Approach to Rebalancing the Investment Strategy

At the last meeting of the Audit and Pensions Committee, the question of how the Fund's assets were rebalanced and an appropriate approach to take, was raised. At present, the Officers use cashflows to rebalance to the extent deemed necessary, depending on considerations such as market outlook, manager performance and any relevant strategic developments. The purpose of this note is to consider the merits of a more systematic approach to rebalancing between the various mandates employed within the Fund.

Current Position

At present, the investment strategy for the Fund is as follows:

Mandate	Allocation
UK Equities	25%
Overseas Equities	25%
Dynamic Asset Allocation	25%
Matching Fund: Global Bonds	12.5%
Matching Fund: Index Linked Gilts	12.5%

The strategic allocations are managed on a passive basis in that, as markets move, the allocation to respective mandates is allowed to drift (without correction at specific points back towards the strategic benchmark). This could result in significant discrepancies between the actual and strategic asset allocation, although cashflow can be (and has been) used to rebalance the strategy in the past.

Consideration of a New Approach

It has been proposed by the Committee that consideration be given to more systematically managing the balance between the respective mandates in order to "take profits" as they arise. Such a process would create upper and lower boundaries within which the asset allocation is allowed to vary.

In the event of the boundary being breached, the strategy would be rebalanced with the overweight position being reduced back to its strategic weighting and underweight positions being increased accordingly. This approach may be expected to add value during volatile market conditions, but in markets which are demonstrating persistent rises or falls, the approach should not add value.

We have provided some analysis, based on the last decade, to help put the approach taken to rebalancing into some context. However, we also discuss several other issues that must be considered when exploring such an approach, including the practicalities and associated costs.

Analysis of a Ten Year Backtest

Within the current strategy, the principal consideration for any rebalancing policy should be controlling the percentage of on-risk and off-risk assets (currently, the Fund has 75% of assets "on-risk" and 25% "off-risk" in the Matching Fund). In order to consider the merits of such an approach historically, we have backtested a simplified strategy to illustrate whether a purely mechanical rebalancing policy can add value. The following strategy has been used:

	Allocation
UK Equities	50%
Index Linked Gilts	50%

Two parameters for the management of the rebalancing strategy have been considered:

(1) The frequency of monitoring: daily, weekly, monthly, quarterly
(2) The tolerance range before rebalancing is triggered: 1%, 2%, 3%

The methodology employed assumes that the starting strategy is maintained until (in the case of a 1% tolerance limit), the allocations breach the 49/51% limit. In that instance, the allocations are rebalanced to 50%. It is also assumed that the costs of rebalancing can be ignored and that trading is instantaneous.

We have used market data over the period from 1 July 2000 to 30 June 2010. The results of the analysis are presented below. The table illustrates the annual outperformance generated by using a systematic rebalancing approach, when compared to not operating any rebalancing:

Tolerance Margin	Annual Outperformance (dependent on frequency of review)			
	Daily	Weekly	Monthly	Quarterly
1.0%	0.53%	0.38%	0.13%	0.21%
2.0%	0.40%	0.41%	0.16%	0.32%
3.0%	0.33%	0.35%	0.31%	0.27%

Source: Bloomberg, P-Solve calculations

As can be seen, the historic outperformance from a mechanical approach to rebalancing is positive, although this masks significant volatility in returns on an annual basis. For example, daily rebalancing using a 1% tolerance gives rise to annual outperformance (compared to a strategy with no rebalancing) of between -0.5% and +2.0% in the 10 year period studied.

It can also be observed that broadly, more frequent rebalancing tends to give rise to better performance but that broadening the tolerance range does not necessarily result in lower performance. This is useful in gauging the relative merits of different rebalancing approaches, but it does not take into account all the practical considerations involved.

Other considerations

There are a number of other practical issues that need to be considered alongside the basic backtesting results.

Costs

In considering the rebalancing of assets, costs need to be taken into account, particularly the trading costs of buying and selling assets. We estimate that trading costs would reduce the above returns by up to 0.1% p.a.

Implementation

If the Fund's asset allocation were to be rebalanced on a more frequent basis, i.e. daily or weekly, this could only be practically achieved by delegating management responsibility to a third party. Less frequent rebalancing could be managed in conjunction with the Officers and custodian on a more traditional advisory basis.

Practicalities

The need to invest/disinvest at potentially short notice poses further practical problems. In particular, certain of the Fund's investments (such as Baring's Dynamic Asset Allocation and LGIM's Index linked Gilt funds) have weekly dealing dates with notification of trading required several days in advance. Similarly, the proceeds of disinvestments are only made available several days following trading. This would mean that instructions given based on market conditions on a particular date could be invalidated by subsequent market movements or that these vehicles would have to be excluded from a mechanical rebalancing process.

Alternative approach

An alternative approach may be to introduce a "rebalancing portfolio". Such a portfolio would implement short term asset allocation rebalancing using derivative contracts. However, the introduction of such a portfolio gives rise to a number of other key issues:

- Cash would need to be allocated to the portfolio to provide collateral/margin against derivative contracts. The requirement for physical assets potentially reduces exposure to actively managed strategies and hence gives rise to a loss of outperformance. We estimate that this "cash drag" could reduce performance at an overall Fund level by up to 0.1% p.a.

- The Fund would need to appoint an investment manager to manage this portfolio. The costs of managing such a portfolio including cash and derivative management fees are likely to be up to 1% p.a. This reduces returns at an overall Fund level by up to 0.05% p.a. although needs to be balanced against the reduction in costs by disinvesting from other mandates.

The costs of pursuing more active management of the asset allocation are likely to offset the potential gains. The costs could be mitigated by broadening the mandate into a more active derivative strategy (to effectively become a global macro hedge fund strategy) which seeks to take advantage of relative value between a wider range of asset classes. However, such an approach would need to be balanced against other asset classes and strategies that could be used by the Fund.

Summary

In summary, whilst backtesting provides some evidence that a systematic rebalancing strategy can add value, given the additional costs and governance burden involved in executing such an approach, we do not believe there is sufficient evidence to justify the introduction of a more complex, short-term rebalancing arrangement.

P-Solve Asset Solutions
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