Anti-Dilution Measures

Swing Pricing

Luxembourg Fund Range

Glossary*

Ask Price:
The price a seller is willing to accept for a security, also known as the offer price. Along with the price, the ask quote will generally also stipulate the amount of the security willing to be sold at that price. This is the opposite of bid, which is the price a buyer is willing to pay for a security, and the ask will always be higher than the bid. The terms “bid” and “ask” are used in nearly every financial market in the world covering stocks, bonds, currency and derivatives.

Bid price:
The price a buyer is willing to pay for a security. This is one part of the bid with the other being the bid size, which details the amount of shares the investor is willing to purchase at the bid price. The opposite of the bid is the ask price, which is the price a seller is looking to get for his or her shares.

Bid-Ask Spread:
The amount by which the ask price exceeds the bid. This is essentially the difference in price between the highest price that a buyer is willing to pay for an asset and the lowest price for which a seller is willing to sell it. The size of the spread from one asset to another will differ mainly because of the difference in liquidity of each asset. For example, currency is considered the most liquid asset in the world and the bid-ask spread in the currency market is one of the smallest (one-hundredth of a percent). On the other hand, less liquid assets such as a small-cap stock may have spreads that are equivalent to a percent or two of the asset’s value.

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

Dilution:
The reduction in value of a sub-fund, and hence Net Asset Value (NAV) per share, that occurs as a result of capital activity dealt at a NAV that does not fully reflect the impact of investment/disinvestment associated with security trades undertaken by the investment manager.

Full swing:
The NAV is adjusted each time there is capital activity, irrespective of its size or significance to the -fund. The direction of the swing is determined by the net capital activity of the day.

Mid-price:
The mid-price is the price between the best price of the sellers of the security ask price and the best price of the buyers of the security bid price. It can simply be defined as the average of the current bid and ask prices being quoted.

Multi-share class sub-fund:
A sub-fund having more than one share class. The NAV of the sub-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 sub-fund. The share classes may have different features such as expense rates, distribution policies, currencies, type of investor.

NAV:
The Net Asset Value of a sub-fund is the sum of the net assets of the different share classes of the sub-fund.

Partial swing:
The NAV is swung only when a predetermined net capital activity threshold (the swing threshold) is exceeded at each dealing day. As with full swing the direction of the swing is determined by the net capital activity of the day. Partial swing can also be referred to as semi-swing pricing. For consistency, ‘partial swing’ will be used throughout this document.

Single pricing sub-fund:
A sub-fund which calculates one single NAV per share which is used for all capital activity regardless of whether inflow or outflow.

Swing threshold:
The level of net capital activity, expressed as a percentage of the NAV or an absolute monetary value, or both, required to trigger the swinging process where partial swing pricing is employed. Factors influencing the determination of the swing threshold are described on page 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 sub-fund from dilution caused by securities trading following capital activity. The swing factor is applied as a result of capital activity exceeding a pre-defined threshold (for partial swing) or any capital activity (for full swing). Items influencing the determination of the swing threshold are described on page 3.

* Sources: Association of the Luxembourg Fund Industry (ALFI – December 2015) and Investopedia definitions.

Swing pricing in a nutshell

When an investor subscribes or redeems shares in a sub-fund, it incurs dealing costs. These costs are shared across all sub-fund's shareholders. As a result, the activity of the dealing shareholder is diluting the value of the sub-fund to the detriment of other investors in the sub-fund. NN Investment Partners Luxembourg (NN IP) fund range uses Swing Pricing since 2008. Swing Pricing is applied to NN IP's sub-funds to protect the interests of our long term shareholders from the dilution effect of transaction costs resulting from activities by other shareholders.

One of the key principles of swing pricing is that any investor transacting should bear the costs of their trading. To calculate the price, the funds' administrator calculates the Net Asset Value (NAV) for the sub-fund before consideration of capital activity – subscriptions, redemptions and conversion – and then adjusts ("swings") the NAV by a pre-determined amount that we call "swing factor".

The swing factor adjustments serve to insulate non-dealing shareholders from the trading costs triggered by the dealing shareholders.

We have two different methodologies used to set the swing factors: one for sub-funds valued at mid-price (e.g. equity sub-funds and Senior Loans) and one for sub-funds valued at bid-price (e.g. fixed income sub-funds).

Sub-Funds valued at mid-price:

- The direction of the swing applied to the NAV depends on whether the sub-fund is experiencing net inflows or net outflows on the dealing day, while the magnitude of the swing factor is based on pre-determined estimates of the average trading costs in the asset class.
- If the sub-fund is experiencing net inflows, the NAV is adjusted upwards with the pre-determined swing factor.
- If the sub-fund is experiencing net outflows, the NAV is adjusted downwards with the pre-determined swing factor.
- The level of the swing factors for inflows and for outflows is the same, i.e. symmetrically allocated.

Sub-Funds valued at bid price:

- The direction of the swing applied to the NAV depends on whether the sub-fund is experiencing net inflows or net outflows on the dealing day, while the magnitude of the swing factor is based on pre-determined estimates of the average trading costs in the asset class.
- If the sub-fund is experiencing net inflows, the NAV is adjusted upwards with the pre-determined swing factor.
- If the sub-fund is experiencing net outflows, the NAV is adjusted downwards with the pre-determined swing factor.
- The level of the swing factors for inflows and for outflows is asymmetrically allocated, which implies that around 75% is allocated to the swing factor for inflows and around 25% is allocated to the swing factor for outflows.

Example 1:
Single source **inflow** in credit fund, with asymmetric swing pricing of 0.40%/0.15%.
For simplification reasons, the assumption is that there is no variation in the underlying assets valuation.

NAV	100	100.40	100
Time	0	1	2

Example 2:
Single source **outflow** in credit fund, with asymmetric swing pricing of 0.40%/0.15%.
For simplification reasons, the assumption is that there is no variation in the underlying assets valuation.

NAV	100	99.85	100
Time	0	1	2

Implications for investors:
Swing pricing can be applied with **full** or **partial** swing.

With 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.

With 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.

Currently, partial swing pricing is applied in our Luxembourg fund range, which means that if the net capital activity in the fund does not meet the swing threshold, no swing occurs.

The following table summarizes the different situations which can be observed:

	Net in- or outflow below threshold	Net inflows above threshold	Net outflows above threshold
Fund valued at mid	No swing	Swing up	Swing down
Fund valued at bid	No swing	Swing up	Swing down

Impact of swing pricing on investors:
• The swing mechanism always protects the interests of longer term shareholders in the sub-fund.
• When investors redeem on a day in which net cash flows in the sub-fund exceed the pre-determined net redemption threshold, the price the investor receives is adjusted downwards by the swing factor to a notional bid price.
• When investors subscribes on a day in which net cash flows in the sub-fund exceed the pre-determined net subscription threshold, the price the investor pays is adjusted upwards by the swing factor to a notional offer price.
• When investors subscribe on a day in which the net cash flow exceeds the redemption threshold, the price will be adjusted downwards by the swing factor (and benefit them).
• When investors redeem on a day when the price swings up, due to net inflow capacity initiated by other investors, they will redeem at a beneficial NAV.

Other implications of swing pricing:
Investors should be aware of the impact of price swinging on a number of aspects of a fund's administration and performance:

• Performance is measured and reported using swung prices. Since it is possible that prices could have swung on either or both the initial or ending date over a period in which performance is being measured, it is possible that the returns of the sub-fund are influenced by trading activity in the sub-fund, as well as the performance of the sub-fund's investments.
• Swing pricing can increase the variability of the sub-fund's returns, causing the sub-fund to appear to have slightly higher volatility and therefore higher risk levels than expected based on the underlying holdings.
However, as swing pricing benefits a sub-fund's long term investors, best practice is to measure performance based on the swung price.
• Performance-related fees are not based on swung prices. Performance fees are intended to remunerate managers based on the success of their investment decisions, and should not be influenced by sub-fund investors' transaction activity. Also, as performance fees are crystallized on specific dates, if the fee was based on a swung price the amount of the fee could be materially distorted. Therefore, performance fees are calculated using un-swung (and un-published), non-official prices.
• NN IP sub-funds usually are multiple share-classes sub-funds. The price swing is implemented at the sub-fund level based on net trading activity and associated transaction costs.
As the transaction costs are incurred by the sub-fund rather than the share class, the swing is implemented at the sub-fund rather than at share class level. All share classes are therefore swung by similar percentages

Disclosure guidelines to investors on swing pricing:
NN IP discloses the maximum swing factor percentage that may be applied in the prospectus. The actual swing factors and thresholds per sub-fund are disclosed on the website of NN IP (www.nnip.com). The information is updated every time there is a change, and the starting NAV date is indicated. For investors who want to know the actual percentage that was applied to their transactions in a particular sub-fund, NN IP will disclose this information upon written request.

Setting the factor and threshold:
1. The following items are considered when deriving the swing factor:
2. The bid offer spread is a key factor to be included in the swing factor;
3. Net broker commissions paid by the sub-fund;
4. Custody transaction charges;
5. Fiscal charges (e.g. stamp duty and sales tax);
6. Any initial charges or exit fees applied to trades in underlying investment funds;
7. Any swing factors or dilution amounts or spreads applied to underlying investment funds or derivative instruments.

• The following items may influence the determination of the swing threshold:
1. The sub-fund size;
2. The type and liquidity of securities in which the sub-fund invests;
3. The costs, and hence the dilution impact, associated with the markets in which the sub-fund invests;
4. The investment manager's investment policy and the extent to which a sub-fund can retain cash (or near cash) as opposed to always being fully invested.

FAQ

Can the swing factor be waived?	No, as the swing factor is to compensate the sub-fund for the trading costs incurred. Waiving the swing factor could result in dilution of assets for all shareholders in the sub-fund.
Does the client still buy at swung or unswung NAV?	There is only one NAV (swung or unswung depending on whether or not the swing factor applies); the latter is applied to all orders for a specific day such as we guarantee that all clients are treated similarly and fairly. In case of swinging, only the swung NAV will be published.
Will the swing factor apply to all share classes?	Yes. The swinging single pricing – if and when applied – applies at sub-fund level, impacting therefore all share classes on a specific day even if the in-/outflow that generated the trigger was observed in only one share class. This is justified by the fact that the sub-fund is managed at sub-fund level and not at share class level. Furthermore we need to ensure a fair treatment of shareholders.
Who will benefit from the swing factor?	The swing factor will benefit exclusively to the remaining clients in the sub-fund. The full NAV paid (received) by clients will be credited to (debited from) the sub-fund. As such, only the sub fund's remaining shareholders will benefit from the swinging single pricing.
Will this mechanism discourage large clients from investing in our sub-funds?	Yes if they are frequent traders, it can discourage them. If they are stable shareholders, this will not discourage them, as it will be easily absorbed as their returns won't be significantly hurt. Though it is true that large investors have a bigger chance to be hit by the swing factor.
Can the application of the swing factor be predicted?	No. because it is only after cut-off time that the Fund administrator can calculate the net in-/outflows and see whether or not the threshold is exceeded and subsequently apply the swing factor to the NAV, one single shareholder cannot have a view on the net in-/outflows.
In the case of asymmetric swing pricing mechanism, is this similar to an entry fee, aka front-end-load fee?	No. In practice, a front-end-load fee benefits the sub-fund manager or promoter. The swinging single pricing on the other hand benefits to the remaining clients of a sub-fund by compensating the actual costs observed on the market to buy the securities. Failure to apply swinging single pricing would mean that the remaining customers are subsidizing the new entering customers.
What is the impact of swing pricing on the sub-fund's ongoing charges?	The swinging single pricing does not impact the sub-fund's ongoing charges.
Is there a relationship between swing pricing and fixed service fee?	No, there is not. The fixed service fee (FSF) is a charge applied at share class level to cover many types of expenses as described into the prospectus. The FSF is a component of the ongoing charges. The swinging single pricing on the other hand is a technique applied to the NAV in order to impact the trading clients generating trading costs in order to compensate the sub-fund (and therefore the remaining shareholders) for the trading costs incurred.