# **CONSTANT LEVERAGE FOR STRONG MARKET TRENDS**

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**CONSTANT LEVERAGE CERTIFICATES** 



The bank for a changing world

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The products described in this document do not constitute collective investment schemes within the meaning of the Federal Act on Collective Investment Schemes (CISA). Accordingly, the products do not benefit from protection under the CISA and the supervision by the Swiss Financial Market Supervisory Authority (FINMA). Investors in the products are exposed to the credit risk and default risk of the issuer (and the guarantor as the case may be) and do not benefit from the protection of the invested capital.<sup>1</sup>

1) For further information, please refer to the Legal notice on page 23.

# Taking advantage of strong trends with constant leverage

Constant Leverage Certificates – also called Factor Certificates – are financial instruments, which enable investors with a very short-term investment horizon to implement their trading strategy in a quick, transparent and flexible way. Depending on their features, Constant Leverage Certificates allow for participation in an underlying's rising or falling prices. The special character of Constant Leverage Certificates – the constant leverage also referred to as "factor" – particularly shows its strength in markets which show a clear trend.

Constant Leverage Certificates are different from classic leverage products – such as Mini-Future Certificates or Knock-Out Warrants – with regard to their possible performance. Potential investors therefore need to know the special influencing factors and be able to assess the resulting price behavior in order to successfully use Constant Leverage Certificates.

#### **Constant leverage**

Each Constant Leverage Certificate features a constant leverage (factor) and thus reproduces the daily performance of an underlying, e.g. a share, multiplied by this leverage (factor).<sup>2</sup> Investors can thereby realize positive or negative investment results depending on the direction of movement of the underlying's price.

#### **Unlimited term**

In principle, Constant Leverage Certificates have an unlimited term.<sup>3</sup> Therefore, investors do not need to align their strategy with specific expiration dates. Nevertheless, Constant Leverage Certificates are better suited for very short-term investment horizons ranging from a few minutes to a day (intraday). A continuous monitoring is required and holding a Constant Leverage Certificate for more than one day could put performance at risk.

#### Simple product structure without strikes and barriers

In contrast to trading Mini-Future Certificates and Knock-Out Warrants, investors do not need to consider any financing levels (strikes) or barriers (stop-loss levels) – the leverage (factor) alone is decisive.

#### Reduced risk of total loss

Constant Leverage Certificates feature a special reset mechanism to reduce the risk of total loss in case the underlying strongly moves in the wrong direction (Reset Event). However, under unfavorable circumstances, an investment in Constant Leverage Certificates can still incur significant losses and even a total loss of the capital invested.

#### Quick product choice for experienced investors

Experienced investors who constantly pursue their strategy with a specific leverage factor do not need to spend their time to find a suitable leverage product – they just choose the Constant Leverage Certificate with the preferred leverage (factor).

<sup>2)</sup> Please note: Constant Leverage Certificates leverage the percentage performance of the underlying between two trading sessions during which Constant Leverage Certificates can be traded. Thus, the leverage is only reset on trading days on which the underlying can be traded and SIX Swiss Exchange is open.

<sup>3)</sup> Constant Leverage Certificates have no predefined expiration date. However, the issuer has the right to early terminate a Constant Leverage Certificate as detailed in the documentation available on www.bnpparibasmarkets.ch.

# At a glance

#### Advantages:

- The leverage (factor) is the same all along the life of the product.
- Opportunity to take advantage of strongly trending markets.
- Modest capital outlay
- No fixed maturity
- Risk mitigation thanks to the special reset mechanism however with limited effect under unfavorable circumstances.

#### **Disadvantages:**

- Substantial risk of losses including risk of total loss of the capital outlay, if the underlying does not move in the desired direction.
- In sideways moving markets, Constant Leverage Certificates can perform more poorly than their underlying.
- The issuer has the right to terminate a Constant Leverage Certificate under the condition of a prior notice detailed in the documentation available on www.bnpparibasmarkets.ch. In such cases, the redemption value can be significantly less than the initially invested capital and/or the termination can occur at an unfavorable time for the investor.
- Investors are particularly exposed to the credit risk of the issuer, and the guarantor.



# How Constant Leverage Certificates work

Constant Leverage Certificates are leverage products, which amplify the daily performance of their underlying (i.e. a share, an index, a commodity or a currency pair) by a predefined, constant leverage (factor).

Due to the leverage effect and the increased risk of loss associated with leverage products, investors are advised to solely use Constant Leverage Certificates in the framework of a portfolio diversification and invest only a minor portion of their capital in Constant Leverage Certificates.

Investors wishing to participate in rising prices of the underlying choose a Constant Leverage Long Certificate, i.e. a Factor Long Certificate. Investors who expect falling prices and thus want to enter into a selling position opt for a Constant Leverage Short Certificate, i.e. a Factor Short Certificate.

Market expectation Rising prices of the underlying Falling prices of the underlying

Suitable instrument Factor Long Certificate Factor Short Certificate

Constant Leverage Certificates are most suitable for very short-term trading strategies with an investment horizon of a few minutes to a day (intraday).

The investment horizon of investments in Constant Leverage Certificates is typically rather short-term ranging from a few minutes to a day (intraday). A continuous monitoring is required and holding a Constant Leverage Certificate for more than one day could put performance at risk.

The leverage effect of Constant Leverage Certificates is based on a lower capital requirement when compared to a direct investment in the underlying. Due to this leverage effect, Constant Leverage Certificates amplify both, the positive and negative relative performance of an underlying by the predefined leverage (factor).

The performance of the underlying is measured as the percentage change of the reference price from one valuation day to the next – for share underlyings this is for instance the previous day's closing price of a share on its respective exchange.

**Underlying performance** = (Reference price <sub>today</sub> / Reference price <sub>previous trading day</sub>) - 1

Constant Leverage Certificates leverage the percentage performance of the underlying between two trading sessions during which Constant Leverage Certificates can be traded. Thus, the leverage is only reset on trading days on which the underlying can be traded and SIX Swiss Exchange is open.

## Shares as an underlying

Constant Leverage Certificates do not generate steady income, but they can be linked to share underlyings which may pay a dividend. After the payment of a dividend the respective share is quoted with an ex-dividend markdown, i.e. the share price decreases by the amount of the dividend paid out which has a negative impact on the share's performance and hence on a Factor Long Certificate. In order to ensure a dividend payout does not affect the performance of a Constant Leverage Certificate, the reference price will be adjusted by the net dividend amount (after taxes) on the day of the dividend payment.

#### Underlying performance considering a dividend payout

= (Reference price today + Dividend adjustment amount today) / Reference price previous trading day - 1

## Futures contracts as an underlying

Constant Leverage Certificates on commodity underlyings refer to the respective futures contracts which have a fixed term.<sup>4</sup> Constant Leverage Certificates however have an unlimited term. The respective underlying futures contracts are therefore "rolled over" to the next liquid futures contracts before expiration in order to preserve the unlimited tenor nature of Constant Leverage Certificates. Thereby a roll over cost arises influencing the performance of the underlying, which is included once in the calculation of the performance on the day following a roll over.

#### Underlying performance considering a futures roll over on the previous day

= Reference price <sub>today</sub> / (Reference price <sub>previous trading day</sub> + Roll over cost <sub>previous trading day</sub>) - 1

whereby: Roll over cost is an amount, which can be positive or negative, representing the cost to the issuer of unwinding its hedging arrangements in the expiring futures contract less the cost to the issuer of establishing hedging arrangements in the next liquid futures contract.

# Daily performance of an underlying and effects on the price of a Constant Leverage Certificate

Example: performance of an underlying (in %) rising price = [(Reference price today/Reference price previous trading day) - 1] × 100	+1%	Example: performance of an underlying (in %) falling price = [(Referenzpreis <sub>heute</sub> /Referenzpreis <sub>vorheriger Handelstag</sub> ) - 1] × 100	-2%
Effects on the price of a Factor 4x Long Certificate	+4%	Effects on the price of a Factor 6x Long Certificate	-12%
Factor 4x Short Certificate	-4%	Factor 6x Short Certificate	+12%

This example is for information purpose only and is not an indicator of future performance of a Constant Leverage Certificate. For reasons of simplicity, costs have not been taken into account.

An investment in Constant Leverage Certificates is associated with costs for an investor when the investment is kept for more than a day. The sum of these costs is expressed in the form of a financing component and deducted daily from a Constant Leverage Certificate's value after market close. The financing component therefore reduces the positive performance and increases the negative performance of a Constant Leverage Certificate respectively. The cost elements comprised by the financing component are described on page 19 "Costs involved with Constant Leverage Certificates".

<sup>4)</sup> Precious metals are the exception here, as they are mainly traded in the spot market. Constant Leverage Certificates on gold, silver, platinum and palladium refer to the respective prices for the physical commodities and not to the futures contracts.

# Path dependency of Constant Leverage Certificates

The prerequisite for a successful investment in Constant Leverage Certificates is, in addition to the correct market expectation from the investor's point of view, a strong price trend, i.e. in the case of a Constant Leverage Long Certificate or a Factor Long Certificate a constant upward movement and in the case of a Constant Leverage Short Certificate or a Factor Short Certificate a constant downward movement of the underlying. In contrast, Constant Leverage Certificates are not suitable in volatile markets (the price of the underlying fluctuates, respectively rises and falls alternately).

Every day, a Constant Leverage Certificate invests the previous day's certificate value plus/minus the previous day's gains/losses. The effect of this daily reinvestment is similar to the compounding effect.

The following example over a period of several trading days makes it clear that the performance of the Constant Leverage Certificate depends not only on the reference price of the underlying at the beginning and end of this period, but also on how the reference price behaves on the trading days in between, i.e. "which path the underlying takes during this period". This property is referred to as path dependency. If the underlying is subject to strong fluctuations over longer periods of time, this can have a negative impact on the price of the Constant Leverage Certificate, even if the price of the underlying has not changed significantly in absolute terms over a longer period of time.

In the following, we consider the fictitious performance of a Factor 4x Long Certificate on a share over a period of five consecutive trading days. For reasons of simplification, the scenarios are presented without taking into account the financing component and serve only for illustration purposes. Furthermore, it is assumed that there are no dividend payments nor corporate actions in the underlying during the period under consideration.

## Scenario 1: Share price rises continuously

We first assume that the reference price of a given stock moves continuously over the five trading days from 100.00 Swiss francs (trading day 1), to 108.21 Swiss francs (trading day 5) (see table).

If the Factor 4x Long certificate had a value of 10.00 Swiss francs on trading day 1, it has a value of 11.00 Swiss francs on trading day 2, 12.76 Swiss francs on trading day 3, 13.27 Swiss francs on trading day 4 and finally 13.54 Swiss francs on trading day 5. The increase of the share price by 8.21 percent over the five trading days results in an increase of the value of the Factor 4x Long Certificate by 35.40 percent. Note: This percentage is higher than the performance of the share (8.21 percent) multiplied by the factor 4 (32.84 percent).

	Day 1	Day 2	Day 3	Day 4	Day 5	Performance over 5 trading days
Reference price of share (in CHF)	100.00	102.50	106.60	107.67	108.21	8.21
Daily performance of the underlying (in %)		2.50%	4.00%	1.00%	0.50%	8.21%
Factor 4x Long Certificate (in CHF)	10.00	11.00	12.76	13.27	13.54	3.54
Daily performance of the Certificate (in %)		10.00%	16.00%	4.00%	2.00%	35.40%
Performance of the share over 5 trading days x factor						8.21% x 4 = 32.84%

# Scenario 2: Share price behaves relatively neutral

If the share price hovers around 100.00 Swiss francs on trading days 1 to 4 and rises to 101.57 Swiss francs on trading day 5 in our example, the value of the Factor 4x Long Certificate would only be 10.11 Swiss francs, i.e. an increase of only 1.10 percent. The example shows that the value of the Factor 4x Long Certificate at the end of the observed period is dependent on the intermediate route (path) of the reference price. So, although at the end there is a gain of the share of 1.57 percent, there is "only" a plus of 1.10 percent for the Factor 4x Long Certificate.

	Day 1	Day 2	Day 3	Day 4	Day 5	Performance over 5 trading days
Reference price of share (in CHF)	100.00	96.00	102.72	98.61	101.57	1.57
Daily performance of the underlying (in %)		-4.00%	7.00%	-4.00%	3.00%	1.57%
Factor 4x Long Certificate (in CHF)	10.00	8.40	10.75	9.03	10.11	0.11
Daily performance of the Certificate (in %)		-16.00%	28.00%	-16.00%	12.00%	1.10%
Performance of the share over 5 trading days x factor						1,57% x 4 = 6.28%

The scenario description does not take into account the financing component, which generally has a negative impact on the value of the Constant Leverage Certificate.

## Scenario 3: Share price falls

If the share price initially falls sharply, recovers in the meantime, but is still down 13.46 percent on trading day 5 in our example, this is particularly noticeable in the value of the Factor 4x Long Certificate. It loses 73.00 percent.

	Day 1	Day 2	Day 3	Day 4	Day 5	Performance over 5 trading days
Reference price of share (in CHF)	100.00	80.00	84.00	84.84	86.54	-13.46
Daily performance of the underlying (in %)		-20.00%	5.00%	1.00%	2.00%	-13.46%
Factor 4x Long Certificate (in CHF)	10.00	2.00	2.40	2.50	2.70	-7.30
Daily performance of the Certificate (in %)		-80.00%	20.00%	4.00%	8.00%	-73.00%
Performance of the share over 5 trading days x factor						-13.46% x 4 = -53.84%

# Scenario 4: Total loss

The following example clearly shows the possibility of a total loss for the investor. The share price falls by 20.50 percent from day to day, which corresponds to a performance of -60.05 percent over the five trading days. At the end of trading day 5, the Factor 4x Long Certificate has a value of only 0.01 Swiss francs.

	Day 1	Day 2	Day 3	Day 4	Day 5	Performance over 5 trading days
Reference price of share (in CHF)	100.00	79.50	63.20	50.25	39.95	-60.05
Daily performance of the underlying (in %)		-20.50%	-20.50%	-20.50%	-20.50%	-60.05%
Factor 4x Long Certificate (in CHF)	10.00	1.30	0.17	0.02	0.01	-9.99
Daily performance of the Certificate (in %)		-82.00%	-82.00%	-82.00%	-82.00%	-99.99%

The scenario description does not take into account the financing component, which generally has a negative impact on the value of the Constant Leverage Certificate.

Constant Leverage Certificates are path dependent financial instruments that develop their full potential in strongly trending markets. In sideways moving markets however, Constant Leverage Certificates may incur a loss. **An investor who wants to hold a Constant Leverage Certificate for more than one day should therefore review his position at the beginning of each trading day and adjust it according to the desired trading or hedging strategy if necessary.** 



# The reset mechanism of Constant Leverage Certificates (Reset Events)

In order to ensure the constant leverage (factor) at the beginning of each trading day, the leverage of a Constant Leverage Certificate is reset daily to the target leverage of the particular product after market close.<sup>5</sup>

Additionally, exceptional intraday resets of Constant Leverage Certificates might be necessary during a trading day in case the underlying's price strongly moves in an adverse direction.

# **Regular daily resets**

On the issuance date of a Constant Leverage Certificate the reference price of the underlying, e.g. the closing price of an index or a share on the relevant exchange serves as the basis to calculate the performance and ultimately the Constant Leverage Certificate's value.

The performance of a Constant Leverage Certificate on any trading day is calculated as the relative performance of its underlying (in percentage) multiplied by its leverage (factor) plus the financing component.

As soon as the underlying's closing price is known at the end of a trading day, the underlying's daily performance can be calculated which serves as the basis for the calculation of the Constant Leverage Certificate's value at which it will start on the next trading day.

#### Calculation of the Constant Leverage Certificate value on a daily reset

#### For Factor Long Certificates:

#### Factor Long Certificate value

= (Factor Long Certificate value<sub>previous trading day</sub> x (1 + Leverage x Underlying performance<sub>today</sub>) + financing component<sub>today</sub>) but at least 0.5% of the Factor Long Certificate value<sub>previous trading day</sub>

#### For Factor Short Certificates:

Factor Short Certificate value

= (Factor Short Certificate value<sub>previous trading day</sub> x (1 - Leverage x Underlying performance<sub>today</sub>) + financing component<sub>today</sub>) but at least 0.5% of the Factor Short Certificate value<sub>previous trading day</sub>

The financing component is usually arithmetically negative and reduces the value of a Constant Leverage Certificate accordingly.

The leverage (factor) of Constant Leverage Certificates can rise or fall during a trading day caused by price moves of the underlying. If the price of the underlying rises (declines), the leverage of a Factor Long Certificate decreases (increases) while the leverage of a Factor Short Certificate increases (decreases). The leverage is reset daily after market close so that on the next trading day the Constant Leverage Certificates start again with their respective target leverage.<sup>5</sup>

5) Constant Leverage Certificates leverage the percentage performance of the underlying between two trading sessions during which Constant Leverage Certificates can be traded. Thus, the leverage is only reset on trading days on which the underlying can be traded and SIX Swiss Exchange is open.

## **Exceptional intraday resets**

Constant Leverage Certificates are further equipped with a special reset mechanism which shall mitigate investors' risk of total loss. Without this special reset mechanism in place, a Factor 10x Long Certificate would virtually become worthless if its underlying's price would drop by ten percent (10 x 10 percent loss of the underlying = 100 percent loss of the Factor 10x Long Certificate), a Factor 5x Long Certificate would lose half of its value in such a case.

That is why Constant Leverage Certificates are equipped with a reset threshold at issuance.<sup>6</sup> Depending on the leverage (factor), this reset threshold defines the level of an adverse relative performance of the underlying which triggers an exceptional intraday reset of the Constant Leverage Certificate. As a general rule, the higher the leverage (factor) the lower the tolerance of a Constant Leverage Certificate towards an adverse performance of the underlying and thus the closer the reset threshold lies to the current price of the underlying.

#### Calculation of the reset threshold

**For Factor Long Certificates: (1 – reset threshold in %) x reference price**<sub>previous trading day</sub> Example with a factor of 4 and a reference price of 100.00 Swiss francs: (1 – 22%) x 100.00 Swiss francs = 78.00 Swiss francs

**For Factor Short Certificates: (1 + reset threshold in %) x reference price**<sub>previous trading day</sub> Example with a factor of 4 and a reference price of 100.00 Swiss francs: (1 + 22%) x 100.00 Swiss francs = 122.00 Swiss francs

If on any trading day the underlying's price relative to the underlying's closing price on the previous trading day declines (in the case of Factor Long Certificates) or increases (in the case of Factor Short Certificates) by more than the corresponding reset threshold percentage, a Reset Event is triggered. Such a Reset Event results in an exceptional intraday reset of the Constant Leverage Certificate, which is calculated analogously to a regular daily reset.

A Reset Event can only be triggered during the trading time of the underlying on its respective exchange. If this is the case, all hedging positions entered into with regard to the Constant Leverage Certificate are unwound and the adjustment level (proceeds from unwinding the hedging positions) and the reset price (price level at which the hedging positions have been unwound) which serve as the basis for the calculation of the Constant Leverage Certificate value following an exceptional intraday reset are calculated. An exceptional intraday reset simulates, so to say, the intraday switch to a new trading day where the Constant Leverage Certificate value is invested again in the underlying at the original leverage (factor).

6) Information on the current reset threshold of a specific Constant Leverage Certificate can be found at any time on the respective product details page of our website www.bnpparibasmarkets.ch.

### Calculation of the Constant Leverage Certificate value on the first exceptional intraday reset

#### For Factor Long Certificates:

Factor Long Certificate value today

= (Factor Long Certificate value previous trading day X (1 + Leverage X Underlying performance adjusted) + financing component today but at least 0,5% of the Factor Long Certificate value previous trading day

#### For Factor Short Certificates:

Factor Short Certificate value<sub>today</sub>

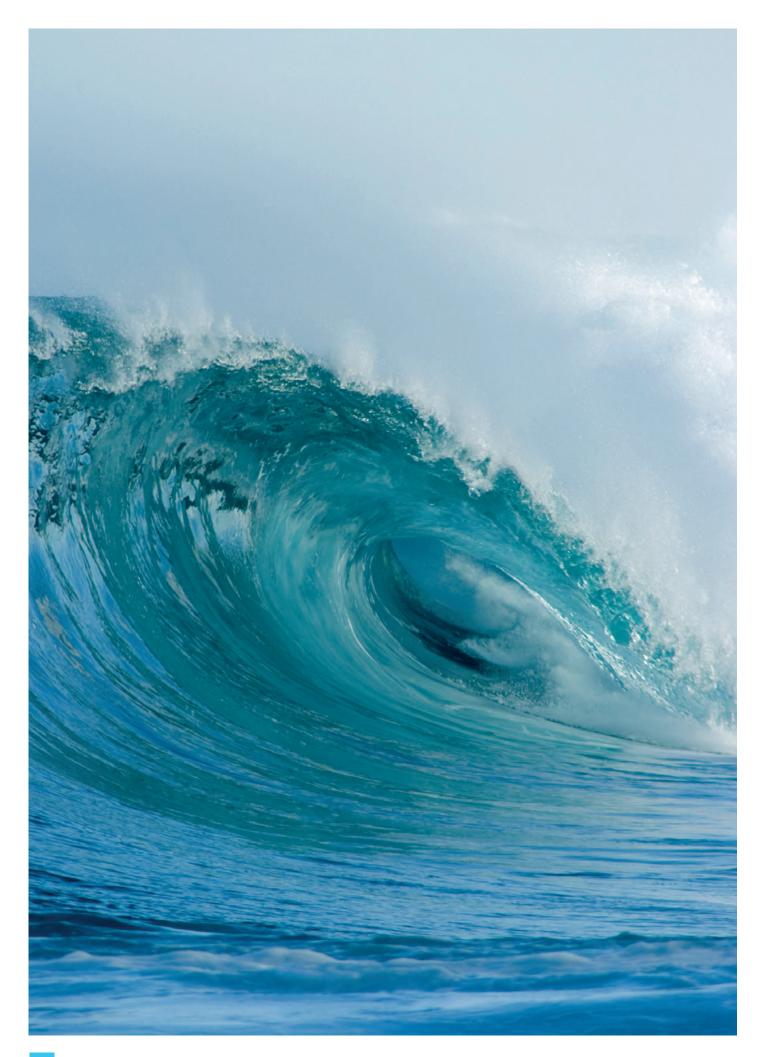
= (Factor Short Certificate value  $_{previous trading day} \times (1 - Leverage \times Underlying performance _{adjusted}) + financing component_{today})$ but at least 0,5% of the Factor Short Certificate value  $_{previous trading day}$ 

whereby: Underlying performance  $_{adjusted}$  = (Reset price / Reference price  $_{previous trading day}) - 1$ 

Note: At each subsequent exceptional intraday reset and at the next regular daily reset, the financing component is zero.

By simulating the switch to a new trading day and the adjustment of the Constant Leverage Certificate value a total loss shall be avoided. Nevertheless, losses of investments in Constant Leverage Certificates can arise which are close to a total loss or even correspond to a total loss. Further, investors should keep in mind that a heavy loss could only be compensated if the underlying moves in the opposite direction even more – as it is the case with any other investment. Hence, to offset a daily loss of 50 percent, a gain of 100 percent must follow the next day to establish the initial position.

During extremely unfavorable market conditions several exceptional intraday resets may be triggered on the same trading day. Also, if the trigger for an exceptional intraday reset occurs near the closing time of the market, the reset can be only effective during the next trading day when the market would have returned to normal condition.



# Performance of Constant Leverage Certificates and their underlying in comparison

The example scenarios in the following case studies are fictitious and are provided for illustration purposes only.

## Case Study 1: Factor 4x Long Certificate on a share

#### Market expectation

An investor expects a strong price increase of the share on today's trading day, but at the latest on the next trading day. The investor wants to participate in this with a Factor Long Certificate with leverage (factor) 4.

#### Transaction

At a share price of 100.00 Swiss francs 50 Factor 4x Long Certificates on the share are purchased at a price of 10.00 Swiss francs. The purchase price is 500.00 Swiss francs (50 x 10.00 Swiss francs).

For the sake of simplicity, the financing component is not considered. Furthermore, it is assumed that there are no dividend payments or corporate actions in the underlying during the period under consideration.

## Scenario 1: Continuously rising share price (strong market trend)

This scenario has already been described on page 7. The share price not only rises strongly, but above all continuously.

	Day 1	Day 2	Day 3	Day 4	Day 5	Performance over 5 trading days
Reference price of share (in CHF)	100.00	102.50	106.60	107.67	108.21	8.21
Daily performance of the underlying (in %)		2.50%	4.00%	1.00%	0.50%	8.21%
Factor 4x Long Certificate (in CHF)	10.00	11.00	12.76	13.27	13.54	3.54
Daily performance of the Certificate (in %)		10.00%	16.00%	4.00%	2.00%	35.40%
Performance of the share over 5 trading days x factor						8.21% x 4 = 32.84%

The scenario description does not take into account the financing component, which generally has a negative impact on the value of the Constant Leverage Certificate.

## Scenario 2: Sideways movement with moderate upward and downward movement

This scenario has already been described on page 8. The share price behaves relatively neutrally here.

	Day 1	Day 2	Day 3	Day 4	Day 5	Performance over 5 trading days
Reference price of share (in CHF)	100.00	96.00	102.72	98.61	101.57	1.57
Daily performance of the underlying (in %)		-4.00%	7.00%	-4.00%	3.00%	1.57%
Factor 4x Long Certificate (in CHF)	10.00	8.40	10.75	9.03	10.11	0.11
Daily performance of the Certificate (in %)		-16.00%	28.00%	-16.00%	12.00%	1.10%
Performance of the share over 5 trading days x factor						1.57% x 4 = 6.28%

# Scenario 3: Sharp drop in share price, subsequent recovery

In an unfavorable scenario, the opposite of the expected movement occurs and there is an initial sharp drop in the share price. To avoid a total loss for the investor, an exceptional intraday reset occurs when the adjustment threshold at 78.00 Swiss francs is reached during the second trading day (see table). This simulates a daily reset and – subject to a continued price downturn – initially avoids a loss of 100.00 percent of the capital invested. The adjustment level for calculating the value of the Constant Leverage Certificate is determined by BNP Paribas at 78.00 Swiss francs, which corresponds to the reset threshold. Since a large part of the capital invested was consumed by the price collapse, the Constant Leverage Certificate participates in the subsequent price recovery with the constant leverage (factor), but only with a very small capital investment. This means that if the initial level of the price of the underlying is very low, even substantial price gains of the underlying have only a minor effect on the recovery of the Constant Leverage Certificate. Although the share lost only five percent in the end over the considered holding period of five trading days, the investor lost 76.10 percent of his invested capital over the investment period by buying the Factor 4x Long Certificate.

	Day 1	<b>Day 2</b> exceptional intraday reset at CHF 78.00	Day 2 end of day	Day 3	Day 4	Day 5	Performance over 5 trading days
Reference price of share (in CHF)	100.00	78.00	76.23	81.62	84.89	95.00	-5.00
Daily performance of the underlying (in %)		-22.00%	-2.27%	7.07%	4.01%	11.91%	-5.00%
Factor 4x Long Certificate (in CHF)	10.00	1.20	1.09	1.40	1.62	2.39	-7.61
Daily performance of the Certificate (in %)		-88.00%	-9.08%	28.28%	16.04%	47.64%	-76.10%
Reset threshold (in CHF)		78.00	60.84	59.46	63.66	66.21	
Performance of the share over 5 trading days x factor							-5.00% x 4 = -20.00%

The scenario description does not take into account the financing component, which generally has a negative impact on the value of the Constant Leverage Certificate.

## Scenario 4: Total loss

The following example clearly shows the possibility of a total loss for the investor. The share loses 22.00 percent and 24.00 percent respectively several times during the day on the second day of the observed trading week, which triggers exceptional intraday resets. Although the performance of the underlying is -64.86 percent at the end of this trading day, the Factor 4x Long Certificate is worthless.

	Day 1	<b>Day 2</b> 1. exceptional intraday reset at CHF 76.00 <sup>7</sup>	<b>Day 2</b> 2. exceptional intraday reset at CHF 59.28	<b>Day 2</b> 3. exceptional intraday reset at CHF 45.05 <sup>8</sup>	<b>Day 2</b> 4. exceptional intraday reset at CHF 35.14	Performance until the second trading day
Reference price of share (in CHF)	100.00	76.00	59.28	45.05	35.14	-64.86
Daily performance of the underlying (in %)		-24.00%	-22.00%	-24.00%	-22.00%	-64.86%
Factor 4x Long Certificate (in CHF)	10.00	0.40	0.05	0.01	0.00	-10.00
Daily performance of the Certificate (in %)		-96.00%	-88.00%	-96.00%	-88.00%	-100.00%
Reset threshold (in CHF)		78.00	59.28	46.24	35.14	

<sup>7)</sup> The reset takes place below the reset threshold at 78.00 Swiss francs.

<sup>8)</sup> The reset takes place below the reset threshold at 46.24 Swiss francs.

# Case Study 2: Factor 8x Short Certificate on a commodity futures contract

#### Market expectation

An investor expects continuously falling prices for a commodity futures contract within the next three trading days. The investor wants to participate in this price movement with a Factor Short Certificate with leverage (factor) 8.

#### Transaction

At a price of the commodity futures contract of 55.00 US dollars 25 Factor 8x Short Certificates on the commodity futures contract are purchased at a price of 10.00 US dollars. The purchase price is 250.00 US dollars (25 x 10.00 US dollars).

## Scenario 1: Falling prices with price fluctuations

In a scenario favorable to the investor, the price of the commodity futures contract falls. It is true that a continuous fall would have been even better for the investor, because it is precisely in such an environment that the Factor Short Certificate can fully develop its strength. However, even in this scenario, the investor achieves a high return due to the special leverage mechanism of the Constant Leverage Certificates (path dependency).

	Day 1	Day 2	Day 3	Day 4	Day 5	Performance over 5 trading days
Reference price of commodity futures contract (in USD)	55.00	52.25	52.77	50.66	49.14	-5.86
Daily performance of the underlying (in %)		-5.00%	1.00%	-4.00%	-3.00%	-10.65%
Factor 8x Short Certificate (in USD)	10.00	14.00	12.88	17.00	21.08	11.08
Daily performance of the Certificate (in %)		40.00%	-8.00%	32.00%	24.00%	110.80%
Reset threshold (in USD)		61.05	58.00	58.57	56.23	
Performance of the commodity futures contract over 5 trading days x factor						-10.65% x 8 = -85.20%

## Scenario 2: Volatile sideways movement

An unfavorable scenario for the investor consists not only in rising but also in sideways tending prices of the commodity futures contract. The more volatile this sideways phase, the higher the losses accumulated due to the daily adjustments and the path dependency of the Constant Leverage Certificates. Even though the underlying asset returns to its initial level after a few days, investors in the Factor Short Certificate may still incur substantial losses. Also, if the underlying is subject to fluctuations over longer periods of time, this may have a negative impact on the price of the Constant Leverage Certificate, even if the price of the underlying has not changed significantly in absolute terms over a longer period of time.

	Day 1	Day 2	Day 3	Day 4	Day 5	Performance over 5 trading days
Reference price of commodity futures contract (in USD)	55.00	52.25	55.39	57.05	54.77	-0.23
Daily performance of the underlying (in %)		-5.00%	6.00%	3.00%	-4.00%	-0.42%
Factor 8x Short Certificate (in USD)	10.00	14.00	7.28	5.53	7.30	-2.70
Daily performance of the Certificate (in %)		40.00%	-48.00%-	-24.00%	32.00%	-27.00%
Reset threshold (in USD)		61.05	58.00	61.48	63.32	
Performance of the commodity futures contract over 5 trading days x factor						-0.42% x 8 = -3.36%

The scenario description does not take into account the financing component, which generally has a negative impact on the value of the Constant Leverage Certificate.

## Scenario 3: Price rally with continuously rising prices

In another unfavorable scenario, the opposite of the expected price movement occurs and the commodity futures contract rises continuously and strongly. In order to avoid a total loss for the investor, an exceptional adjustment is made on trading day 3 when the adjustment threshold of 62.27 US dollars is reached during the day. This simulates a day change and – subject to a continued strong price increase – initially avoids a loss of 100.00 percent of the capital invested. The adjustment level determined by BNP Paribas corresponds to the adjustment threshold in this example. However, since a large part of the capital invested has been consumed by the price increase, the Factor Short Certificate participates in the subsequent potentially moderately falling prices of the underlying (see table) with the constant leverage (factor), but only with a very small capital investor has lost 79.70 percent of his invested capital over the investment period by buying the Factor Short Certificate with a factor of 8. For simplicity, it is assumed that there is no roll effect on the commodity futures contract during the period under consideration.

	Day 1	Day 2	Day 3 exceptional intraday reset at USD 62.27	Day 3 end of day	Day 4	Day 5	Performance over 5 trading days
Reference price of commodity futures contract (in USD)	55.00	56.10	62.27	61.03	59.19	56.24	1.24
Daily performance of the underlying (in %)		2.00%	11.00%	-2.00%	-3.00%	-5.00%	2.25%
Factor 8x Short Certificate (in USD)	10.00	8.40	1.01	1.17	1.45	2.03	-7.97
Daily performance of the Certificate (in %)		-16.00%	-88.00%	16.00%	24.00%	40.00%	-79.70%
Reset threshold (in USD)		61.05	62.27	69.12	67.74	65.70	
Performance of the commodity futures contract over 5 trading days x factor							2.25% x 8 = 18.00%

# **Costs of Constant Leverage Certificates**

An investment in Constant Leverage Certificates is associated with costs for the investor, because with Constant Leverage Certificates investors only pay a part of the underlying asset, the remaining part is financed by the issuer. At the same time, investors participate fully in the price movements of the underlying (less costs incurred), which creates a leverage effect both upwards and downwards.

The value of a Constant Leverage Certificate is adjusted for the financing component in each case.<sup>9</sup> The financing component is used to cover BNP Paribas' costs. BNP Paribas may determine the amount of the individual components of the financing component on a daily basis within certain ranges defined at issuance.<sup>10</sup> Components of the financing component are, as explained below: factor, reference interest rate, interest margin, hedging costs and management fee. The financing component is expressed as a percentage p.a. and published on the website www.bnpparibasmarkets.ch.

- The factor corresponds to the constant leverage assigned to the Constant Leverage Certificate.
- The reference interest rate describes the money market interest rate in the currency of the underlying. Taking into account the interest rate margin, for Factor Long Certificates it corresponds to the financing costs of BNP Paribas for the position in the underlying leveraged by the factor. The capital invested by the investor is taken into account in the position to be financed. In the case of Factor Short Certificates, the reference interest rate, taking into account the interest rate margin, corresponds to the, usually positive, financing result of the short position in the underlying leveraged by the factor. The capital invested by the investor is taken into account the factor. The capital invested by the investor is taken into account the financing result of the short position in the underlying leveraged by the factor. The capital invested by the investor is taken into account in the financing result.
- The interest rate margin refers to a premium on or deduction from the reference interest rate, which is used to compensate for deviations between the interest rate achievable by BNP Paribas and market interest rates.
- Hedging costs refer to the costs incurred by BNP Paribas for maintaining the position in the underlying leveraged by the factor, the daily transaction costs for maintaining the position and the costs incurred for the acquisition of instruments used by BNP Paribas for hedging.
- The management fee (Financing spread) covers BNP Paribas' costs for structuring, market making (price setting) and settlement of the products and also includes BNP Paribas' margin.

Since the hedging costs and the management fee as well as, if applicable (if the underlying is not a futures contract), the interest rate margin each relate to the – factor-dependent – leveraged position in the underlying, these costs are higher the higher the factor.

Overall, the financing component is usually arithmetically negative. The financing component will therefore generally reduce the value of the Constant Leverage Certificates and thus the return for the investor.

In addition to the cost components listed above, a bid/ask spread (difference between buying and selling price) and transaction fees are incurred when trading (buying/selling) Constant Leverage Certificates.

<sup>9)</sup> The exact formula for the calculation of the financing component can be found in the product term sheets, which can be downloaded from our website www.bnpparibasmarkets.ch at any time.

<sup>10)</sup> The ranges within which the issuer can determine the individual components of the financing component can be found in the product term sheets, which are available for download on our website www.bnpparibasmarkets.ch.

# Risks involved with the purchase of Constant Leverage Certificates

Investors should know the risks associated with the purchase of Constant Leverage Certificates. A description of these risks can be found hereinafter, in the respective product term sheet or in the issuance programme which are available on our website www. bnpparibasmarkets.ch at any time.

#### **Price risk**

The value of a Constant Leverage Certificate can be negatively impacted by price determining features and can under certain circumstances be far below the initial issue price. In the worst case, an investor can lose his entire capital invested.

#### Risk of termination/reinvestment risk

The issuer has the right to terminate a Constant Leverage Certificate by giving prior notice to holders.<sup>11</sup> In such a case, the redemption amount can be far less than the initial issue price and in the worst case, the redemption value can even be zero, which corresponds to a total loss of the capital invested. Furthermore, investors bear the risk that the termination occurs at an inopportune time and hence the redemption value can only be reinvested at less favorable conditions.

#### **Underlying-related risks**

The underlying of a Constant Leverage Certificate can be complex and exhibit strong fluctuations in its value (volatility). If for instance the underlying is a commodity futures contract investors may be exposed to liquidity and cost risk. Constant Leverage Certificates on Emerging Markets underlyings comprise the risks typically involved with Emerging Markets investments (e.g. political risks) and may exhibit a higher risk of total loss than Constant Leverage Certificates on underlyings from developed markets.

#### **Exchange rate risk**

Constant Leverage Certificates are subject to exchange rate risk in case the underlying is traded in a different currency than the Constant Leverage Certificate. Exchange rate fluctuations can influence the value of an investment in Constant Leverage Certificates both positively or negatively.

#### Credit risk/default risk

The investor bears the risk of default of payment and bankruptcy of the issuer as well as the risk of default of payment and bankruptcy of the guarantor. In the case of a likely or a certain bankruptcy of the issuer and/or of the guarantor, the investor may lose part or the entirety of the capital, or may receive other financial instruments in replacement, or may suffer from a change in the terms and conditions of the Constant Leverage Certificates.

<sup>11)</sup> Constant Leverage Certificates have no predefined expiration date. However, the issuer has the right to early terminate a Constant Leverage Certificate as detailed in the documentation available on www.bnpparibasmarkets.ch.

# Additional information

#### Service for investors

On our website www.bnpparibasmarkets.ch investors can find real-time price indications of our Constant Leverage Certificates. Current Constant Leverage Certificate values, reference prices, reset thresholds and the values of the cost elements of the financing component are published on the website as well. Additionally, investors can access legal documents such as the issuance programme or product term sheets. We advise you to connect to our website www.bnpparibasmarkets.ch as often it is possible in order to check the value of your investment and to be informed of the latest news concerning the product you are invested in.

#### How to trade

Our Constant Leverage Certificates are either listed on SIX Swiss Exchange and can be traded there every trading day between 9.15 and 17.15, or in over-the-counter trading via Swiss DOTS (for customers of Swissquote and PostFinance) between 8.00 and 22.00 daily. Information on the trading venue and trading hours for each product can also be found on our website.

#### How to get in contact with us

Our product experts are available daily between 8.00 and 18.00 by calling 058 212 68 50 or by email to markets.ch@bnpparibas. com for questions, price requests and further information.<sup>12</sup>

#### How to stay informed

On our website www.bnpparibasmarkets.ch you can find our comprehensive information offering – starting from our morning newsletter Märkte & Zertifikate *daily*, which features chart analysis of the most important underlyings, to Märkte & Zertifikate *focus*, which addresses interesting and current topics at regular intervals, to our weekly webinars.<sup>13</sup> We keep you updated – free of charge. You can place your subscription directly on our website, via email to markets.ch@bnpparibas.com or by calling 058 212 68 50.<sup>12</sup> Of course, you can always cancel an existing subscription by contacting us through the same channels.

12) We hereby inform you that conversations on the number provided are recorded. We assume that when calling you are in agreement with this business practice. 13) Märkte & Zertifikate *daily* and Märkte & Zertifikate *focus* are only available in German. The webinars are offered in German and French.



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The products do not have any guaranteed capital; consequently, there is the risk that the capital invested will be partially or completely lost.

Constant Leverage Certificates are issued by BNP Paribas Issuance BV – and guaranteed by BNP Paribas SA (together "BNP Paribas"). In the event of bankruptcy of or lack of payment by BNP Paribas investors in the Constant Leverage Certificates run the risk of possibly getting back less than the value of the Constant Leverage Certificates and in the worst case, even losing their entire investment.

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