

Fairmat Cloud - Payouts guide

Revision 6 – Sep 10, 2015

1 Introduction

As you know all the products you can map on Fairmat Cloud are based on product templates which can be found at the following url <https://cloud.fairmat.com/templates/>.

In this guide we provide additional and complementary information which you may use to correctly map your structured product or derivative contract starting from the correct template.

2 Structured products on equities, indices and exchange rates

The following payout templates can be used for mapping products insisting on equities or indices (you can enter **AAPL.NASDAQ** or **FTSE 100 Index** for example) or exchange rates (enter **EURUSD Curncy** for example).

In most of the cases the payout is written in terms of the performance of a transformation of the underlying components performance (usually the basket average or the worst of the components performance);

In the case of **long position** on the underlying, the performance of the component **X** (at the reset date **r** with respect to the strike date **s** is calculated as $\frac{X_r}{X_s} - 1$. For a **short position** on underlying, the, the performance is calculated as $1 - \frac{X_r}{X_s}$.

In the following sections the payout profile is plotted against the change of underlying value (1+performance).

This types of templates can be found on <https://cloud.fairmat.com/templates/structured+products> for more details see the subsections below.

2.1 Bonus Cap Payout

<https://cloud.fairmat.com/templates/structured+products/bonus+cap>

Bonus Cap payout is driven by the following attributes: **Protection Barrier**, **Bonus Level**, **Participation** and **Cap Level**.

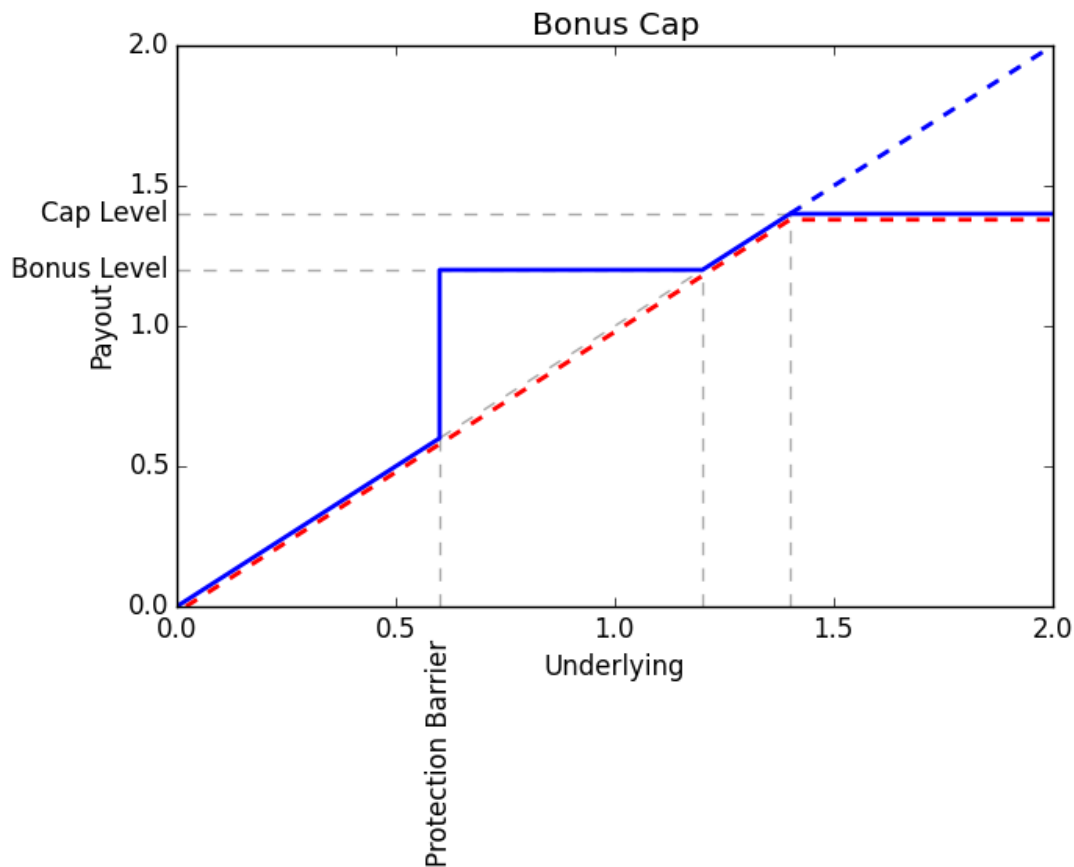


Figure 1: Bonus Cap final payout profile with cap and in case of no barrier events (blue line), without cap (blue dashed line) and in case of barrier events (red dashed line).

2.2 Bonus Reverse Cap Payout

<https://cloud.fairmat.com/templates/structured+products/bonus+reverse+cap>

Bonus Reverse Cap payout is driven by the following attributes: **Protection Barrier**, **Bonus Level** and **Cap Level**.

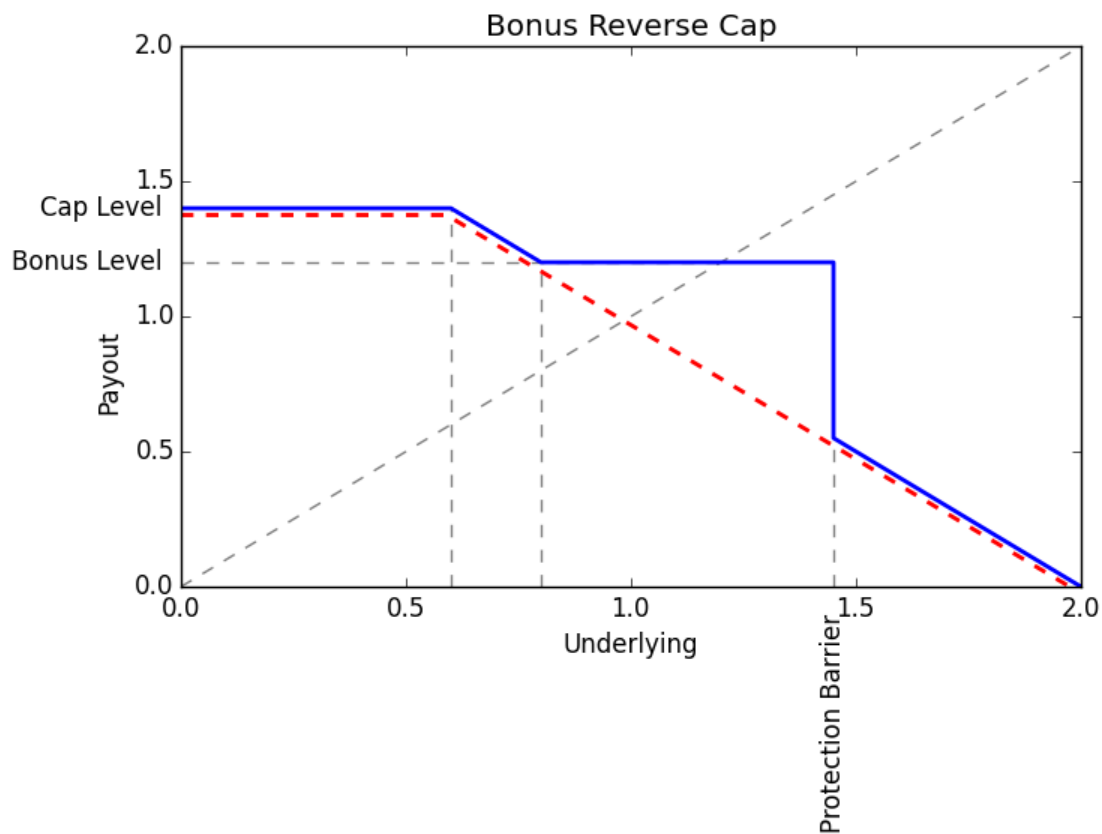


Figure 2: Bonus Reverse Cap final payout profile in case of no barrier events (blue line) and in case of barrier events (red dashed line).

2.3 Equity Protection (Cap) Payout

<https://cloud.fairmat.com/templates/structured+products/equity+protection>

The Equity Protection (Cap) payout is driven by the following attributes: **Capital Protection**, **Participation** and optional **Cap**.

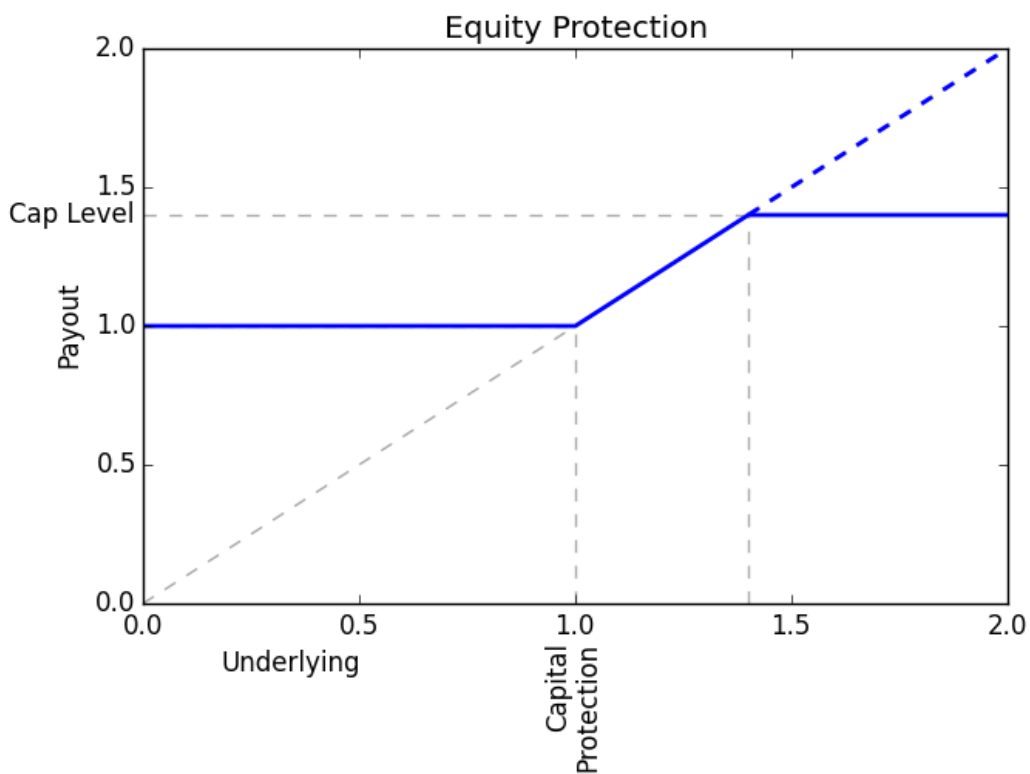


Figure 3: Equity Protection (Cap) final payout profile with cap (blue line) and without cap (blue dashed line).

2.4 Autocall Payout

<https://cloud.fairmat.com/templates/structured+products/autocall>

The attribute Final Payout Type allows you to model either products with a fixed coupon and products in which the payout over the threshold level is proportional to the underlying performances up to a cap (in a way similar to the bonus cap).

2.4.1 Autocall with Final payout type = Coupon

The Payout is usually expressed in terms of **Protection Barrier**, **Final Threshold**, **Final Coupon**.

This template allows also the possibility of modeling contracts with Airbag protection, by setting the **Airbag** attribute to true.

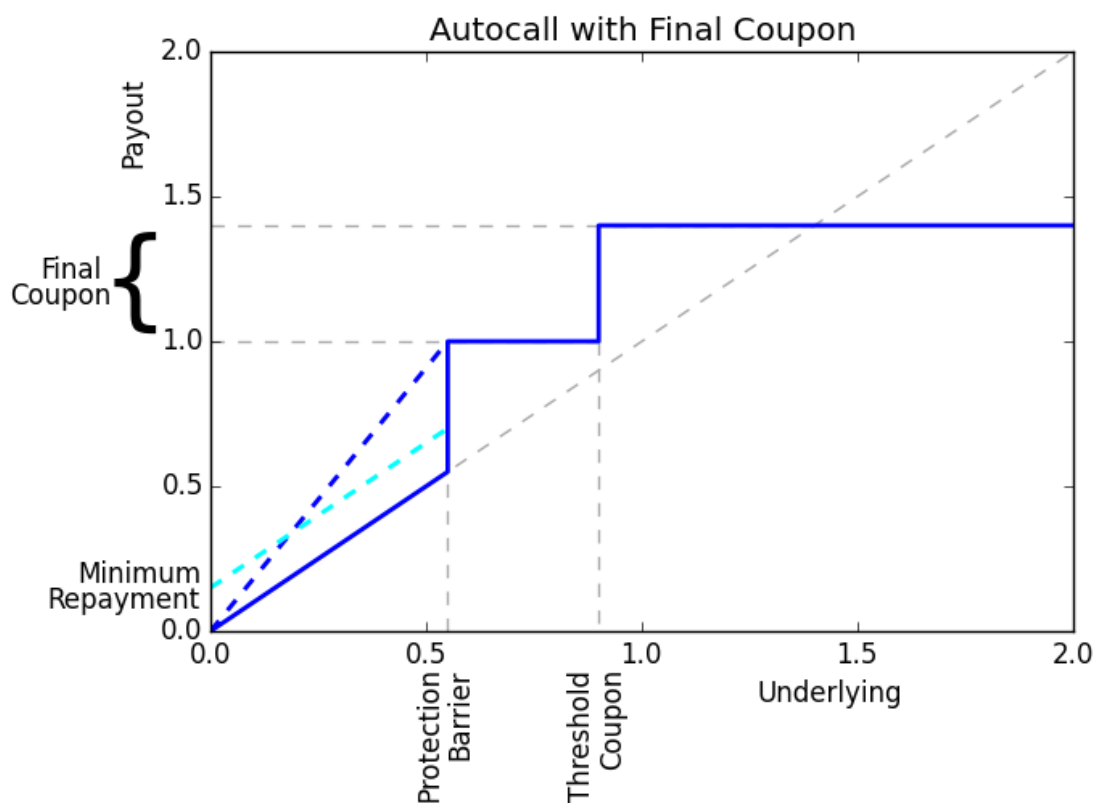


Figure 4: Autocall (Coupon) – Final Payout (blue line), in case of Airbag (blue dashed line) and in case of Minimum Repayment (cyan dashed line).

Autocall with Floating Coupon Payout (section 2.5)

Autocall with Equity and Index linked Kick Out Payout (section 2.10)

2.4.2 Autocall with Final payout type = Performance with Cap

In this case the payout is specified by **Protection Barrier**, **Final Threshold**, **Performance Cap**, and **Participation Level**.

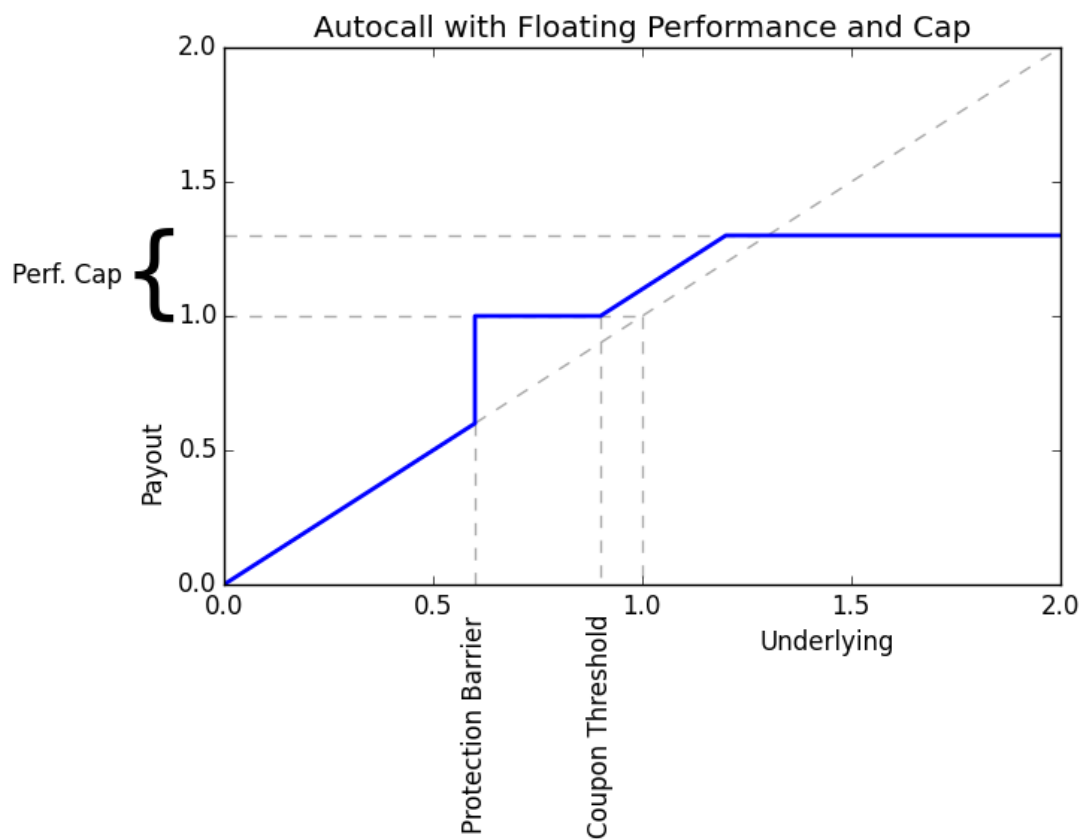


Figure 5: Autocall with Floating Performance and Cap payout profile.

2.5 Autocall Floating Coupon

<https://cloud.fairmat.com/templates/structured+products/autocall+floating+coupons>

The autocall floating coupon final payout depends on **Barrier** and **Final Coupon Multiplier**.

The final payout is similar to Autocall Payout (see figure 4). The Final Coupon payout is calculated as the **Multiplier** attribute times the underlying value at the final observation date.

2.6 Autocall Absolute Return – Twin Win Payout

<https://cloud.fairmat.com/templates/structured+products/autocall+absolute+return+--+twin+win>

The autocall absolute return – twin win final payout depends on **Protection Barrier**, **Absolute Return Threshold**, **Cap Level** and on **Downside** and **Upside Participation**.

Tip: By setting **Payment Starts From Period** equal to the number of observation dates, is possible to model contracts without early redemption (usually called Twin-Win products).

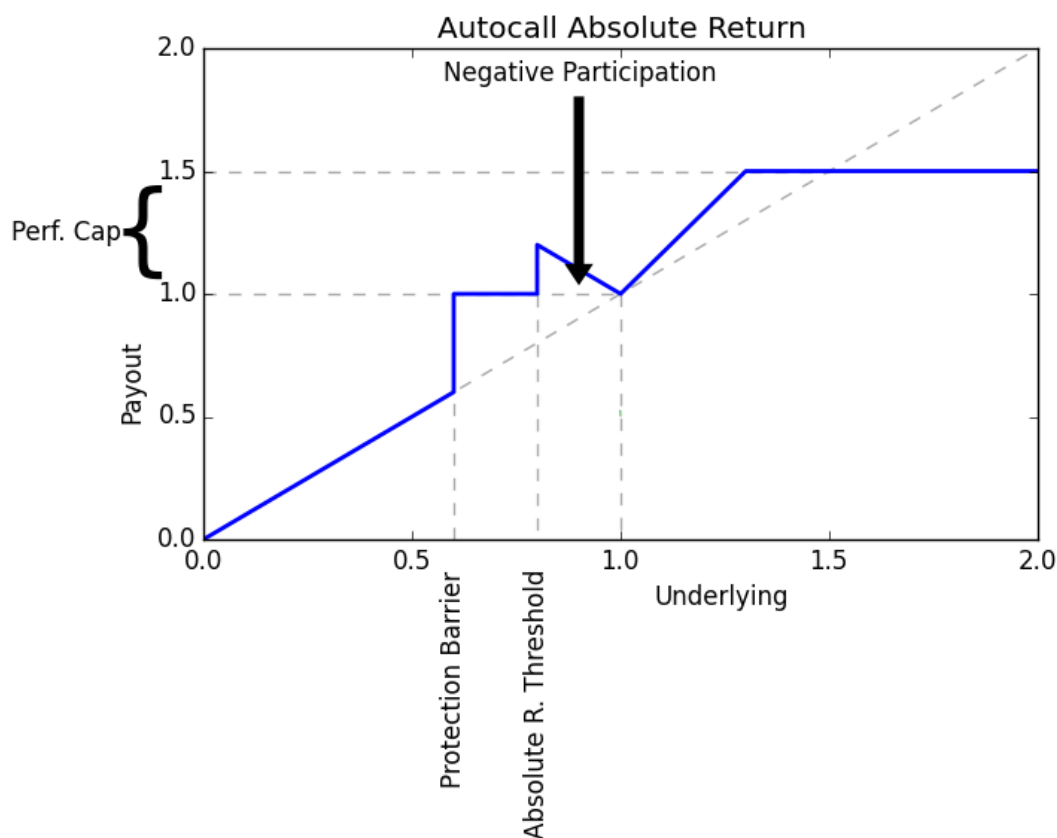


Figure 6: Absolute Return final payout profile.

2.7 Autocall Plus – Income Plan Payout

<https://cloud.fairmat.com/templates/structured+products/autocall+plus+--+income+plan>

The autocall plus – income plan final payout is defined by **Protection Barrier**, **Final Coupon** and by an incremental **Additional Coupon**.

This template allows also the possibility of defining the investment **Position (Long/Short)** on the underlying and by setting **Airbag** true is possible to model contracts with Airbag protection,

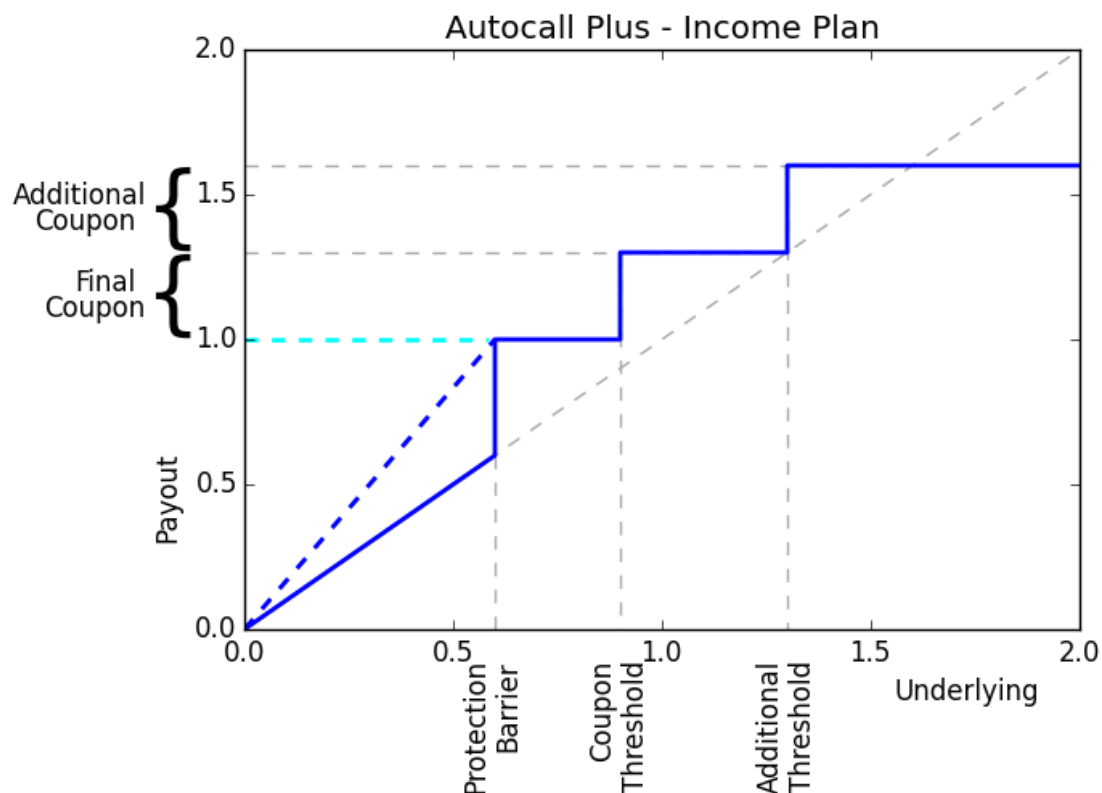


Figure 7: Autocall Plus – Income Plan payout profile (blue line), in case of Airbag (blue dashed line) and in case of Capital Protection (cyan dashed line).

2.8 Autocall Bonus Plus Payout

<https://cloud.fairmat.com/templates/structured+products/autocall+bonus+plus>

The Autocall Bonus Plus allows to define unconditional coupons and autocall coupons before maturity. At Maturity the payout is defined by **Protection Barrier**, **Bonus Level** and **Cap Level**.

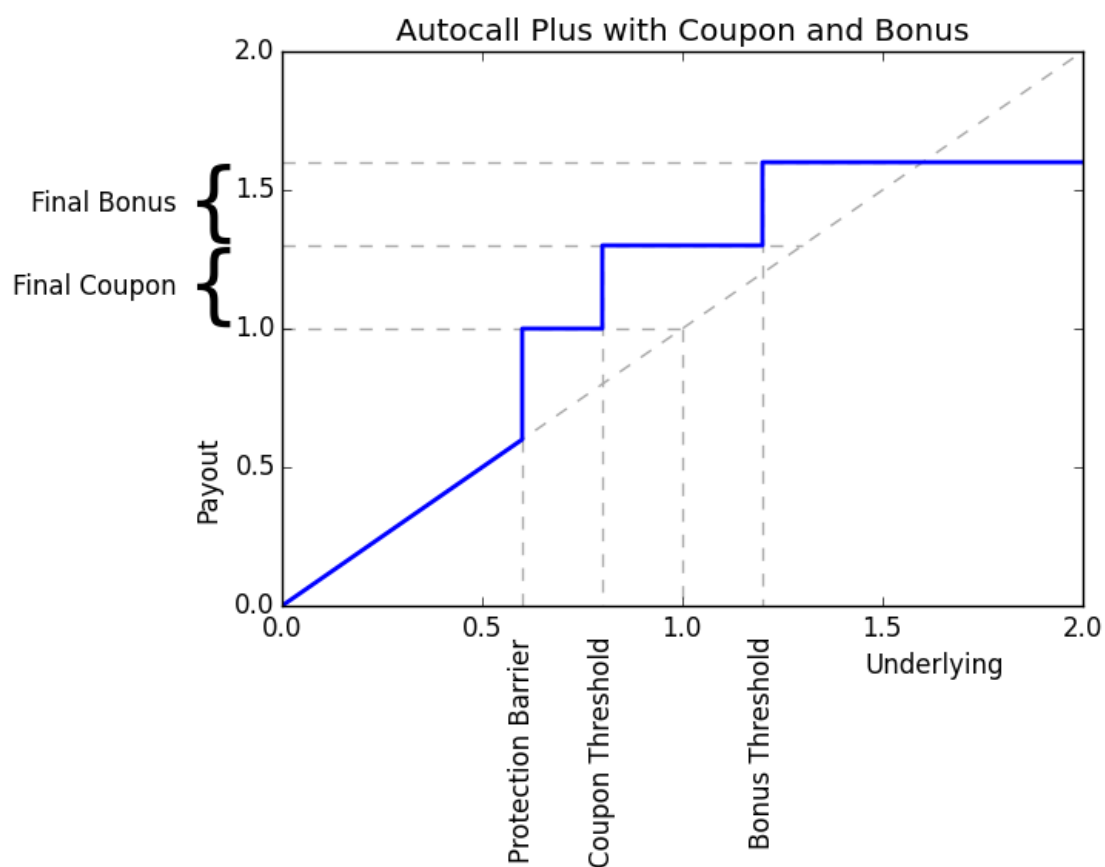


Figure 8: Autocall Bonus Plus payout profile.

2.9 Autocall Reverse Payout

<https://cloud.fairmat.com/templates/structured+products/autocall+reverse>

The Payout is usually expressed in terms of **Protection Barrier**, **Final Threshold**, **Final Coupon**.

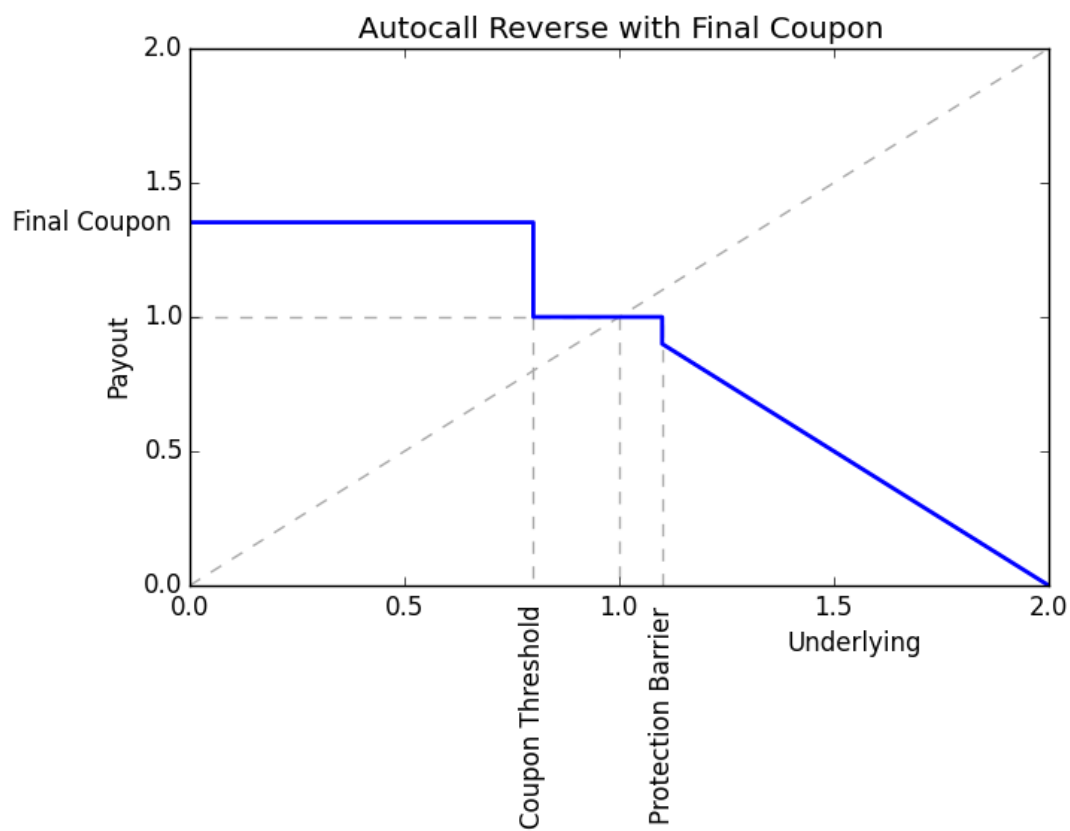


Figure 9: Autocall Reverse - Final Payout.

2.10 Autocall with Equity and Index linked Kick Out Payout

<https://cloud.fairmat.com/templates/structured+products/autocall+with+equity+and+index+linked+kick+out>

The Autocall with Equity and Index linked Kick Out final payout is defined by a **Protection Barrier**, **Final Coupon** and **Final Threshold**.

The final payout is similar to Autocall Payout (see figure 4). Differently from the standard autocall template in this product type, when the product runs to maturity and the final shares levels are below the Final Threshold, the return of investment is linked to the performance of a different index.

2.11 Discount Payout

<https://cloud.fairmat.com/templates/structured+products/discount>

The payout of Discount certificates is usually expressed in terms of **Cap Level** and **Discount** attributes.

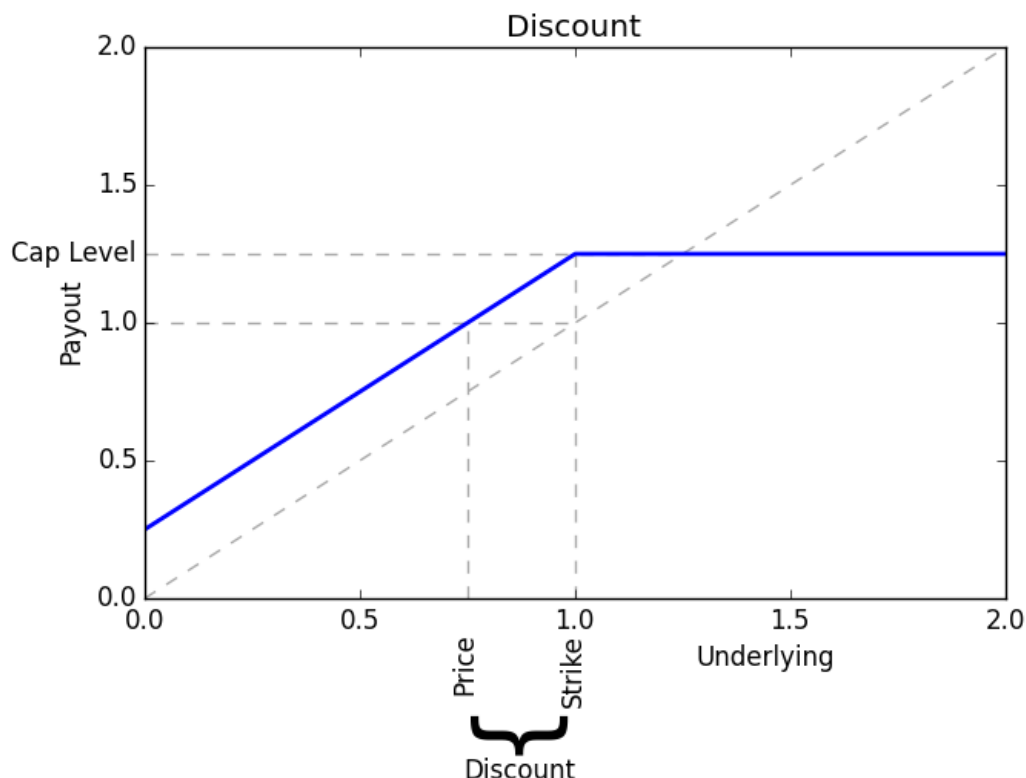


Figure 9: Discount Certificate - Final Payout.

3 Debt products / Fixed income products

Fairmat Cloud handles a wide area of debt related products. Starting from fixed rate bonds up to custom floating and range accrual bonds, Fairmat allows to define optional amortization schedules and Callability / Puttability features, and allows user to customize issuer (counterparty risk will be assumed from credit default swap) and eventually the liquidity spread.

<https://cloud.fairmat.com/templates/debt+products/>

3.1 Fixed Rate Bonds

We offer two different templates: the first template models standard fixed income products <https://cloud.fairmat.com/templates/debt+products/>

while

<https://cloud.fairmat.com/templates/debt+products/fixed+rate+bond+with+callability+or+puttability> must be used if your products have callability or puttability clauses.

3.2 Floating Rate Bonds

Fairmat Cloud supports Euribor and Libor rates: bonds linked on those underlying can be mapped starting from the following templates which also handle callability and puttability clauses.

<https://cloud.fairmat.com/templates/debt+products/floating+rate+bond>

<https://cloud.fairmat.com/templates/debt+products/fixed+to+free+floating+rate+bond>

3.3 Range Accrual Style Coupons

A range accrual floating rate bond is a debt security that pays periodically scheduled floating coupons. The coupon amount depends on a base rate (the accrual multiplier) and on the evolution of another rate (the reference rate) within an observation period. The determination formula is as follows:

$$\text{Floating Coupon} = \text{Spread} + \text{AccrualMultiplier} * \text{AccrualRatio}$$

Where **AccrualRatio** is the number of days in which the **ReferenceRate** falls within the (optionally floating) Lower and Upper barriers, and the **AccrualMultiplier** is the interest subject to the accrual ratio, which may also be floating.

4 Interest rate swaps

Currently we offer modeling of quite generic fixed vs floating IRS in which the fixed rate can optionally be step up/down, notional can be bullet or amortizing and the floating rate can be subject to spread, floor and cap:

<https://cloud.fairmat.com/templates/interest+rate+products/fixed+vs+floating+interest+rate+swap>