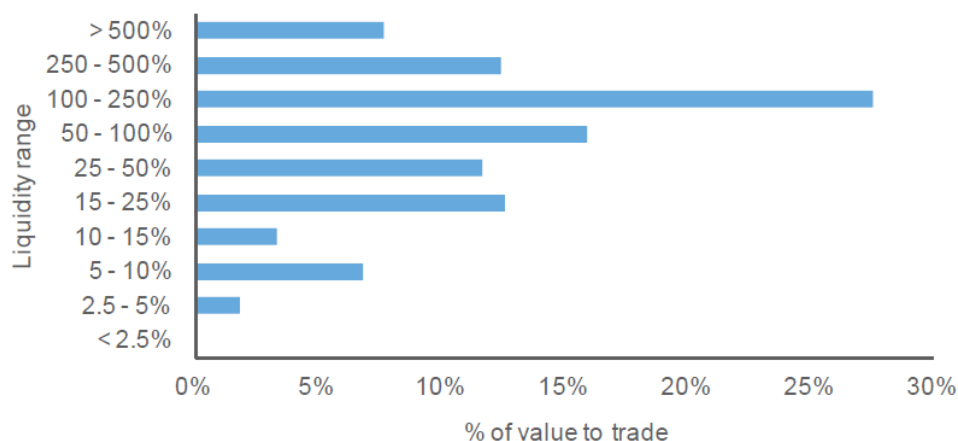


Source: Russell Investments, Axioma, October 2016.

Portfolio B on the other hand was very concentrated in much more illiquid holdings. It required a long trade horizon in order to liquidate in an orderly manner, minimise transaction costs (in particular market impact) and still ensure the 100% liquidation by the end of the month. Even with a longer time horizon to trade, this deadline would be difficult to achieve without sacrificing significant value on the most illiquid names.

With nearly 10% of Portfolio B exceeding 500% of ADV, it was anticipated that even after 17 days of trading, nearly 10% of Portfolio B would still not be liquidated. We estimated that if liquidity could not be sourced for these names over the course of the month, a discount of approximately 10% might be required in order for them to be sold in time, increasing the risk of exceeding the target transition cost. A typical implementation shortfall strategy would see ~30% of trading completed on day one of trading with a further three or so weeks in order to get to a 90% completion rate. However, as above, this would negate the small cap exposure desired within the fund and increase tracking error relative to the portfolio which was inherited.

## Exhibit 2: Portfolio B Liquidity Summary



Source: Russell Investments, Axioma, October 2016. The solution: Trade modelling

Russell Investments modelled trading by dividing the portfolio holdings into liquidity groupings and then devised a trading strategy to sell only the least liquid names first, leaving the most liquid names until the end of the month. Trading progress would then be tracked through to month end. The intention was to preserve the legacy portfolios' European small cap exposure as long as possible while maintaining broader European equity market exposure (on any cash raised) through the use of EuroStoxx 50 futures contracts.

Implementation Shortfall (IS) would therefore be measured relative to the performance of the legacy portfolio, rather than the more traditional use of the target portfolio's performance.

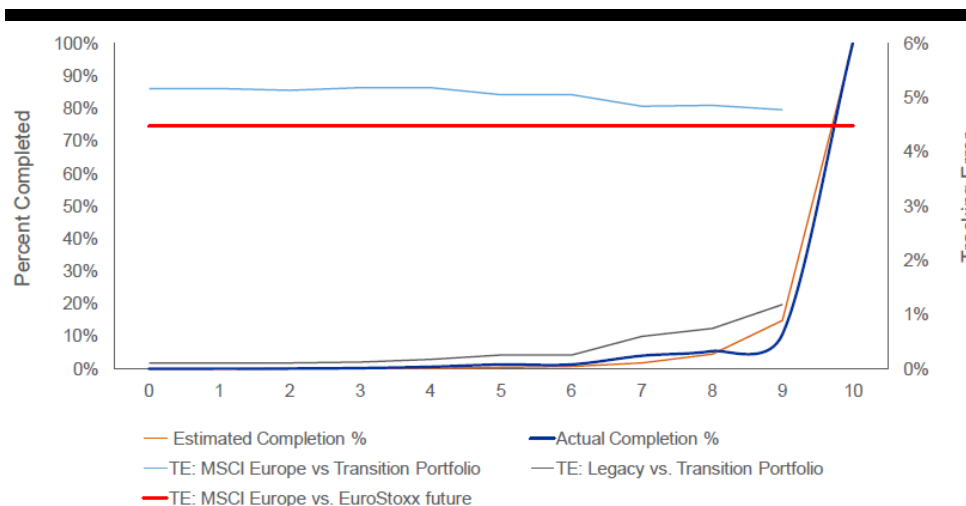
## The outcome - Portfolio A

The very small +3bps implementation shortfall number was within the one standard deviation of +/- 64 bps and was well below the pre-transition estimated cost of -34. bps. The transition cost came in lower than the pre-trade estimate as the portfolio benefitted from the early liquidation of some of the less liquid names as well as the EuroStoxx 50 future holding which rallied into month end, out-performing small caps.

## Exhibit 3a: Performance summary chart - Portfolio A

PERFORMANCE SUMMARY	PRE-IMPLEMENTATION PERIOD (31-OCT-16 TO 16-NOV-16)	IMPLEMENTATION PERIOD (17-NOV-16 TO 30-NOV-16)	TIME-WEIGHTED RETURN (31-OCT-16 TO 30-NOV-16)
Legacy portfolio	2.17%	0.87%	3.06%
Transition portfolio	2.17%	0.90%	3.09%
EuroStoxx 50 Future	-0.88%	0.83%	-0.07%
MSCI Europe	-0.17%	1.09%	0.92%
IMPLEMENTATION SHORTFALL		0.03%	

## Exhibit 3b: Portfolio A Tracking error and completion [Table/graph title]



Source: Russell Investments, Axioma, November 2016.

As displayed above, actual completion (dark blue line) was in line with the estimated completion (orange line) in the implementation period. Given the highly sporadic nature of liquidity in the less liquid names and the linear nature of our estimation methodology, there was only a small divergence in the actual versus modelled completion.

Annualised tracking error of the transition portfolio versus the MSCI Europe benchmark started at 5.18% and reduced to 4.78% until the final day of implementation. The annualised tracking error of the transition portfolio versus the legacy portfolio increased from 0% to 1.19% across the period; this was in line with expectation given the more diverse portfolio versus Portfolio B. Note that the tracking error of the EuroStoxx contract versus MSCI Europe was ~4.7% per annum (red line).

## The outcome – Portfolio B

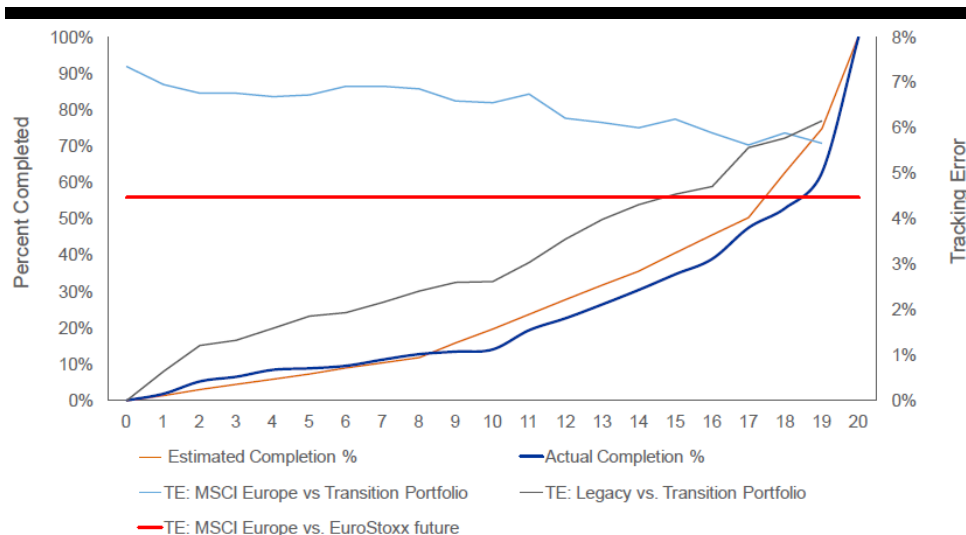
Within the implementation period, the transition portfolio outperformed the legacy portfolio by 48 basis points by keeping the portfolio invested for as long as possible into month end. The +48bps gain compared to a mean estimate of -76bps but was within the one standard deviation range of +/- 187 bps. This lower cost (actually a gain) was principally driven by large cap outperformance in the implementation period when we were steadily increasing the large cap exposure through the use of futures, as well as a selloff in some legacy names, which were sold earlier in the month.

Russell Investments' traders took a patient approach to the liquidation of the portfolio, sourcing off exchange liquidity via natural crosses and dark pools. Liquidity was extremely sporadic in these names but was sufficient to complete all positions by month-end, with bids sourced and executed on the residual positions on the final day of trading. We had estimated that a 10% discount may be required on 10% of the portfolio. Only 2.5% of the portfolio required broker bids which were executed an average of 3.3% discount to the bid price observed in the market.

## Exhibit 4a: Performance summary chart - Portfolio B

PERFORMANCE SUMMARY	PRE-IMPLEMENTATION PERIOD (31-OCT-16 TO 16-NOV-16)	IMPLEMENTATION PERIOD (17-NOV-16 TO 30-NOV-16)	TIME-WEIGHTED RETURN (31-OCT-16 TO 30-NOV-16)
Legacy portfolio	-1.52%	2.16%	0.61%
Transition portfolio	-1.52%	2.65%	1.09%
EuroStoxx 50 Future	-2.52%	2.52%	-0.07%
MSCI Europe	-2.20%	3.18%	0.92%
<b>IMPLEMENTATION SHORTFALL</b>		<b>0.48%</b>	

## Exhibit 4b: Portfolio B Tracking error and completion



Source: Russell Investments, Axioma, November 2016.

As displayed above, actual completion rate (blue line) was in line with the estimated completion (orange line) in the implementation period. Given the sporadic nature of liquidity in the less liquid names and the linear nature of our estimation methodology, there was only a small divergence in the actual versus modelled completion.

Annualised tracking error of the transition portfolio versus the MSCI Europe benchmark started at 7.36% and reduced to 5.66% until the final day of implementation. The annualised tracking error of the transition portfolio versus the legacy portfolio increased from 0% to 6.16% across the period, this was in line with expectation given the concentrated stock specific risk within the legacy portfolio.

Note that the tracking error of the EuroStoxx contract versus MSCI Europe was ~4.7% per annum (red line).

### The results: Full liquidation, market exposure, and low transition cost

The transitions for both portfolios exceeded expectations:

- Full liquidation was achieved in the desired time frame.
- The small cap bias and market exposure were maintained for as long as possible, minimising performance shortfall.
- Patient and opportunistic approach to trading in the liquidations resulted in a small market impact even in highly illiquid names.
- The actual costs were lower than the pre-transition estimates, but within the range of expectations.

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# QUESTIONS?

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