swing pricing
The Association of the Luxembourg Fund Industry (ALFI), the representative body for the Luxembourg investment fund community, was founded in 1988. Today it represents over a thousand Luxembourg-domiciled investment funds, asset management companies and a wide variety of service providers including depositary banks, fund administrators, transfer agents, distributors, law firms, consultants, tax advisers, auditors and accountants, specialist IT providers and communications agencies.

Luxembourg is the largest fund domicile in Europe and its investment fund industry is a worldwide leader in cross-border fund distribution. Luxembourg-domiciled investment structures are distributed in more than 50 countries around the globe, with a particular focus on Europe, Asia, Latin America and the Middle East.

ALFI defines its mission as follows: to "Lead industry efforts to make Luxembourg the most attractive international centre". Its main objectives are to:

**Help members capitalise on industry trends**
ALFI’s many technical committees and working groups constantly review and analyse developments worldwide, as well as legal and regulatory changes in Luxembourg, the EU and beyond, to identify threats and opportunities for the Luxembourg fund industry.

**Shape regulation**
An up-to-date, innovative legal and fiscal environment is critical to defend and improve Luxembourg’s competitive position as a centre for the domiciliation, administration and distribution of investment funds. Strong relationships with regulatory authorities, the government and the legislative body enable ALFI to make an effective contribution to decision-making through relevant input to changes of the regulatory framework, implementation of European directives and regulation of new products or services.

**Foster dedication to professional standards, integrity and quality**
Investor trust is essential for success in collective investment services and ALFI thus does all it can to promote high professional standards, quality products and services, and integrity. Action in this area includes organising training at all levels, defining codes of conduct, transparency and good corporate governance, and supporting initiatives to combat money laundering.

**Promote the Luxembourg investment fund industry**
ALFI actively promotes the Luxembourg investment fund industry, its products and its services. It represents the sector in financial and economic missions organised by the Luxembourg government around the world and takes an active part in meetings of the global fund industry.

For more information, visit our website at www.alfi.lu
# Table of Contents

## PART I – SWING PRICING INDUSTRY SURVEY

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction and executive summary</td>
<td>5</td>
</tr>
<tr>
<td>Targeted audience of the swing pricing survey</td>
<td>5</td>
</tr>
<tr>
<td>Anti-dilution practices</td>
<td>6</td>
</tr>
<tr>
<td>Implementation, objectives and evaluation</td>
<td>6</td>
</tr>
<tr>
<td>Factor &amp; threshold policy</td>
<td>7</td>
</tr>
<tr>
<td>Disclosure</td>
<td>8</td>
</tr>
<tr>
<td>Governance and monitoring</td>
<td>9</td>
</tr>
<tr>
<td>Client questions and NAV error policy</td>
<td>9</td>
</tr>
<tr>
<td>Regulatory guidance</td>
<td>9</td>
</tr>
<tr>
<td>Respondents who did not utilise swing pricing</td>
<td>9</td>
</tr>
<tr>
<td>Conclusion</td>
<td>10</td>
</tr>
</tbody>
</table>

## PART II – SWING PRICING GUIDELINES

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1 – introduction, terms of reference and key principles</td>
<td>12</td>
</tr>
<tr>
<td>Section 2 – definition of key terms</td>
<td>13</td>
</tr>
<tr>
<td>Section 3 – swing pricing – an overview</td>
<td>13</td>
</tr>
<tr>
<td>Section 4 – calculating the swing factor</td>
<td>15</td>
</tr>
<tr>
<td>Section 5 – conceptual considerations</td>
<td>16</td>
</tr>
<tr>
<td>Section 6 – operational considerations</td>
<td>17</td>
</tr>
<tr>
<td>Section 7 – investment fund structures</td>
<td>20</td>
</tr>
<tr>
<td>Section 8 – performance considerations</td>
<td>24</td>
</tr>
<tr>
<td>Section 9 – audit and legal considerations</td>
<td>25</td>
</tr>
</tbody>
</table>

## APPENDICES:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>suggested disclosure alternatives</td>
<td>30-32</td>
</tr>
</tbody>
</table>

part I - swing pricing industry survey
In spring 2010 the Association of the Luxembourg Fund Industry (ALFI) reconvened a swing pricing working group. This group was formed from various ALFI members over a broad spectrum of disciplines including fund auditors, fund promoters, asset managers, legal representatives and third party administrators.

The primary goal set by the chairman was to review, and if necessary update, guidance previously issued by ALFI in late 2006. In order to facilitate these objectives a survey was commissioned to research what has happened in the industry since the publication of the original brochure.

The survey was designed to extract headline information and trends, providing the working group with sufficient data to identify where further guidance was necessary. The result was that the survey responses were largely qualitative in nature and broken down into several thematic categories as follows:

- Awareness of the existing ALFI 2006 publication on swing pricing
- Anti-dilution methods on the product range
- Implementation, objectives and evaluation
- Factor and threshold policy
- Disclosure
- Governance and monitoring
- Client reaction and NAV error policy
- Regulatory guidance
- Respondents who did not utilise swing pricing

Several key findings were extracted from the responses received. Specific examples of such would be:

- Of the nineteen responses, thirteen fund promoters are utilising swing pricing as an anti-dilution technique. This has increased significantly since 2006 which perhaps may have been expected given the impact the credit crisis had on spreads (widened significantly) and fund liquidity (volatility on flows).
- There are still some grey areas in adoption of the practice, such as reporting, disclosures and impact to shareholder tax calculations.
- Fund promoters who use swing pricing seem to trend towards certain geographic locations (in the sense of where the parent company is headquartered).
- The overwhelming majority of market participants who have adopted swing pricing have found it beneficial.

The results of the survey can be found on the following five pages.

ALFI distributed the survey to the top 30 Luxembourg domiciled promoters by AUM (€m 1,292 representing 77.73% of the Luxembourg AUM as of 31.12.2009 [€m 1,663]). In addition the survey was advertised in an ALFI mail-shot to the industry where we received an additional number of responses from promoters and fund administrators. In total 19 responses were received. The respondents represented a wide geographic diversity in terms of their cultural centre and the location of their corporate headquarters, and account for €m 944 representing 56.80% of the Luxembourg assets under management (31.12.2009).

From the geographic spread of responses we can see that a number of organisations present in the Luxembourg market who have their country of origin and cultural heritage in Switzerland, the UK or the USA, appear to have introduced this measure across their funds, whereas, from the evidence presented, promoters in Germany and Italy have been less willing to implement this. One reason potentially explaining this could be fund promoters seeking consistency with locally domiciled funds (i.e. a German promoter being reluctant to introduce swinging on a

1 One of the 19 responses was received from a firm with funds entirely domiciled outside of Luxembourg; the AUM values and the bar chart only reflect the firms domiciled in Luxembourg.
part I - swing pricing industry survey

Luxembourg range when it is unable to do so on a German-domiciled fund).

In addition one Norwegian fund promoter (with funds domiciled in Norway) responded to the survey and confirmed it had also adopted the practice. Interestingly no responses were received from organisations headquartered in other European locations. Whether this fact is indicative that there is a cultural divide in attitudes to swing pricing cannot be confirmed, however there is a suggestion. Note however that other factors may influence the lack of responses from these firms (e.g. such as the fact the survey was distributed in English only).

The sample is broken down as follows:

<table>
<thead>
<tr>
<th>Country</th>
<th>No Swing</th>
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<tbody>
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<tr>
<td>US</td>
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<td>0</td>
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</table>

Anti-dilution practices
Investor protection against dilution is recognised as the overwhelming aim of implementing swing pricing for many respondents. In addition to swing pricing many promoters also use redemption gates and or dilution levies as remedies on their fund ranges. These can either be present instead of swing pricing or co-exist with swing pricing on the same fund range.

In response to questioning about what the rationale of applying a dilution levy would be as opposed to swing pricing, several promoters differentiated that they applied dilution levy without swing pricing and generally on institutional product ranges.

Nine firms that use swing pricing as a solution seem to have adopted it post the publication of the ALFI paper in November 2006 mainly around the time of the financial crisis. Four promoters had adopted it prior to 2006. We conclude therefore there seems to be a trend towards adoption of the practice.

Implementation, objectives and evaluation
It would appear that there is no overwhelming rationale in discriminating which products swing and which do not: where differentiation occurs, the practice is influenced according to the underlying investments held, the investor type and the distribution channels rather than the legal structure of the fund.

The majority of respondents employed a partial swing approach with a select few choosing the full swing method. The logic for choosing one over the other was varied: some respondents chose partial to limit the frequency with which their funds swung and therefore reduce NAV volatility. Others stated that the product had sufficient liquidity to effectively manage small flows and that they were only concerned with material events triggering dilution.

The choice of full swing seemed to be attributed to index funds by one promoter. Another promoter wanted to ensure performance across their multi-jurisdictional ranges was similar, and because full swinging is the only method recognised by the Swiss regulator, the individual promoter applied the same method to their Luxembourg range.

The choice of partial or full swing

The choice of partial or full swing

- Partial: 23%
- Full: 15%
- Mix of both: 62%
In cases where the promoter decided to employ partial swing, its application was generally found to be mechanical in that the administrator will follow set parameters laid out by the promoter in the swing pricing policy document. One slight exception to this is that a small number of promoters stated that they reserved the right to decide whether to invoke the swing on a discretionary basis.

When asked whether with the benefit of hindsight the effort was worth it, the majority of promoters are extremely positive about the effect it has had. The main reasons cited for this were existing investor protection, resultant performance and also a positive client perception of the promoter as protecting the long-term interests of the client. One organisation however reserved the right to withhold judgement as it had only recently implemented a swing pricing policy and had found the process complex and drawn out.

There were some areas promoters highlighted as potentially unclear and where further information was requested in an update of the ALFI brochure, especially around:
- the complexities around investor taxation;
- clarification on what constituted a NAV error in the swing process;
- specifics around threshold and disclosure of threshold policy;
- more detailed information on financial statements disclosures; and
- specific operational considerations (e.g. shareholder activity cut off).

In terms of the operational process for partial swing, nine promoters stated that their decision to swing the NAV was based on estimated shareholder activity. Three promoters were able to rely on final shareholder activity. An organisation’s ability to rely on confirmed activity depended to a large extent on the cut off times of the transfer agent in relation to the valuation point of the fund.

**Factor & threshold policy**

Threshold levels for funds applying partial swinging are usually determined by front office areas.

As for swing factors, most providers calculate based on:
- the bid-offer spread of the underlying portfolio of investments;
- the transaction costs; and
- any taxes.

The most common frequency of the review of swing factors was quarterly; some providers reviewed these as regularly as monthly whilst in the other extreme, several calculated these on a bi-annual basis. If market conditions became more volatile, factors tended to be reviewed more regularly.

Several respondents cap the level of the swing factor to be applied, ranging from 1% to 3% with the median cap being 2%; some respondents applied no cap at all. Caps were largely disclosed in the fund prospectus and some promoters discriminated application of the cap to specific fund types such as high yield bonds, or indeed varied the threshold of the cap according to the investment objective of the underlying assets held.
Swing factors are generally determined by using data across a full range of asset classes. It was however noted that certain types of securities (i.e. certain types of derivatives) posed problems such as determining reliable spreads. In certain cases, fund promoters excluded certain security types when determining factors, or indeed, have been less willing to apply swing pricing where a fund predominantly holds specific types of securities.

**Disclosure**

In terms of thresholds, the majority of promoters were reluctant to disclose the level of threshold they apply, either in the prospectus or the annual accounts. Some respondents commented that the act of disclosing these details was contradictory to the principle of investor protection and therefore avoided disclosing the threshold. On balance it appears that the majority of promoters prefer not to disclose thresholds to ensure clients do not actively manage trades below the trigger level of the partial swing.

In terms of factor, three promoters said they were disclosing or would be willing to disclose the precise factors applied to investors; the remaining ten respondents who applied swing pricing were not willing to provide this level of detail. In understanding the reasoning why, some providers claimed it wouldn’t be practicable to disclose the factor in the prospectus due to the frequency on which spreads change and factors are updated.

All promoters applying swing pricing confirmed that they only issued the swung NAV when an event was triggered.

With regards to financial statements, all responses noted accounts are currently prepared in accordance with Luxembourg GAAP. One provider did however note they were considering converting from Luxembourg GAAP to IFRS. As no promoter was currently using IFRS, this restricted the ability of the survey to explore any potential complexities IFRS may bring in respect of specific swing pricing treatment and disclosures.

### Table 1

<table>
<thead>
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<th>Question</th>
<th>Separate line</th>
<th>Debit cost of the Investment</th>
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<tbody>
<tr>
<td>Do you record portfolio transactions costs as a separate expense line item in the financial statements or are they debited against the cost of the investment?</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If an event occurs at the end of the reporting period, does the organisation use the swung NAV for performance reporting purposes?</td>
<td>9</td>
<td>4</td>
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</tbody>
</table>

<table>
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<tr>
<th>Question</th>
<th>Capital</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you treat the swing component on subscriptions and redemptions based on swung NAV as income or capital?</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>
If a swing was applied at the year end, promoters were split on how this was applied in practice - several responses did not disclose at all whereas others added it as a note to the financials, as a footnote in the schedule of investments or disclosed it as a separate line within the primary statements. In terms of treatment, the majority of respondents treated the swing adjustment as a capital adjustment to the assets while a small number preferred to treat the adjustment as an income or expense item.

**Governance and monitoring**
Many promoters have set up swing pricing committees to oversee how the policy is applied and review swing events; others review swing events through monthly MIS reporting by the administrator to senior management.

In the overwhelming majority of cases the policy was approved by the fund board of directors and reviewed at least annually.

**Client questions and NAV error policy**
Some respondents had witnessed increases in client questions post implementation of swing pricing. This varied from one extreme where the majority of promoters received infrequent questioning to the other where one promoter stated they received regular ongoing questions on the policy. A significant number of providers did not witness any noticeable change in the level of queries.

Where questions have been received, several promoters commented that clients are provided with a copy of the swing pricing policy and also reminded of the underlying rationale behind the practice – i.e. investor protection.

Feedback received on what may constitute a material NAV error when a swing pricing policy was misapplied was varied. In general, it was clear that where the swing pricing policy had been incorrectly applied (i.e. a fund was swung to bid when it should have been swung to offer) this would be considered an error. Opinion was however split around instances when the swing pricing policy was applied correctly with the information known at that time, but where that information subsequently changed (i.e. where a shareholder deal which triggered the swing was subsequently reversed).

**Regulatory guidance**
On the question of whether there was sufficient regulatory guidance on swing pricing, the responses were split. Of the entire sample of respondents eight promoters indicated that more specific regulatory guidance should be offered, while the remaining seven were satisfied with the overall level of information provided.

Where more information was requested, it seemed to be focussed on providing information around best practice and maintaining flexibility of approach. More explicit information was requested on the criteria that should be included in the decision-making process on when to apply swing pricing.

In terms of UCITS IV some promoters were interested to have more guidance on the potential implications of cross-border mergers or where one fund within a master-feeder relationship swung; other providers had no concerns as they assimilated the scenarios to the guidance provided for in specie transfers.

**Respondents who did not utilise swing pricing**
For the remaining promoters who were not using swing pricing, there was still a clear appreciation by all of the subject matter. All were aware of the ALFI guidance issued in 2006 and were considering whether they should implement it within their fund ranges. The main reasons or obstacles preventing adoption of swing pricing ranged from the effort and operational complexity it would take to implement to concerns about client understanding in certain markets and the acceptance of the practice.
ALFI received responses to this survey from a broad population of promoters and administrators of Luxembourg funds. This provides a high level of comfort that the information received is representative of the industry and allows credible conclusions to be drawn.

It is evident that swing pricing has become more of an accepted standard in the marketplace. Whether this can be completely interpreted as “market practice” is still a debatable point. However, the argument for labelling it as such is certainly much stronger than was the case when ALFI published its original guidance in 2006.

Of the sample tested there appears to be almost complete adoption by organisations of Anglo-Saxon, U.S. and Swiss origination. The reasons why promoters from other European countries have not introduced swing pricing on their fund ranges are unclear though potential reasons have been cited. There is some evidence of uptake among Belgian and German promoters; however, there is no information available as to why French or Italian firms do not apply swing pricing.

In terms of the application of swing pricing, there seems to be a clear preference for partial swing.

All providers agree that more guidance could be given in areas such as presentation in financial statements and the practical application of swing pricing. In response to these requests, ALFI has updated its guidelines.
part II - swing pricing guidelines
In 2004 the CSSF published Circular 04/146 on market timing and late trading. To assist members, ALFI issued a guidance paper that provided practical advice on the subject.

The ALFI market timing working group was asked to look at practical ways in which some of the recommendations included in the paper could be implemented. Swing pricing has been identified as a possible means of protecting a fund’s performance and thus the interest of existing investors from the dilution effect of frequent trading which is also a characteristic of market timing activity.

This is the second edition of the paper that has been compiled by a reformed ALFI working group. The group collated the revisions from a series of meetings with practitioners operating swing pricing and through a comprehensive survey of Luxembourg fund promoters. This has resulted in a series of revisions and modifications to reflect changes in working practice and clarification on a number of technical points in areas such as taxation and financial reporting. This document is available in a PDF format on ALFI website: www.alfi.lu.

Section 1 - introduction, terms of reference and key principles

Key principles

Two main principles evolved as the study progressed and the paper was compiled. Firstly, there should only be one NAV reported for all external performance and comparison purposes. Therefore if swing pricing is employed it is the swung price that is reported. This is based on the premise that the evolution of a fund’s NAV and ultimate return to investors is impacted by various factors above and beyond the performance of the investment manager. Examples of such factors include the policy for pricing securities, the application of fair value pricing and the accounting policies and conventions adopted by the fund.

The second key principle is that swing pricing is applied for the ultimate benefit of the fund investors by countering the dilution effect of investor activity and is not intended as an additional service charge such as a back or front end load. The benefit of swinging the NAV is realised by the fund and in the case of a multi-share class fund, is attributed to all of the fund’s share classes on the same basis as with any fund level revenue or capital item.

Benefits

Studies have shown that investors ordinarily benefit from swing pricing in the long term as these measures are designed to protect a fund from suffering the costs of trading securities as a result of investor movements. Funds that apply swing pricing show superior performance over time compared to funds (with identical investment strategies and trading patterns) that do not employ anti-dilution measures. Swing pricing helps preserve investment returns as the value to long-term investors normally exceeds the value of the swing factor applied on entry to or exit from the fund. In addition swing pricing should act as a deterrent to the short-term speculative investor(s) as their investment will need to have increased by more than twice the value of the swing factor for any gain to be realised. Investors that trade at a swung price are effectively paying the dealing costs associated with their
investment. As mentioned above, the method of applying swing pricing to the traded NAV price of funds is not applied for the benefit of fund agents and or service providers but solely to protect investors’ interests.

**Section 2 - definition of key terms**

Summarised below are the definitions of key terms used in this paper.

**Capital activity**
Net value of subscription, redemption and switch orders received by the transfer agent for a single fund on any one trading day.

**Dilution**
The reduction in value of a fund, and hence NAV per share, that occurs as a result of capital activity dealt at a NAV that does not reflect the dealing costs associated with security trades undertaken by the investment manager.

**Full swing**
The NAV is adjusted each time there is capital activity. The direction of the swing is determined by the net capital activity of the day.

**Multi-share class fund**
A fund having more than one share class. The NAV of the fund is the sum of the net assets of the different share classes. Each share class has its own NAV per share dependent on its weighting in the fund. The share classes may have different features such as expense rates, distribution policies, currencies, type of investor.

**Partial swing**
The NAV is swung as for full swing but only when a predetermined net capital activity threshold (i.e. the swing threshold) is exceeded. Partial swing can also be referred to as semi-swing pricing. For consistency, “partial swing” will be used throughout this document.

**Swing threshold**
The net capital activity, expressed as a percentage of the NAV and or an absolute monetary value, required to trigger the NAV swing process where partial swing pricing is employed. Factors influencing the determination of the swing threshold are described in section 3.

**Swing factor**
A swing factor is the amount (normally expressed as a percentage) by which the NAV is adjusted in order to protect existing investors in a fund from the cost of trading securities as a result of capital activity. The swing factor is triggered as a result of capital activity exceeding a pre-defined threshold (for partial swing) or any capital activity (for full swing).

**Underlying investment funds**
An investment fund in which other investment funds invest.

**Section 3 - swing pricing - an overview**

**The issue - dilution**
A characteristic of frequent trading is that transaction costs are incurred and this dilutes the value of existing shareholders’ interests in a single-priced fund. This fall in value happens because the single price at which investors buy and sell the fund’s shares only reflects the value of its net assets. It does not take into account the dealing costs that arise when the portfolio manager trades as a result of capital activity incurring a spread on the underlying securities. In other words, the charges incurred fall not on the client who has just traded, but on all investors in the fund.
The costs associated with an active shareholder will impact the value of the fund and therefore all shareholders suffer to some extent. As investment horizons have reduced in recent years, the dilution impact of trading costs on investment funds is emerging as a key challenge within the industry.

It is worth noting that whilst swing pricing is particularly relevant to single-priced funds, dilution can also occur in a dual priced fund to the extent that the spread between the fund’s bid and offer NAV does not reflect all the underlying security dealing costs.

Swing pricing – a method of counteracting dilution
The CSSF published Circular 04/146 and ALFI has issued a guidance paper on market timing and late trading. Whilst both documents describe various methods of combating dilution, this paper is limited to explaining swing pricing.

Swinging a fund’s NAV price is an attempt to pass on the cost of underlying capital activity to the active shareholders and thus to protect investors from costs associated with capital activity. However, it must be understood that swing pricing affords protection against dilution at the fund level and is not designed to address specific shareholder transactions.

The operational process
The primary operational considerations associated with swing pricing comprise:

1. Should full or partial swing be adopted?
2. If partial swing is adopted, what is the appropriate swing threshold for a particular fund?
3. Once the decision is made to swing the NAV, what is the appropriate swing factor for a particular fund?
4. Determination of the frequency of review.
5. The procedure in case of special events.
6. The error correction policy when applying swing pricing.

I. Full or partial swing
Generally, swing pricing operates such that once the net capital activity is calculated the NAV is swung using one of the following methods:

(a) Full swing: The price is swung on every dealing date on a net deal basis regardless of the size of the net capital activity. No threshold is therefore applied in the full swing model.
(b) Partial swing: The process is triggered, and the NAV swung, only when the net capital activity exceeds a predefined threshold known as the swing threshold.

The pros and cons of full and partial swing are considered in section 5. At a high level, the key questions to consider are equal treatment of investors; the relationship between capital activity and underlying investment activity; operational complexity and the ease of understanding for investors.

II. Determination of the swing threshold
In principle, the swing threshold should reflect the point at which a net capital activity triggers the investment manager to trade a fund’s securities. As an example, the policy would state that a net capital activity greater than X% of the fund’s NAV would trigger swing pricing. Factors influencing the determination of the swing threshold ordinarily include:

a) The fund size.
b) The type and liquidity of securities in which the fund invests.
c) The costs, and hence the dilution impact, associated with the markets in which the fund invests.
d) The investment manager’s investment policy and the extent to which a fund can retain cash (or near cash) as opposed to always being fully invested.

Ideally the application of swing pricing should be mechanistic and triggered on a consistent basis.
III. Determination of the appropriate swing factor

Generally, swing pricing operates such that once the net capital activity is known for a given dealing date and the swing pricing process is triggered, the NAV of all of the fund’s share classes (in the case of a multi-share class fund) is swung on the following basis:

- Net inflows- the price used to process all transactions is adjusted upwards by the swing factor to a notional offer price.
- Net outflows- the price used to process all transactions is adjusted downwards by the swing factor to a notional bid price.

There are two main approaches to determine the amount by which the NAV is swung once the swing process is triggered as outlined below.

The most commonly adopted approach is to calculate the NAV using the standard method defined in the prospectus and then apply the swing factor (see “Section 4 - calculating the swing factor”) to arrive at the swung NAV. Under this approach the issues that need to be considered are:

- Determining an appropriate swing factor;
- Periodic validation of the spread;
- Monitoring the portfolio for changes in composition.

An alternative approach is to swing the NAV by an amount equal to the actual bid or offer spread plus the actual transaction costs incurred directly as a result of the capital activity. In the case of a net capital inflow, this is achieved by firstly valuing the underlying investments at offer price and then increasing the NAV, thus generated, by the actual transaction costs incurred in the relevant underlying security transactions. In the case of a net capital outflow, the underlying investments are valued at bid price and then the actual transaction costs incurred in the relevant underlying security transactions are subtracted.

This might be difficult to apply in practice, bearing in mind the following considerations:

- Bid and offer prices may not be quoted on certain exchanges depending on the type of security;
- Thinly traded securities may not have a current market price;
- There may be accounting systems limitations that prevent the calculation of a bid, offer and mid NAV;
- The extent to which it is possible to capture actual transaction costs (e.g. broker fees and commissions) and apply them to the swing factor in a timely manner for a daily valued fund;
- The costs associated with systems enhancements required to achieve the aforementioned points;
- If the fund’s NAV is calculated on a T+1 basis, it might be possible to include the actual costs associated with investment activity. For funds valued intraday, this would not be possible and a basis point estimate would have to be calculated to cover broker, transaction and fiscal charges.

Finally, a variation on the methods described above is to develop a model that uses a combination of actual elements to be included in the swing factor (e.g. actual transaction and dealing costs) and an estimated component (e.g. an estimate for the bid or offer spread on the underlying securities).

Section 4 - calculating the swing factor

The bid offer spread is a key factor to be included in the swing factor. If it is not possible to calculate a NAV based on the bid and offer prices of underlying securities, then an estimate of the bid offer spread applicable to the market in which the securities are traded would be reasonable.

Additionally, the following items should be considered when deriving the swing factor:
1. Net broker commissions paid by the fund;
2. Custody transaction charges;
3. Fiscal charges (e.g. stamp duty and sales tax);
4. Any initial charges or exit fees applied to trades in underlying investment funds;
5. Any swing factors or dilution amounts or spreads applied to underlying investment funds or derivative instruments.

Other points to be considered include:
- The tiering of the swing factor to reflect the size of the net capital activity thus taking account of the sliding scale of broker costs associated with trade size. For example, larger trades might result in better broker arrangements.
- The sale of an illiquid security could impact the market price if the resulting security trade is of sufficient size. Although difficult to quantify, arguably this element could be included in the swing factor.
- Sufficient time should be allowed between the order cut off time and the funds’ valuation point to calculate the days’ capital activity and the adjusted swung NAV prices. These additional steps required in the operation of swing pricing may prolong the overall time to complete the pricing and valuation process and could lead to delays in the release of investors’ order confirmations and publication of NAV prices.

If it is not possible to determine the cost of certain transactions (e.g., commission charged by a clearing broker in relation to exchange traded derivatives) and their impact on the swing factor, it should not be compulsory to take these elements into account. Similarly, if certain costs and expenses cannot be directly attributed to a transaction, these too should not be taken into account in calculating the swing factor.

**Periodic verification of the swing factor**

It is recommended that the swing factor should be monitored to ensure reasonability when compared to the charges incurred and should be revised as and when necessary. The objective is to ensure that the swing factor is consistent with the fund’s security and investment profile, the markets in which it invests and the various cost components identified above. This should be undertaken by a swing pricing committee under the supervision of the fund’s Board of Directors or equivalent responsible body. Once determined, it is recommended that periodic reviews are performed using historic data to the current threshold and swing factors.

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**Section 5 - conceptual considerations**

**The pros and cons of swing pricing**

In deciding whether or not to introduce swing pricing, there are various factors that need to be taken into account. The significant advantages and disadvantages of this valuation method are summarised below:

**Advantages**
- Is arguably the most straightforward and complementary anti-dilution technique to apply on single-priced funds.
- Reduces the drag on performance from capital activity and therefore protects existing investors.
- Protects against dilution at the fund level.
- Acts as a deterrent against frequent trading activity.
- Acts as a deterrent against market timing activity.

**Disadvantages**
- As swing pricing is applied on capital activity at the level of the fund it is limited in that it does not address each investor transaction.
- Fairness to investors – without a client-specific swing mechanism, certain investors will unduly benefit or suffer owing to the actions of other investors as of the relevant dealing day.
- Swing pricing may not be transparent to investors.
- Ordinarily increases performance volatility in the short term.
- Large transactions relative to the size of the fund are always likely to trigger a price swing.

**Full versus partial swing pricing**

If it is decided that swing pricing is the appropriate tool for a given fund, the next question is whether full or partial swing should be adopted. The relative merits of full versus partial swing are considered below.
Full swing pricing

Advantages
- Transparent and easy to understand. Therefore relatively easy to explain to sales and marketing teams and clients.
- Consistent treatment of shareholder transaction on all dealing dates.
- Always benefits the fund.

Disadvantages
- Greater NAV volatility as the price is swung on each dealing date. However if a fund is constantly growing, the NAV will always trend to pricing on an offer basis (and vice versa for a shrinking fund). Hence, if a fund is consistently experiencing net capital activity in one direction, full swing could actually reduce NAV volatility.
- Small net capital flows may not require the investment manager to trade. This leads to the investment manager retaining a small cash balance in the fund.

Partial swing pricing

Advantages
- As the capital activity must exceed the swing threshold before the NAV price is swung, there is a lower exposure to NAV miscalculations as a result of operational errors compared to using full swing.
- As the price is not swung on each valuation date there is normally a lower impact on NAV volatility and fund performance.

Disadvantages
- Determining and monitoring the appropriate swing threshold is onerous.
- More difficult to explain and less easily understood by marketing teams and clients.

Section 6 - operational considerations

Objective
When debating whether to implement swing pricing, consideration should be given to the implications on the production and publication of NAV prices to ensure that there are no adverse consequences for recipients further down the process chain (e.g. late publication or incorrect content). NAV delivery will typically be dependent upon the times set for deal cut-off and the valuation point. Swing pricing will introduce the additional process being the task whereby the transfer agent calculates the day’s capital activity.

Dealing Information
A swing pricing model requires the capital activity for a fund to be known before determining whether to swing the NAV price on any particular dealing day. This can be either a total monetary amount or a percentage of total net assets. Unit orders are more problematic to value than consideration-based orders and normally require that their value is estimated using the last available NAV price. The consolidation of all capital activity on any given day may be time consuming depending on the number of orders received by the transfer agent. As this information is required before it can be determined whether or not to swing the NAV of the fund this may delay the completion of the pricing process.

Effective communication channels
around factor and threshold changes
As both factors and thresholds are reviewed periodically, an effective communication channel should be put in place between the areas generating any changes and the departments (or outsourced administrators) applying the changes in practice.

Other operational issues to be considered
- Even if some of the markets in which the fund invests are closed which prevents the investment manager from trading on that day, swing pricing should be applied as it is the investor activity that triggers swing pricing.
Fair value pricing and interaction with swing pricing - it is recommended that the swing factor should be applied to the fair valued NAV.

Fund of funds and funds investing in other single-priced securities – the NAV for a fund of funds investing in single-priced securities or funds should have a swing factor equivalent to the entry and exit charges or costs of acquisition or disposal.

Basis of fee calculations – whether to calculate performance, management and other NAV based fees upon the unswung NAV or swung NAV?

As noted above, both methodologies are equally valid and the method selected will largely be dependent on workflows and system limitations and, if applicable, any restrictions that may exist in the fund’s governing documents regarding the basis of charging NAV based fees.

**Fund mergers**

There are a number of different methods that could be employed when calculating the value of funds where the absorbing fund operates swing pricing and it is applied on the day of the merger:

(i) The value of the assets of the absorbed fund is adjusted by a similar swing factor to that applied by the absorbing fund. This has the effect of valuing the assets of both funds in a consistent manner. Furthermore, this neutralizes the impact of swing pricing on the shareholders of the absorbed fund by recognizing that the investment manager of the absorbing fund may not have to trade securities as...
part II - swing pricing guidelines

a direct result of the merger. Yet, the investment manager may need to consider assets of the absorbed fund (i) he intends to keep, (ii) he intends to sell and (iii) the relative level of cash in both funds as these considerations may determine that the absorbed fund should swing to offer basis.

(ii) Alternatively it is feasible to allocate shares in the absorbing fund on the basis of unswung prices and to subsequently adjust the conversion ratio by the equivalent swing factor in order to take into account incoming assets that will have to be sold, i.e. that will cause the fund manager to deal in securities and, therefore, incur costs that would lead to dilution.

Other points to consider that may modify the method employed include:

- Special care should be taken to correctly determine the swing direction of the absorbing fund based on both the daily “normal” flows as well as the assets from the merger.
- It maybe appropriate to reduce the swing factor of the absorbed fund or alternatively deactivate the swing pricing mechanism ahead of the merger.
- If the investment manager is required to sell most or all securities and or the portfolio mainly consists of cash then it maybe more appropriate to swing the absorbing fund to the offer basis.
- The precise circumstances of each merger should be considered on a case-by-case basis in consultation with the investment manager as part of the merger project.
- It is recommended that the swing factor of the absorbing fund be reviewed following a merger.

Launch of a new fund

- The issue price of a new fund should ordinarily not be swung, as the investors dealing at the initial issue price are all the same investors that will incur the costs of the initial investments made by the investment manager. Accordingly swing pricing should only be applied to a fund from the second valuation date onwards.

Launch of a new share class

- A new share class can be subject to swing pricing on the first day, if the sub-fund swings on that day. This is because any capital activity in the new share class has an impact on the trading costs incurred by the whole fund, not just the new share class.
- Consideration should be given to fixed price launches (e.g. EUR 100) that are announced in advance of the share class launch date to ensure that the published NAV of the new class is the fixed price, irrespective of whether the fund is swung or unswung on that valuation date.

Contributions and Redemptions in kind

- Where investors subscribe in kind, care should be taken to ensure that the basis of valuation is consistently applied to the fund and the assets being contributed into the fund. In practice this means ensuring that assets are valued according to the same principles and if the receiving fund is swung due to shareholder capital activity, then the same swing factor should be applied to the valuation of the assets being contributed. The number of shares or units issued in exchange for the assets contributed in kind can then be determined by dividing the value of the assets subscribed by the receiving fund’s NAV price.
- It is important to understand whether the investment manager wishes to sell securities once they have been contributed in kind or not as this should be factored into the swing pricing adjustment accordingly.
- The assets contributed should always be valued on a fair and consistent basis and without any prejudice to the existing investors. As any additional cost (audit) is typically borne by the specific investor(s) there is no reason to apply swing pricing to in specie transfers where there is no other capital activity on the specific valuation date.
- For redemptions in kind, the first step is to value the fund’s assets and then, the percentage to be transferred out as part of the redemption in kind, is calculated. The percentage is determined by dividing the number of shares the investor is redeeming by the total shares in issue.
Where an investor is exiting with securities and available cash this does not necessarily cause the investment manager to trade. In such cases, and if there is no other capital activity on the specific valuation date, the Board of Directors of the fund may decide to forgo the impact of swing pricing in calculating the value of assets transferred out in kind.

**Liquidating funds**

- As all assets will have been liquidated resulting in the receipt of cash, prior to the payment of liquidation proceeds to the remaining investors, the NAV prices will not need to be swung on the date of the liquidation.
- This does not apply where individual share classes are liquidated as they will continue to follow the swing process triggered by the net capital activity happening at fund level.

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**Section 7 - investment fund structures**

This section considers the application of swing pricing on investment funds with structures ranging from an individual share class to the more complex pooling arrangements and integrated master feeder structures. In doing so it is important to appreciate that some structures are under the control of a single fund promoter whilst others are distinctly independent. Perhaps most commonly however in European distribution is the mixture of both combined to form a complex and sophisticated distribution network. Bearing this in mind, when applying swing pricing to the larger structures it is important to consider where and to what extent transaction charges are incurred and the impact of different capital activity. It is these components that will influence the most appropriate level at which to apply a swing pricing mechanism.

As noted in the introduction, dilution is the reduction in the value of shares in a single-priced fund that occurs whenever an investor buys or sells shares in the fund. In the case of a fund with a single share class the costs associated with an active shareholder will impact the future value of the fund and therefore all shareholders suffer to some degree from the impact of an active shareholder. Swinging fund NAV prices is an attempt to pass on the cost of underlying activity to the active shareholders and protect existing investors from costs associated with capital activity. So let’s consider this in the context of different fund structures.

**Funds with a single share class**

NAV prices could swing according to net capital activity within the fund. A net subscription will lead to the NAV price per share swinging upwards to an offer price, and a net redemption will lead to the NAV per share price swinging downwards to bid. This swing isolates existing investors from the impact of any trades within the fund associated with the net capital activity.

The benefits and costs of swinging prices are not necessarily spread evenly across all active shareholders, with the activities of one investor having potential financial impact on other active investors. For example, consider the impact of a large subscriber on the returns of a smaller redeemer on the same day. The net capital activity at fund level is a subscription, and so the NAV per share price is increased to compensate the fund for the future transaction and investment costs associated with investing the proceeds of this net capital activity. The subscriber pays a higher price for the shares he has purchased. The price he pays is not impacted by the activities of the redeeming shareholder and therefore he receives no benefit or lower costs as a result of the redemption activity. The redeeming shareholder, however, will benefit from the fact that the NAV has been increased, and will receive a higher than anticipated level of proceeds from his redemption. This additional benefit is received, indirectly, from the subscribing shareholder. As the NAV is always swung according to the net capital activity, the
overall objective of eliminating dilution of the fund is always achieved.

In summary, and in comparison to a fund without any provision to apply swing pricing:
- The fund and the long term investors are better off, as there is no material impact as a result of transaction and investment costs incurred from investing or disinvesting subscription or redemption proceeds;
- Active shareholders transacting in the direction of the net capital activity of the day will incur dilution of their investment, though the level of dilution is not necessarily made better or worse by the impact of activity of other shareholders;
- Shareholders transacting in the opposite direction to the net capital activity at fund level will benefit from a swinging price.

**Funds with multiple share classes**

If one accepts the premise of existing shareholders impacting each other, then one can apply the same premise to a fund with a multiple share class structure. Economic activity takes place at fund level, so the decision to swing prices should take place only after considering all capital activity at fund level.

The single share class fund example is extended. There are situations where one share class within a fund has net subscriptions, whilst another has net redemptions. Assuming the net activity of the two share classes combined triggers a swing price adjustment, the swing price adjustment applied to the net capital activity at the fund level (subscriptions – redemptions) will compensate the fund for any underlying transaction costs. In this instance the capital activity in one share class is being offset by the capital activity in any of the others with no overall impact on existing shareholders within the fund. In this case these other shareholders could be within the same share class, or in any other share class within the fund.

With the increasing development of new types of hedged share classes (e.g. currency hedged), the transaction costs may increasingly be incurred at the share class level. Where the share class level costs become significant, it may be worth considering an additional swing factor at the share class level. It is quite conceivable, in these cases, that the fund will swing in one direction and the share class in the opposite direction, such that share class swing factor may be added to or deducted from the fund level swing factor to arrive at a share class specific factor. The technology changes required to achieve this are more complex than with fund level only swing factors.

**Master feeder fund structures**

Master feeder structures are typically set-up as an efficient way in which to pool assets under common management. The main difference between a master feeder structure and a more classic pooling structure is that pooling is normally used to manage common assets in a range of investment vehicles whereas master feeder structures are normally a series of feeder funds set-up to facilitate the effective access for investors to invest into a fund. Perhaps this is more easily described by considering pooling as an efficient method by which an investment manager can manage common assets and master feeder funds are typically used to distribute investment funds. Alternatively as both structures share similar features, a master feeder structure could be considered as a simplified pooling structure.

When it comes to applying the logic described above in relation to master feeder fund structures it is important to identify which fund is actually trading in securities (i.e. in stock markets as a result of capital activity). This normally takes place at the level of the master fund and so swing pricing, if used, should be applied at this level.

It may also be appropriate to apply swing pricing at the feeder fund level as well. This can be determined by considering the investment objectives and holdings of the feeder fund. If, for example, the feeder fund invests solely in the master fund then it is unlikely that there is a reason to apply swing pricing to the feeder fund.
Whereas, for example, if the feeder were to invest 50% into the master fund and 50% into exchange traded securities, then it may be appropriate to apply swing pricing to the feeder fund with a swing factor reflecting the transaction costs incurred in the purchase or sale of the exchange traded securities.

In practice it is common for master feeder fund structures to have several feeders linked to a master and this is often extended with a range of master funds linked to multiple feeder funds. The feeder funds may have varying investment objectives ranging from fully investing into one master fund versus a percentage allocation in several master funds combined with investments in other securities. Regardless of such arrangements, the rules for applying swing pricing as described above work across all of these structures.

**Fund of fund structures**

There are many similarities between these structures and master feeder fund structures. Not surprisingly though the distinguishing features are that these structures are set-up to accommodate the investment by one investment fund into another. These can either be internal arrangements whereby an investment manager is selecting from a range of funds offered by a single promoter or alternatively a broader investment objective that includes investment funds of other promoters.

The main consideration when applying swing pricing for such structures is the ability to look through to the underlying swing pricing and or any other dilution policies. It is this level of detail plus any entrance or exit charges levied by the underlying funds in which the fund of funds invests that will allow an appropriate swing factor to be determined. This is typically much easier where the funds all belong to one promoter and significantly more difficult where external funds make up the portfolio of the fund of funds.

Working on the premise that sufficient information is available to determine a swing factor that could be applied to the fund of funds, then the rules outlined above concerning the application of swing pricing can also be applied to fund of fund structures. It is worth noting particularly for a fund of funds with a broad investment remit enabling it to invest in other promoters’ funds, that it is possible that the fund of funds may swing its price in one direction whilst the underlying fund into which it invests may swing in the opposite direction. An example of this being where there is net capital inflows into the fund of funds and net capital outflow at the level of the underlying investment fund due to redemptions from other investors exceeding the investment from the fund of funds. This is quite common in practice and reflects how the investment industry has developed with investment managers investing in other investment managers’ funds or - a hybrid model where distributors (purchasers of investment funds) establish investment funds for distribution purposes that in turn invest in underlying investment funds.

Finally, it should be taken into account that funds domiciled in certain jurisdictions may not be authorised to apply swing pricing. So lets consider a Luxembourg fund of funds investing in a underlying fund domiciled in another jurisdiction. Whilst the fund of funds might swing its price based on the level of capital activity from investors, the underlying fund will not be able to swing its price when the Luxembourg fund of funds makes an investment into this fund. This has the effect that prices will only be swung at the level of the Luxembourg fund. It may well be that the non-Luxembourg domiciled fund has an alternative method to protect the fund’s investors such as a dilution charge. Whilst there is little that can be done, it is worth considering the various circumstances and the overall impact on the fund of funds.

**Funds operating a pooled investment structure**

Pooling is perhaps the most complex of all the investment structures to administer. Essentially pooling is operated using systems technology to combine the interest of several funds (investment vehicles) into one large
investment pool that is managed as a single portfolio by the investment manager. Each investment vehicle receives units or shares in the underlying pool, equivalent to its share of the total investment value of the pool.

Again the premise considered above is extended. If one agrees that the activities of investors in one share class can impact the activities of investors in other share classes, then one can apply the same logic to funds investing in common pools. The investment manager trades securities at the level of the pool so the decision to swing prices should take place only after considering all capital activity at pool level. Without swing pricing the capital activity of one fund will impact the performance of another fund sharing a common pool (transaction and investment costs are incurred at pool level, and so the impact of such costs is shared between all pool owners). Consistent with the rules, by applying swing pricing at the level of the pool this will transfer the pool's trading cost to those funds with capital activity.

The same principle applies whereby economic cost and benefit will be transferred between active shareholders within different funds sharing common pools, but that no shareholder is worse off than it would have been had it transacted in isolation, and that certain active shareholders and all passive shareholders are better off than they would have been without any provisions for dilution.

It is true to say that swinging prices at pool level will impact the value of top level funds holdings in these pools, in effect automatically swinging top level fund prices sufficiently to compensate for any dilutive impact. As noted previously economic activity takes place at pool level, so the decision to swing prices should take place only after considering all activity at pool level.

Similar to master feeder funds and fund of funds the specific set-up and relationship of the pooling complex should be considered on its own merits in order to optimise the use of swing pricing with pooling structures.

Such considerations include:
- the number of funds participating in a pool and the level of each fund’s activity may determine whether the mix of fund types in the pool merit the use of swing pricing;
- the portion of a participating fund’s assets that are invested in the pool (or invested in other assets);
- if some funds are invested into more than one pool and the different pools have differing bid or offer spreads.

As pooling structures typically have so many entities and intricate relationships and dependencies it is recommended that extensive systems testing is performed before using swing pricing on pooling structures.

**Summary**

The costs and benefits associated with the capital activity of an individual shareholder within a share class will impact other shareholders;
- within the same share class, or
- within other share classes within the same fund (in the case of multiple share class funds), or
- within a master fund with several feeders, or
- within other funds sharing a common pool (in the case of funds using a pooled investment structure).

Applying swing pricing on fund structures and pools will not eliminate this transfer of cost or benefit between shareholders. However swinging prices will spread costs and benefits more equitably between categories of investors, and will protect existing investors (and underlying fund performance) from a portfolio’s trading costs associated with capital activity.
Swing pricing and the impact on performance
Swing pricing is primarily used to address dilution, protecting existing investors from experiencing lower fund performance as a result of dealing costs arising from the capital activities of other investors. However, there are certain points to consider. Swing pricing could increase the tracking error (i.e. the difference in return based on the swung NAV compared to benchmark) and potentially result in an increase in NAV volatility as discussed in section 5. This creates a number of issues that are outlined below.

Risk assessment
The introduction of swing pricing is likely to increase the level of tracking error between a fund and the index against which it is benchmarked. This may in turn result in investors incorrectly estimating the inherent level of portfolio risk of a given fund. This is explained by considering that performance is measured using the swung NAV which is likely to contain an increased level of volatility compared to the returns of the unswung NAV price. It is therefore important to clearly disclose the use of swing pricing so that it is transparent to the users of performance data.

Competitor and peer performance analysis
The swing effect may, to some extent, mask the investment manager’s performance in the short-term if performance is measured using the swung NAV.

The use of the swung price is considered most appropriate for investment performance reporting because investors are impacted by the return of the fund as a whole and not just the performance of the manager. Since the purpose of swing pricing is ultimately to protect the existing investor, the impact of swing pricing on performance is seen as a valid component of long-term return to investors.

This point is based on the common view that the users of NAV data are only interested in one NAV, the traded NAV, be it swung or unswung.

External fund performance reporting
Again, the same logic applies for performance reporting in monthly fact sheets and marketing material. Based on the arguments above, the swung price should be used and disclosure of the unswung price is optional.

Internal fund performance reporting
Performance reporting for internal purposes could be based on either the unswung NAV or the swung NAV. However, contributors have argued that investment managers are generally more concerned with the performance divergence between the NAV based upon valuation point prices and closing market prices than the impact of swing pricing.

Disclosure of information on external reports
Transparency and clarity of information is critical for the investor. However, a key concern is that by providing too much information, it might lead to confusion. Similarly if partial swing is used, a frequent trader may be able to determine the probability that the price will swing if too much information is made available.
A question therefore arises regarding the amount of information that should be provided in the fund’s prospectus, financial statements and supplementary information included in investor performance reporting. It is recommended that the principles of swing pricing are disclosed to investors but the details may remain confidential to ensure that this information cannot be used to the detriment of the fund.

Performance fee calculations
Performance fees are specifically designed to remunerate the investment manager for out-performance of a benchmark. As performance fees are ordinarily crystallized on a specific date, the use of the swung price could significantly distort the performance fee calculation.
When calculating performance fees it is appropriate to use the unswung NAV and it is recommended that the basis of calculation is disclosed in the fund’s prospectus.
Given the sensitivity of performance fees, care should be taken to ensure that the calculation methodology is documented and mechanistically applied by the fund administrator. The management company or directors of the fund are ultimately responsible for the on-going monitoring and consistent application of the performance fee calculation process and policy. The verification of the accurate and consistent application of the calculation methodology should be checked as part of the work performed in the fund’s annual audit.

As a general comment, it should be noted that it might be necessary to review a fund’s Articles of Incorporation to ensure that they do not restrict the introduction of swing pricing.

**Financial reporting**

Where a swing pricing policy exists, be it a full or partial model, due consideration should be given in terms of capturing accurate data and making relevant disclosures on semi-annual and annual accounts. Financial statements represent a description of underlying assets and liabilities of the fund at a specific point in time. These are usually valued in accordance with the relevant accounting principles together with the rules of the fund as defined in the prospectus.

Where a swing pricing factor has been applied to the last valuation of the period, the treatment in the financial statements may depend on how exactly it has been captured within the NAV calculation process. There are two options:

**Option (i)** Where the factor has been booked as a single line adjusting entry, the entry itself is likely not to be reflective of any actual asset or liability held by the fund as at that date. Thus, in accordance with relevant accounting principles it may be necessary to remove this line item from the statement of net assets.

This is the case under both Luxembourg GAAP and IFRS (reference to the table on page 26).

**Option (ii)** Where the swing factor has been applied on a line by line basis to individual securities within the portfolio, the swung NAV could be used as the basis of financial statements prepared under Luxembourg GAAP. However, that may imply a change in the basis of valuation of specific assets (i.e. from mid to bid). Thus, the valuation mechanism should ensure that it complies with the valuation policy contained in the prospectus and is incorporated into the pricing policy of the fund.

In terms of IFRS reporting, portfolio investments are generally recorded at fair value through profit and loss and are required to be valued at bid price. No adjustment for future transaction costs is permissible. Thus, the line by line swing adjustment described above could not be reflected via the fair value of investments line in the statement of financial position. Rather a reconciliation between the swung NAV used for capital activity and the IFRS NAV using bid prices may be required in order to assist the reader of the financial statements.
The following table sets out guidance on how the above could be captured:

<table>
<thead>
<tr>
<th>Statement of net assets / Financial position</th>
<th>Luxembourg GAAP</th>
<th>IFRS</th>
</tr>
</thead>
</table>
|                                             | • Where a swing factor has been applied as a one line adjusting entry, the asset or liability created is not representative of a real asset or liability and should be excluded from the statement of net assets; or | • Where a swing factor has been applied as a one line adjusting entry, the asset or liability created is not representative of a real asset or liability and should be excluded from the statement of financial position; or | 1
|                                             | • Where a swing factor has been captured by each individual security, this may imply a change of valuation basis and is included in the valuation of those securities in the statement of net assets (refer to the notes to the accounts). | • IFRS requires valuation of investments to use bid prices with no adjustment for future transaction costs (refer to the notes to the accounts). | 2
| Statistical information                      | The NAV per share disclosed for each share class should be consistent with the NAV per share applied to capital activity. This may conflict with the statement of net assets (refer to the notes to accounts). | IFRS only requires 2 year comparatives. The NAV per share disclosed for each share class should be consistent with the NAV per share applied to capital activity. |
| (i.e. three year summary of net asset values) | Depending on the accounting policies in place there are a number of acceptable practices for the recording of the swing factor adjustment actually paid or received during the year. | Depending on the fund’s accounting policies and on how the relevant financial instruments are classified under IFRS there are a number of acceptable practices for the recording of the swing factor adjustment actually paid or received during the year: | 3
|                                             | • The year-to-date swing amount posted could be treated as part of the realised result for the fund, as a separate line item. | • The year-to-date swing amount posted could be treated as a realised result for the fund, as a separate line item. | 4
|                                             | • The year-to-date swing amount posted could be included within the line item reported for capital activity. | • The year-to-date swing amount posted could be included within the line item reported for capital activity. | 5
|                                             | • If transaction costs are disclosed separately as expenses in the statement of operations the year-to-date swing amount posted could be reported as a separate line item under income. (However, this treatment is currently very rare for funds under Luxembourg GAAP). | • If transaction costs are disclosed separately the year-to-date swing amount posted could be reported as a separate line item under income. |
| Notes to the accounts:                        | Description of the swing pricing process in place as described in the prospectus and details of any material changes made to the policy during the period. | Description of the swing pricing process in place as described in the prospectus and details of any material changes made to the policy in the period. | 6
|                                             | • As at the date of the financial statements, a list of the sub-funds to which swing pricing was applied. | • As at the date of the financial statements, a list of the sub-funds to which swing pricing was applied. | 7
|                                             | • Description of any change of valuation basis as a result of applying swing pricing. | • The fund could include, in the notes to the accounts, a reconciliation between the IFRS “bid NAV” and the fund’s swung NAV to assist the shareholders. Alternatively, this adjustment may be included in the statement of financial position. | 8
|                                             | • It would also be acceptable to disclose the swung NAV in a footnote to the financial statements that also provides a reconciliation of the traded NAV to that disclosed within the primary statements. | | 9
|                                             | • Where different statements use adjusted or unadjusted swing figures, clarity on that for the investor. | | 10

1 See appendix page 30 (options A & B)  
2 See appendix page 30 (option C)  
3 Corresponds to option D in the appendix on page 31  
4 Corresponds to option E in the appendix on page 31  
5 Corresponds to option F in the appendix on page 31
Swing errors

Within the context of CSSF circular 2002/77, materiality thresholds have been established with regard to NAV errors. Careful consideration should be given in respect of the changes to processes introduced with the implementation of swing pricing.

The most common issue encountered is that of the accurate calculation of capital activity being the determinant factor that will trigger the direction in which a fund’s price is swung and additionally for partial swing, whether the swing threshold is breached. This is further complicated when considering the circumstances and conditions which give rise to order processing errors and the impact on the final value of the calculated capital activity. Generally speaking the cause of errors can be categorised between:

i) those created by the order originator and;
ii) those under the control of the Fund’s processing agents.

In the first instance timing is normally the most relevant factor to consider as most errors in orders sent by an order originator are only identified on receipt of the confirmation issued after the order has been priced using the relevant NAV (either swung or unswung). Regardless of the price that was ultimately used, the identification of an error of this nature can only be called by the order originator who holds the original records with the details of the order requested. The particular significance being that an error is only identified after the order has been incorporated in the capital activity of the dealing day which is used to determine whether to swing the fund’s NAV. The resulting swung or unswung NAV then becomes the price that is applied to the erroneous order. Therefore one single incorrect order could give rise to the incorrect application of swing pricing to a fund’s NAV.

In the second instance there are additional circumstances that could give rise to an error beyond the incorrect processing of an order received from an order originator.

Examples include:
- application of an incorrect swing factor to a fund’s NAV;
- swinging the fund’s NAV in the wrong direction;
- failure to swing a fund when the swing threshold has been breached.

There are many more scenarios that could give rise to similar administrative error. The main contrast for consideration is that a fund’s agents have little or no control over errors that fall within category i) and materially more influence and control over the processing of orders and the application of swing pricing that enables them to mitigate against the risk of category ii) errors.

In conclusion when implementing swing pricing the fund promoter should review their error and omissions policy and update in the appropriate manner to provide clarity as to the principles of what constitutes an error in respect of swing pricing and the implications that this brings in respect of the CSSF circular 2002/77 covering material NAV errors.

Prospectus disclosure

The prospectus should disclose that swing pricing may be applied to adjust the NAV on the basis of actual capital activity, in order to take into account the costs and charges payable on the effective acquisition or disposal of assets in the fund. The prospectus should indicate that swing pricing will be applied on the basis of objective criteria. It is recommended that the prospectus wording covers the following points:

- Possibility for the fund to swing the NAV.
- A short description of the swing pricing mechanism disclosing that in case there are net inflows of assets, the NAV will be adjusted upwards and in case of net outflows, the NAV will be adjusted downwards.
- The prospectus should disclose the maximum swing factor as a percentage of a fund’s NAV.
Should the swing pricing mechanism only apply if net inflows or outflows exceed a certain threshold, this should be mentioned in the prospectus. There is no obligation to disclose the actual threshold percentage or monetary value in the prospectus.

The prospectus should disclose that the performance fee will be charged on the basis of the unswung NAV.

It is also recommended that the prospectus contains appropriate wording explaining that swing pricing is designed to prevent the dilution of existing investors.

It might be advisable to include in the prospectus a reference to the fact that the volatility of the fund’s NAV might not reflect the true portfolio performance (and therefore might deviate from the fund’s benchmark) as a consequence of the application of swing pricing.

**Articles of incorporation**

It is recommended that the articles of incorporation refer to the possibility to swing the NAV or at least contain a general provision that the NAV may be adjusted to reflect certain dealing charges.

**Key investor information document (replacing the simplified prospectus)**

As the European Directive 2009/65/EC, the Commission Regulation (EU) 583/2010 and the CESR papers in relation to the content of the key investor information documents do not refer to swing pricing, it should not be disclosed in the key investor information document.

In accordance with (article 3 of) the Commission Regulation (EU) 583/2010, no other information or statements than those specified in this Regulation may be included in the key investor information document.

**German Tax Reporting**

Since Aktiengewinn (AG) is reported as a percentage of net assets, should the swing adjustment be taken into consideration when calculating AG? One could take the argument a step further and ask whether the adjustment should be split, pro rata, as part of the overall German tax calculation.

Since the swing adjustment is a mechanism to recoup trading costs associated with large investments or divestitures and is not a true reflection of the underlying securities’ value and the associated gains and losses of the fund, one could argue not to include the adjustment in the calculation of AG.

If German tax were to be taken into consideration, there would probably be an adverse impact to the ultimate NAV delivery.

Since the concept of swing pricing is not one that is recognised within German tax regulation, there is currently no formal position supported by any official guidance regarding its application to required reporting. As such, exclusion of any swing factor in this regard could be considered appropriate or, at least, could currently not be challenged from a technical perspective.

It is felt that a further driver for exclusion of the swing factor from German tax reporting is operational efficiency - this is especially so since the impact to the tax calculation of inclusion or exclusion is expected to be negligible, if any. Consulting with your funds’ tax adviser for a final opinion on the issue of German Tax is the advisable approach taking into account any further clarification surrounding this point issued subsequent to this paper.
The examples in the appendices are provided as an aid to practitioners applying swing pricing.

Each organization’s swing pricing procedures and processes may vary slightly giving different results.

Therefore the basis of certain calculations and/or the presentation of Financial Statements may differ from the examples, however, it is unlikely that there will be any material impact.
### STATEMENT OF NET ASSETS
#### AS AT Month Day, Year

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investments in securities at acquisition cost</td>
<td>990 000.00</td>
<td>990 000.00</td>
<td>990 000.00</td>
</tr>
<tr>
<td>Unrealized appreciation (depreciation) on investments</td>
<td>10 000.00</td>
<td>10 000.00</td>
<td>(*) 30 000.00</td>
</tr>
<tr>
<td>Investments in securities at market value</td>
<td>1 000 000.00</td>
<td>1 000 000.00</td>
<td>1 020 000.00</td>
</tr>
<tr>
<td>Cash at banks</td>
<td>50 000.00</td>
<td>50 000.00</td>
<td>50 000.00</td>
</tr>
<tr>
<td>Amounts receivable on sale of investments</td>
<td>50 000.00</td>
<td>50 000.00</td>
<td>50 000.00</td>
</tr>
<tr>
<td>Amounts receivable on subscriptions</td>
<td>50 000.00</td>
<td>50 000.00</td>
<td>50 000.00</td>
</tr>
<tr>
<td>Interest and dividends receivable, net</td>
<td>50 000.00</td>
<td>50 000.00</td>
<td>50 000.00</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>10 000.00</td>
<td>10 000.00</td>
<td>10 000.00</td>
</tr>
<tr>
<td>Formation expenses (net)</td>
<td>10 000.00</td>
<td>10 000.00</td>
<td>10 000.00</td>
</tr>
<tr>
<td>Unrealized gain on forward exchange contracts</td>
<td>10 000.00</td>
<td>10 000.00</td>
<td>10 000.00</td>
</tr>
<tr>
<td>Other assets (swing adjustment)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>1 230 000.00</td>
<td>1 230 000.00</td>
<td>1 250 000.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIABILITIES</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amounts payable on purchase of investments</td>
<td>50 000.00</td>
<td>50 000.00</td>
<td>50 000.00</td>
</tr>
<tr>
<td>Amounts payable on redemptions</td>
<td>50 000.00</td>
<td>50 000.00</td>
<td>50 000.00</td>
</tr>
<tr>
<td>Management fees payable</td>
<td>50 000.00</td>
<td>50 000.00</td>
<td>50 000.00</td>
</tr>
<tr>
<td>Taxes and expenses payable</td>
<td>30 000.00</td>
<td>30 000.00</td>
<td>30 000.00</td>
</tr>
<tr>
<td>Unrealized loss on forward exchange contracts</td>
<td>10 000.00</td>
<td>10 000.00</td>
<td>10 000.00</td>
</tr>
<tr>
<td>Other liabilities</td>
<td>10 000.00</td>
<td>10 000.00</td>
<td>10 000.00</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES</strong></td>
<td>200 000.00</td>
<td>200 000.00</td>
<td>200 000.00</td>
</tr>
</tbody>
</table>

**TOTAL NET ASSETS - unswung / swung NAV**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 030 000.00</td>
<td>1 030 000.00</td>
<td>1 050 000.00</td>
</tr>
</tbody>
</table>

| Number of shares outstanding | 100 000.00 | 100 000.00 | 100 000.00 |
| Net asset value per share - swung | 10.50 | 10.50 | 10.50 |

### Alternatives methods of presenting the statement of net assets:

A Swing pricing factor applied to NAV per share
B Swing pricing factor applied to NAV per share & reconciliation shown to the statement of net assets
C Swing factor applied on a line by line basis to the individual securities in the portfolio

For methods A & B please refer to the description of ‘option (i)’ on page 25
For method C ((*) nb the presentational difference) please refer to the description of ‘option (ii)’ on page 25
### STATEMENT OF OPERATIONS AND CHANGES IN NET ASSETS
FOR THE YEAR ENDED Month Day, Year

<table>
<thead>
<tr>
<th></th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net assets at the beginning of the year</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INCOME</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividends, net of taxes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest on bonds, net of taxes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank interest, net</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other income</td>
<td></td>
<td></td>
<td>100.00</td>
</tr>
<tr>
<td><strong>EXPENSES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management fees</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Custodian fees, interest and bank charges</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration, audit and other expenses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxe d'abonnement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transaction costs</td>
<td></td>
<td></td>
<td>95.00</td>
</tr>
<tr>
<td><strong>NET INVESTMENT INCOME (LOSS)</strong></td>
<td></td>
<td></td>
<td>5.00</td>
</tr>
<tr>
<td>Net realized gain (loss) on sales of investments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net realized gain on swing pricing</td>
<td>100.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net realized gain (loss) on forward exchange contracts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net realized gain (loss) on foreign exchange</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NET REALIZED GAIN (LOSS) FOR THE YEAR</strong></td>
<td>100.00</td>
<td></td>
<td>5.00</td>
</tr>
<tr>
<td>Change in net unrealized appreciation (depreciation) on investments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in net unrealized appreciation (depreciation) on forward exchange contracts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INCREASE (DECREASE) IN NET ASSETS AS A RESULT OF OPERATIONS</strong></td>
<td>100.00</td>
<td></td>
<td>5.00</td>
</tr>
<tr>
<td>Proceeds from subscriptions of shares</td>
<td></td>
<td>100.00</td>
<td></td>
</tr>
<tr>
<td>Cost of shares redeemed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividends paid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Net assets at the end of the year</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Alternatives (see the notes on page 26 in respect of ‘the statement of operations and changes / comprehensive income’):

D Swing pricing component of capital activity shown as realised gains/losses
E Swing pricing component of capital activity included with other capital activity movements
F Swing pricing component of capital activity shown as investment income

A fund that chooses either presentation A or B in its Statement of Net Assets could use any of the suggested presentations above for its Statement of Operations and Changes in Net Assets. Most commonly presentations D or E are used. A fund that chooses presentation C in its Statement of Net Assets is most likely going to use presentation D in its Statement of Operations and Changes in Net Assets but again it could use any of the 3 alternatives.
NOTES TO THE ANNUAL ACCOUNTS FOR THE YEAR ENDED Month Day, Year

**Notes extract**

2. Significant Accounting Policies

2(...) Swing Pricing

The investment manager needs to undertake transactions in order to maintain the desired asset allocation as a result of subscriptions or redemptions, which may generate additional costs for the fund and its shareholders. As a consequence, in order to protect the existing investors’ interest, from these capital movements, when net capital movements exceed a threshold pre-defined by the Board of Directors, an adjustment of the NAV per share used is applied. This adjustment reflects the estimated tax and dealing costs that may be incurred by the fund as a result of these transactions, and the estimated bid-offer spread of the assets in which the fund invests. A periodical review is undertaken in order to verify the appropriateness of the swing factor being applied.

The NAV per share as disclosed in the statistical information is the published NAV per share whereas the total net assets disclosed in the statement of net assets is the total net asset value excluding any year end swing adjustment.

As at year end, swing pricing was applied on the NAV per share of the following sub-funds: [name of the sub-fund].

OR

2. Significant Accounting Policies

2(...) Swing Pricing

The investment manager needs to undertake transactions in order to maintain the desired asset allocation as a result of subscriptions or redemptions, which may generate additional costs for the fund and its shareholders. As a consequence, in order to protect the existing investors’ interest, from these capital movements, when net capital movements exceed a threshold pre-defined by the Board of Directors, the valuation of the underlying securities is adjusted on a line by line basis to reflect these costs. This adjustment reflects the estimated tax and dealing costs that may be incurred by the fund as a result of these transactions, and the estimated bid-offer spread of the assets in which the fund invests. A periodical review is undertaken in order to verify the appropriateness of the swing factor being applied.

As at year end, swing pricing was applied on the NAV per share of the following sub-funds: [name of the sub-fund].

Any questions about this brochure or other information you need about swing pricing? Please address your request to the following email address:
francois.drazdik@alfi.lu