

A low-angle photograph of the Nasdaq building in New York City. The building features a prominent teal-colored curved facade with the word "Nasdaq" in white. Above the name, the word "OPTIONS" is repeated three times in white, stacked vertically. The building is surrounded by other skyscrapers under a clear blue sky.

**OPTIONS
WITH
OPTIONS**

**Webinar
Interactive Brokers
March 28, 2018**

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CONTENT

- Introduction
- **Why** options?
- **What** is an option?
- **How** can we use them?
 - The four basic option positions
 - Some different combinations and strategies
 - Important terminology
 - Some about risk, implied volatility and valuation

THE NORDIC DERIVATIVES MARKETS

- Sweden
- Denmark
- Finland
- Norway



THE NORDIC DERIVATIVES MARKETS

Index

OMXS30 (Sweden)

OMXC25 (Denmark)

OMXH25 (Finland)

OMXO20 (Norway)

Examples, some underlying stocks

ABB (ABB)

A.P. Møller-Mærsk B (MAERSK)

AstraZeneca (AZN)

Atlas Copco A (ATCOA)

Autoliv SDB (ALIV)

Carlsberg B (CARLB)

Danske Bank (DANSKE)

DSV (DSV)

Electrolux B (ELUXB)

Ericsson B (ERICB)

Hennes & Mauritz B (HMB)

Kone Corp (KNEBV3)

Marine Harvest ASA (MHG)

Nokia (NOKI)

Nokian Tyres (NRE1V3)

Nordea (NDA)

Norsk Hydro ASA (NHY)

Novo Nordisk B (NOVOB)

Outokumpu (OUT1V3)

Pandora (PNDORA)

Seadrill Ltd (SDRL)

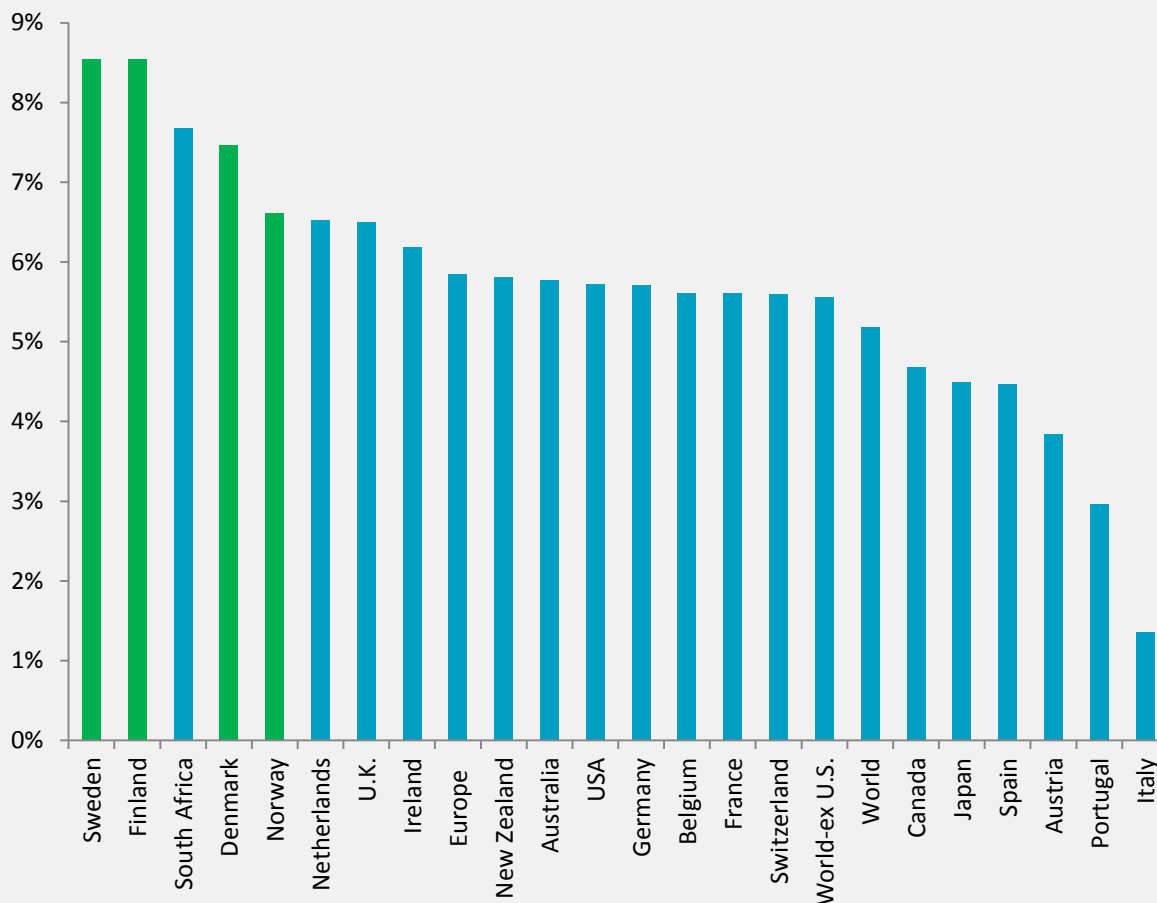
SAAB B (SAAB)

Vestas Wind Systems (VWS)

Volvo B (VOLVB)

WORLD CLASS LONG TERM RETURNS

ANNUALIZED REAL RATE OF RETURN FOR EQUITY MARKETS 1966-2017 (52 YEARS)



TOP 20

Rank	Country	Annual return %
1	Sweden	8.55 %
2	Finland	8.55 %
3	South Africa	7.68 %
4	Denmark	7.46 %
5	Norway	6.61 %
6	Netherlands	6.53 %
7	U.K.	6.50 %
8	Ireland	6.18 %
9	Europe	5.84 %
10	New Zealand	5.81 %
11	Australia	5.77 %
12	USA	5.72 %
13	Germany	5.72 %
14	Belgium	5.61 %
15	France	5.61 %
16	Switzerland	5.60 %
17	World-ex U.S.	5.56 %
18	World	5.18 %
19	Canada	4.69 %
20	Japan	4.49 %

Source: Credit Suisse & Nasdaq Market research. All indices are based on time series from (1966 - 2017)

WHY OPTIONS?

ALTERNATIVES, CHOICES, OPTIONS...

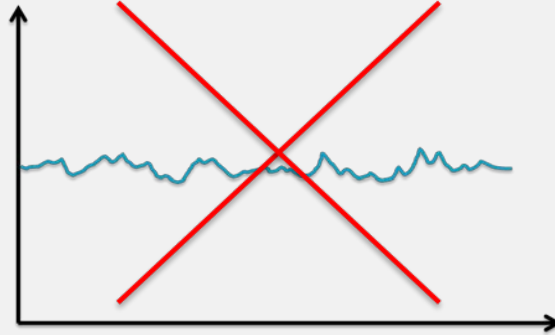


TRADITIONAL PORTFOLIO

Create return?



Positive



Neutral



Negative

POSSIBLE TO CREATE A RETURN IN DIFFERENT MARKET CONDITIONS



Positive



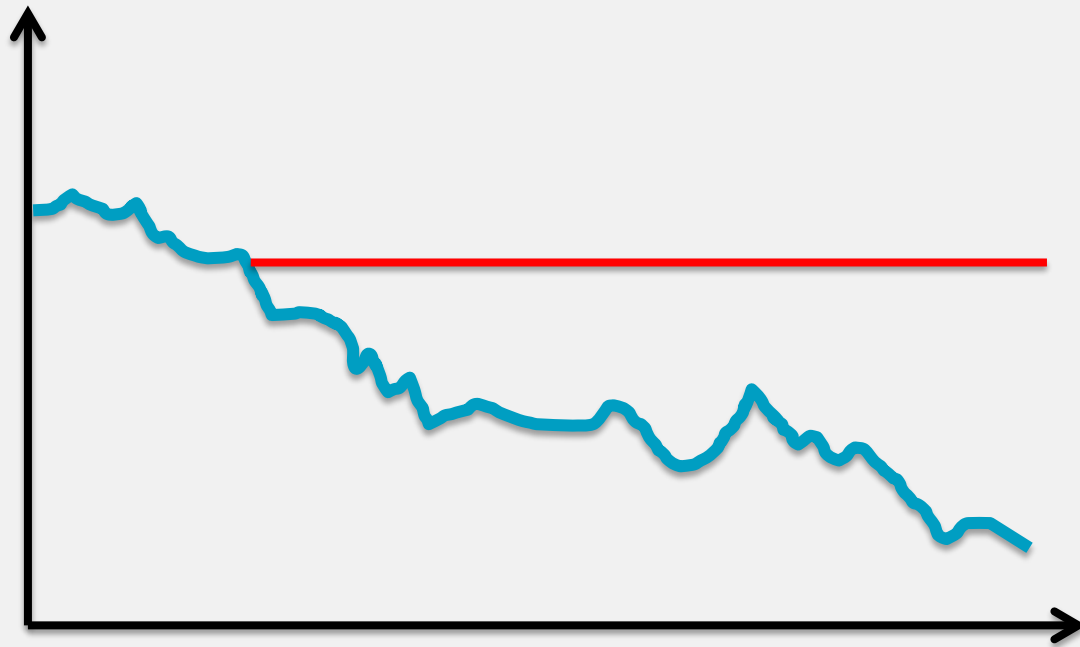
Neutral



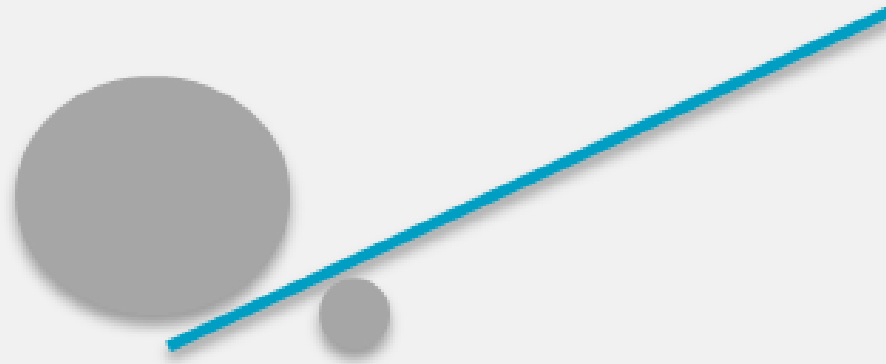
Negative

WITH OPTIONS

PROTECT STOCKS IN A NEGATIVE MARKET



LEVERAGE - GEARING



A small investment can create a large
percental profit!

ADVANTAGES AND POSSIBILITIES

- Able to create a return in different market conditions
- Protect stocks or portfolios - hedge
- Use the "leverage effect"
- Ensure being able to buy or sell stocks at a certain price in the future
- Speculate
- Get a picture of the risk in the market
- Decrease or increase the risk level

OPTIONS CAN BE USED IN DIFFERENT WAYS:

- Stand alone
- In combinations with other options
- Together with stocks or futures/forwards

WHAT IS AN OPTION?

RIGHTS...



TWO TYPES OF OPTIONS

Call option

Right to buy

Put option

Right to sell

To a predefined **price** and during a predefined **time period**

THE FOUR BASIC OPTION POSITIONS

	Call	Put
BUYER	Right to buy	Right to sell

THE FOUR BASIC OPTION POSITIONS

	Call	Put
BUYER	Right to buy	Right to sell
SELLER	Obligation to sell	Obligation to buy

Difference between selling and writing options!

LONG OR SHORT THE UNDERLYING?

Bought Call	Long
Sold (written) Call	Short
Bought Put	Short
Sold (written) Put	Long



Options have different maturities.
Nasdaq (Nordic) have: 1, 2, 3, 6, 12, 24
and 36 months, also “weekly options”

Expiration day: 3rd Friday in
the month



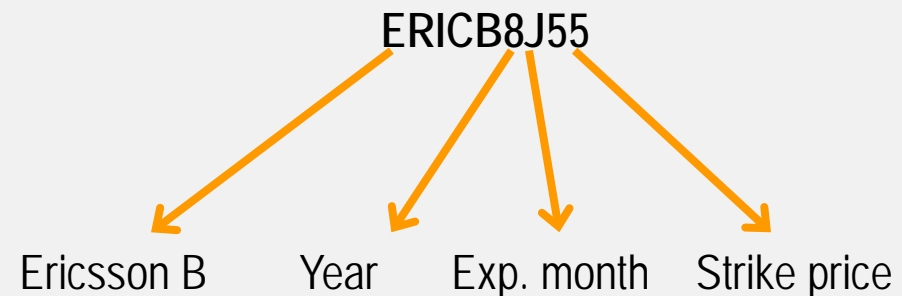
- Traded on the Exchange just like stocks
- Many strikes (good strike density)
- Premium=price of the option, longer options cost more
- 1 option is normally equivalent to 100 stocks

CODES

- Ericsson B
- Expires during 2018
- Call option, expires in Oct
- Strike 55 (exercise price)

- Weekly option, Ericsson B
- **ERICB8J12Y55**

Month	Calls	Puts
January	A	M
February	B	N
March	C	O
April	D	P
May	E	Q
June	F	R
July	G	S
August	H	T
September	I	U
October	J	V
November	K	W
December	L	X



AMERICAN AND EUROPEAN OPTIONS

American options – Our stock options
European options – Our index options

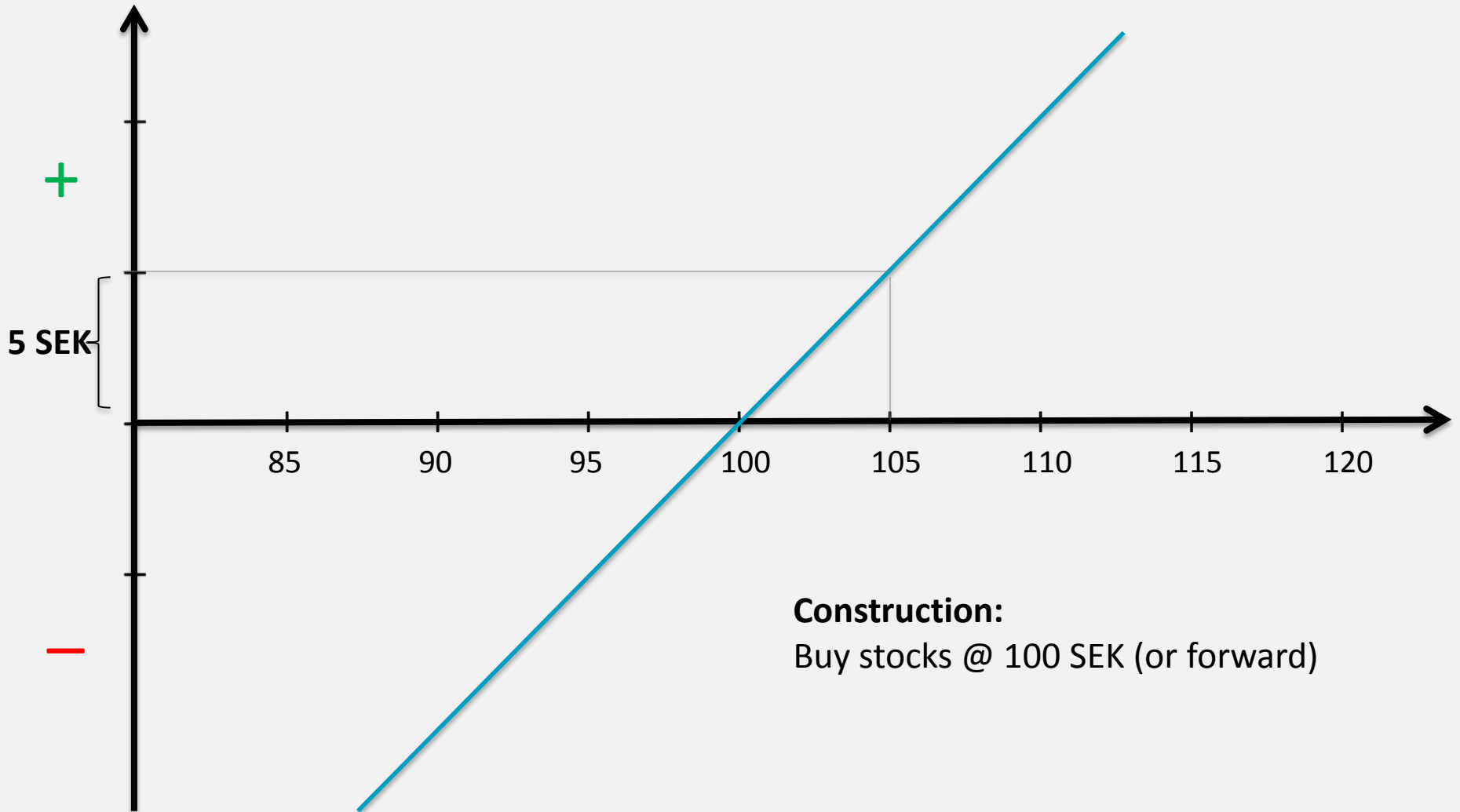


CHARTS

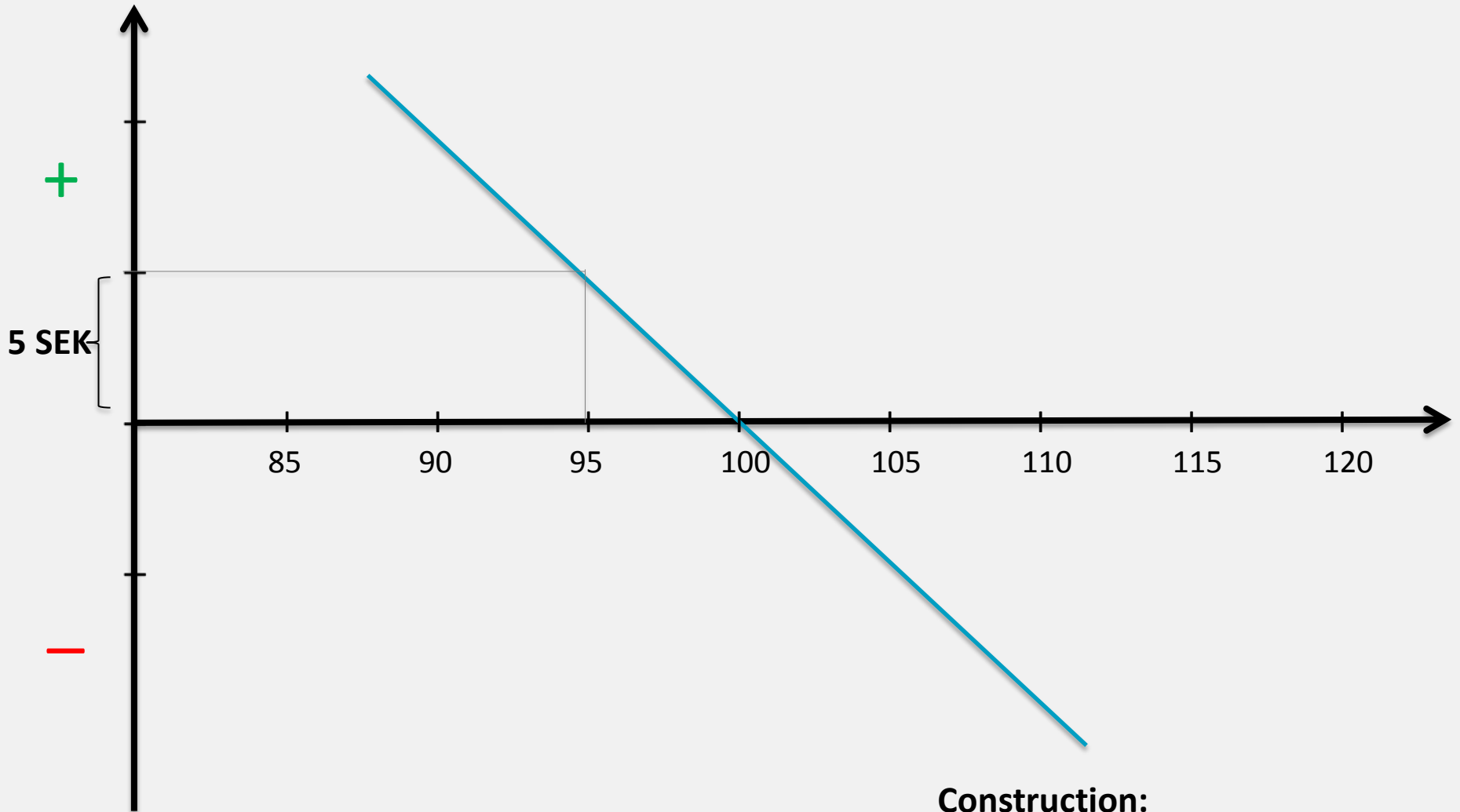
(At expiration)



STOCK

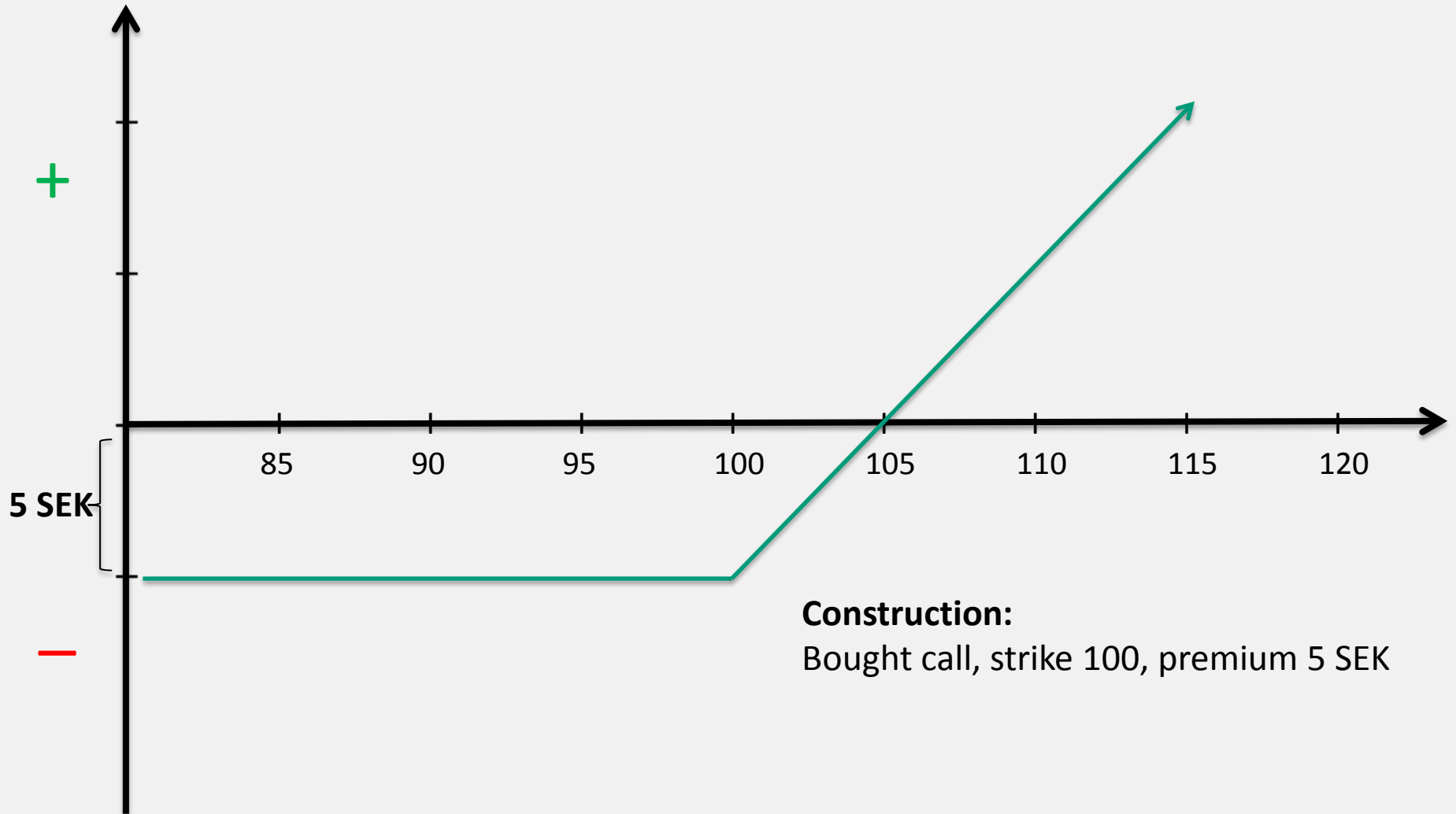


SHORT STOCK



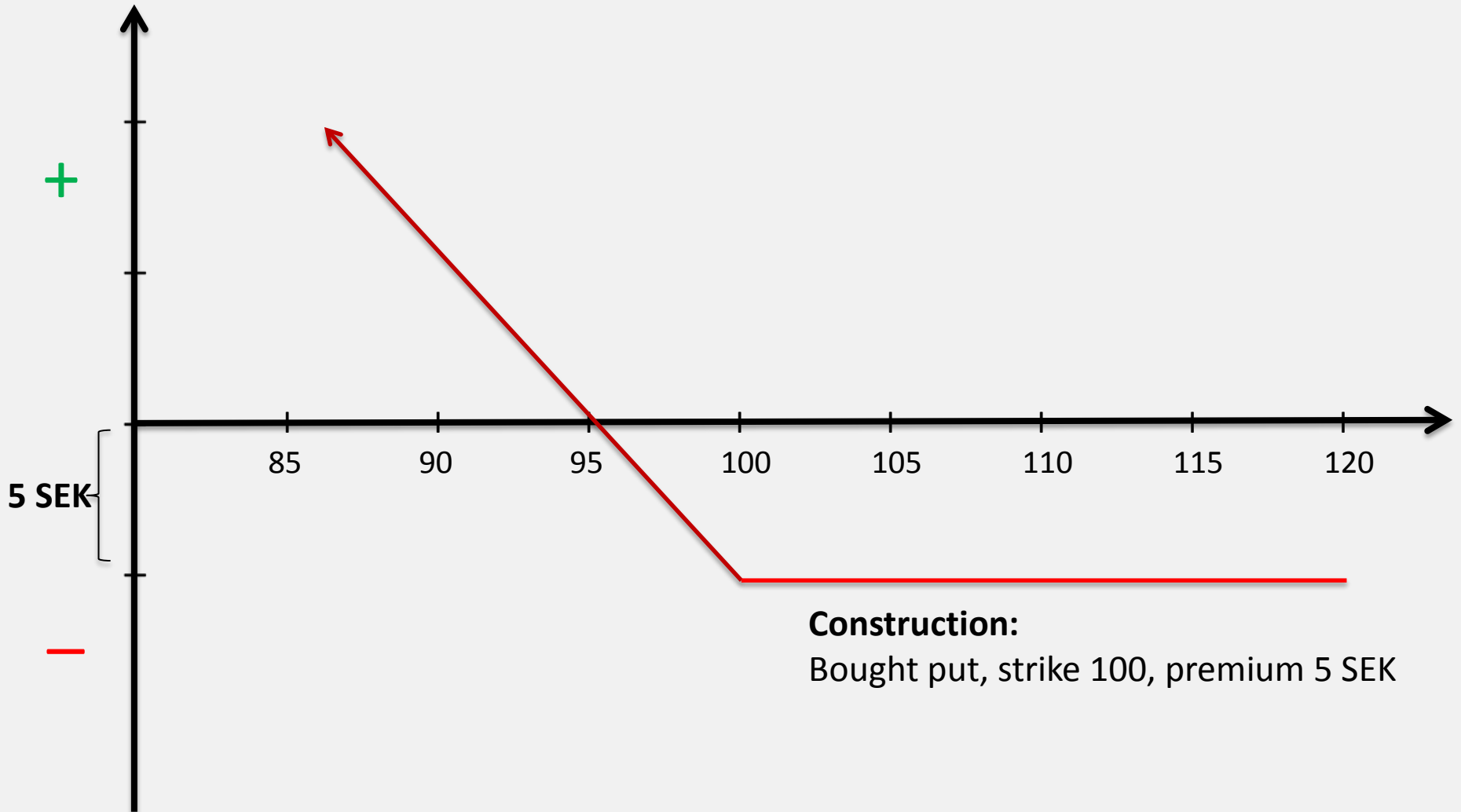
Construction:
Short stocks @ 100 SEK

BOUGHT CALL



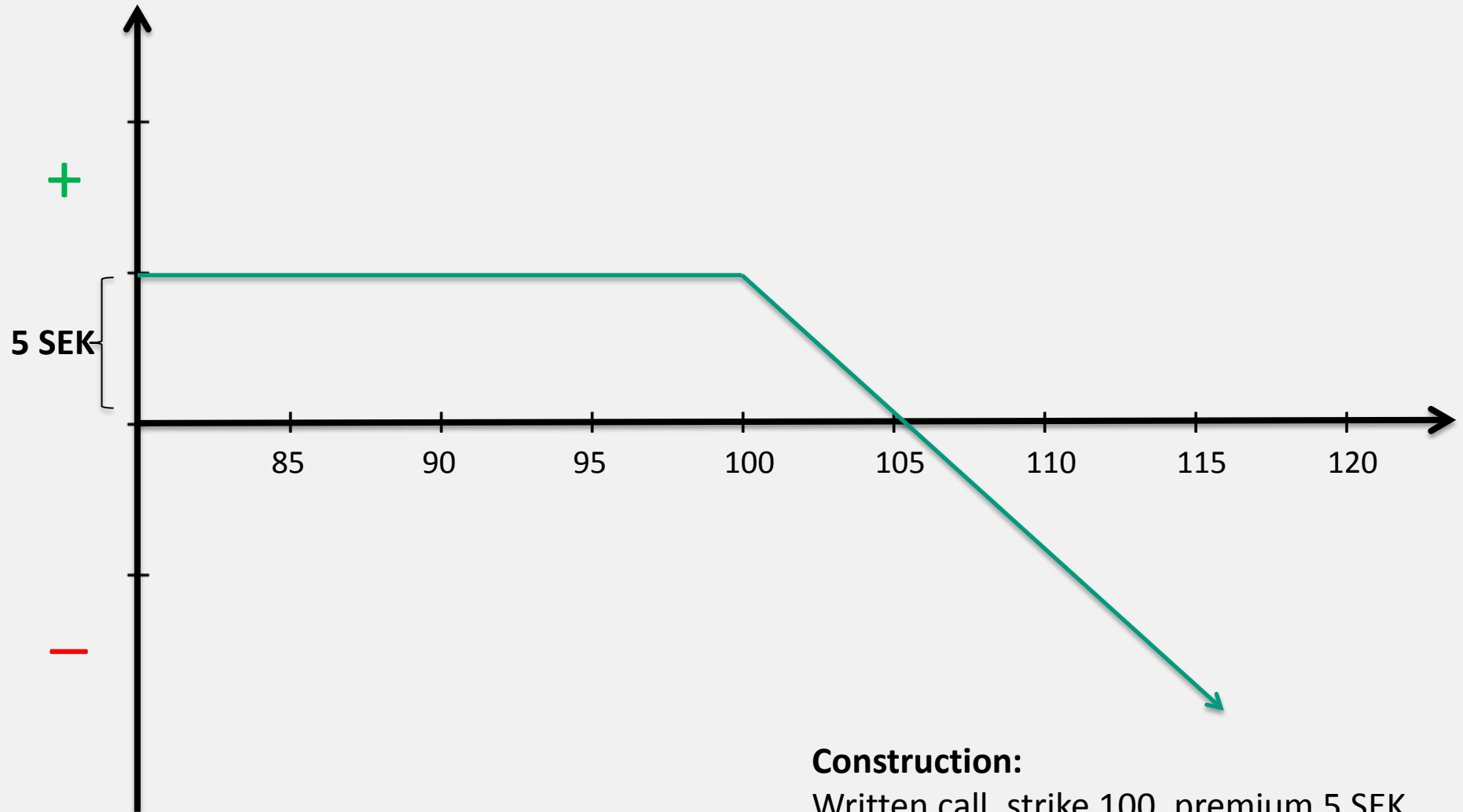
Construction:
Bought call, strike 100, premium 5 SEK

BOUGHT PUT



Construction:
Bought put, strike 100, premium 5 SEK

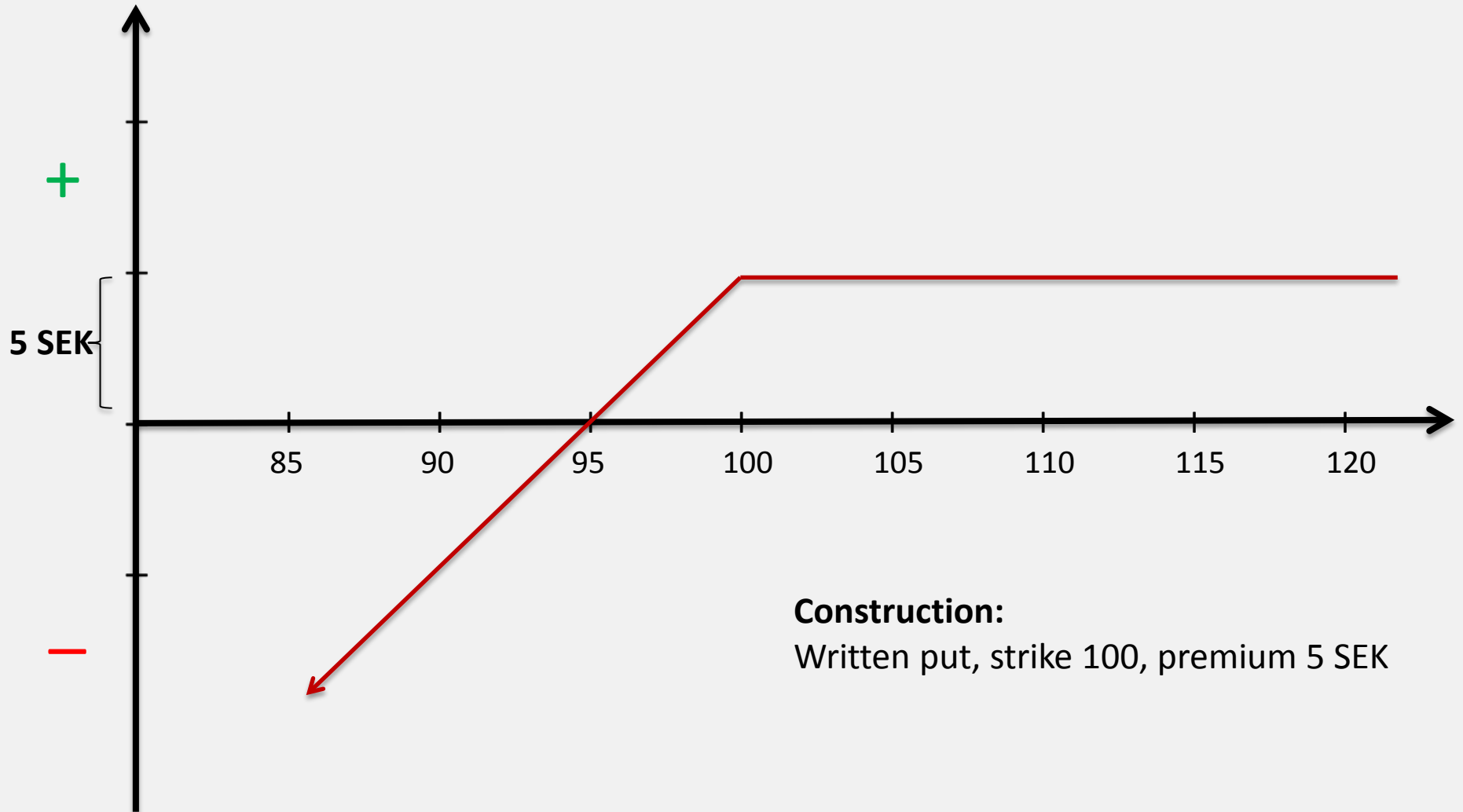
SOLD (WRITTEN) CALL



Construction:

Written call, strike 100, premium 5 SEK

SOLD (WRITTEN) PUT



Construction:

Written put, strike 100, premium 5 SEK

SOME STRATEGIES



TO CONSIDER WHEN BUYING CALLS AND PUTS...

When buying calls and puts "naked" you are often dependent on a **LARGE** or **FAST** move (in order to generate the return you want)

KEEP IN MIND WHEN WRITING OPTIONS

You have to be ready to fulfill your obligations

"Unlikely does not mean impossible"

STRATEGY 1

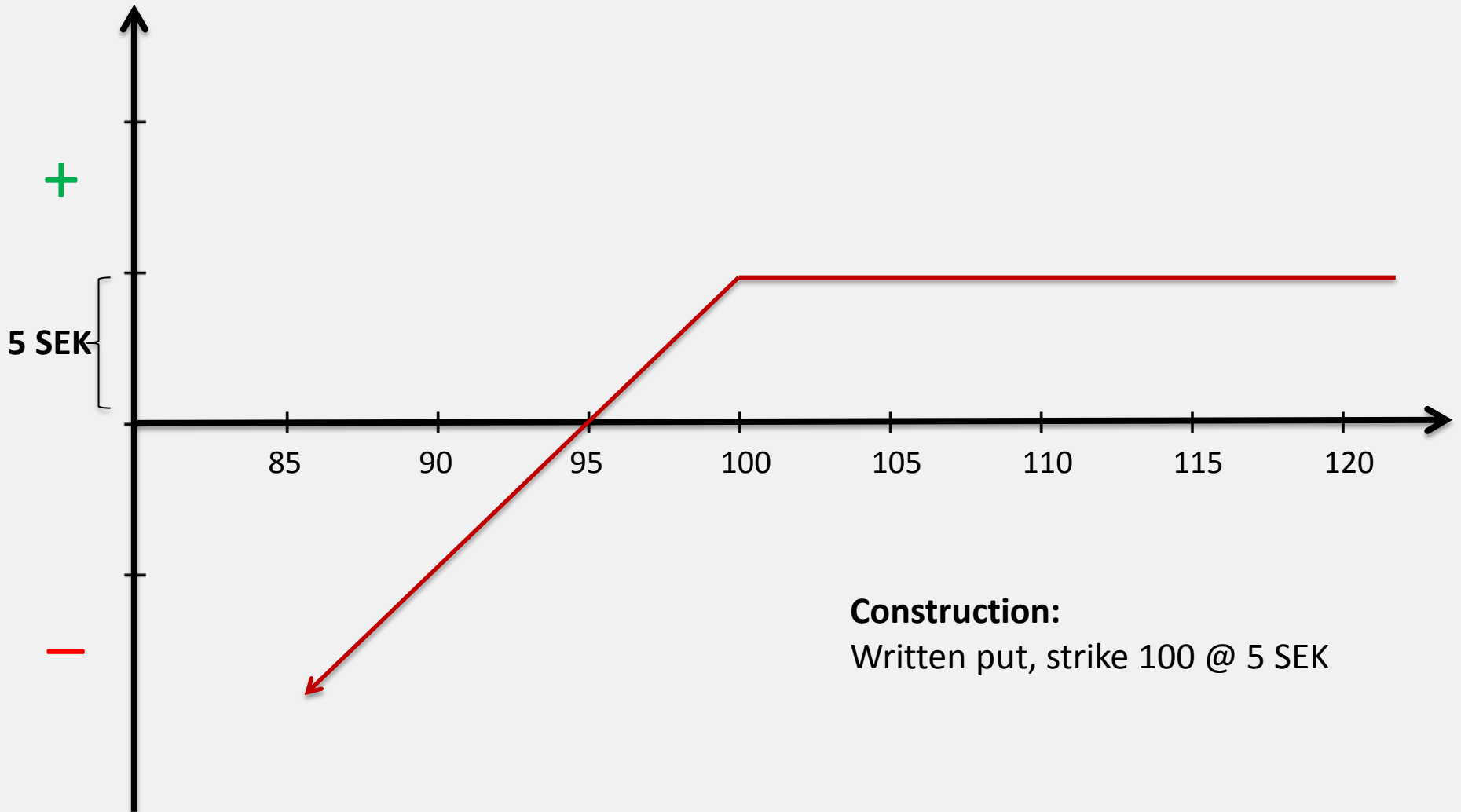
Neutral to slightly positive to underlying stock



WRITTEN PUT

- You write puts with strike price 100 SEK
- The premium you get is 5,00 SEK
- You now have the obligation to buy the underlying stock at 100 SEK (in reality 95 SEK)

WRITTEN PUT



Construction:

Written put, strike 100 @ 5 SEK

STRATEGY 2

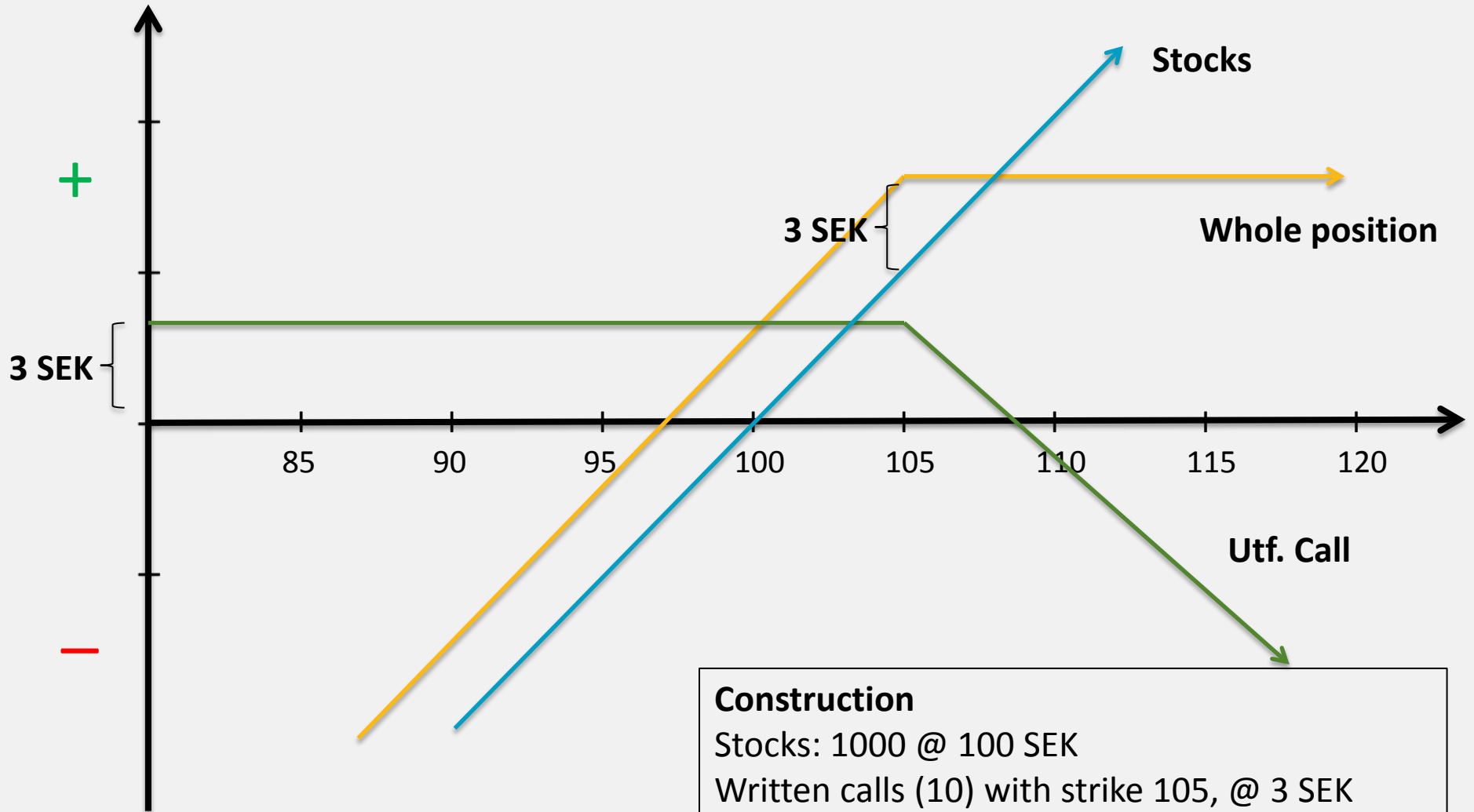
Neutral to slightly positive to underlying stock



COVERED CALL

- You buy stocks @ 100 SEK
- You sell (write) calls with strike 105 SEK
- The premium you get is 3,00 SEK

COVERED CALL



COVERED CALL

3 scenarios:

- 1) Stock price @ 105 or higher, you might have to sell your stocks for 105 SEK (in reality $105 + 3,00 = 108,00$ SEK)
- 2) Stock goes sideways, the option expires worthless, you keep your premium of 3,00 SEK (3 000 SEK and a 3% return even if an unchanged stock price)
- 3) Stock price drops, the option becomes worthless, you make a return of 3 000 SEK on the sold option but lose on the falling stocks (the premium reduces the loss by 3 000 SEK)

STRATEGY 3

Neutral to slightly positive to underlying stock



”SOLD STRANGLE AGAINST STOCKS”

- You buy stocks @ 100 SEK
- You are fine by selling the stocks @105 SEK
- You are happy to buy more stocks @ 95 SEK

Sell (write) calls with strike price 105 kr, receive 3,00 SEK

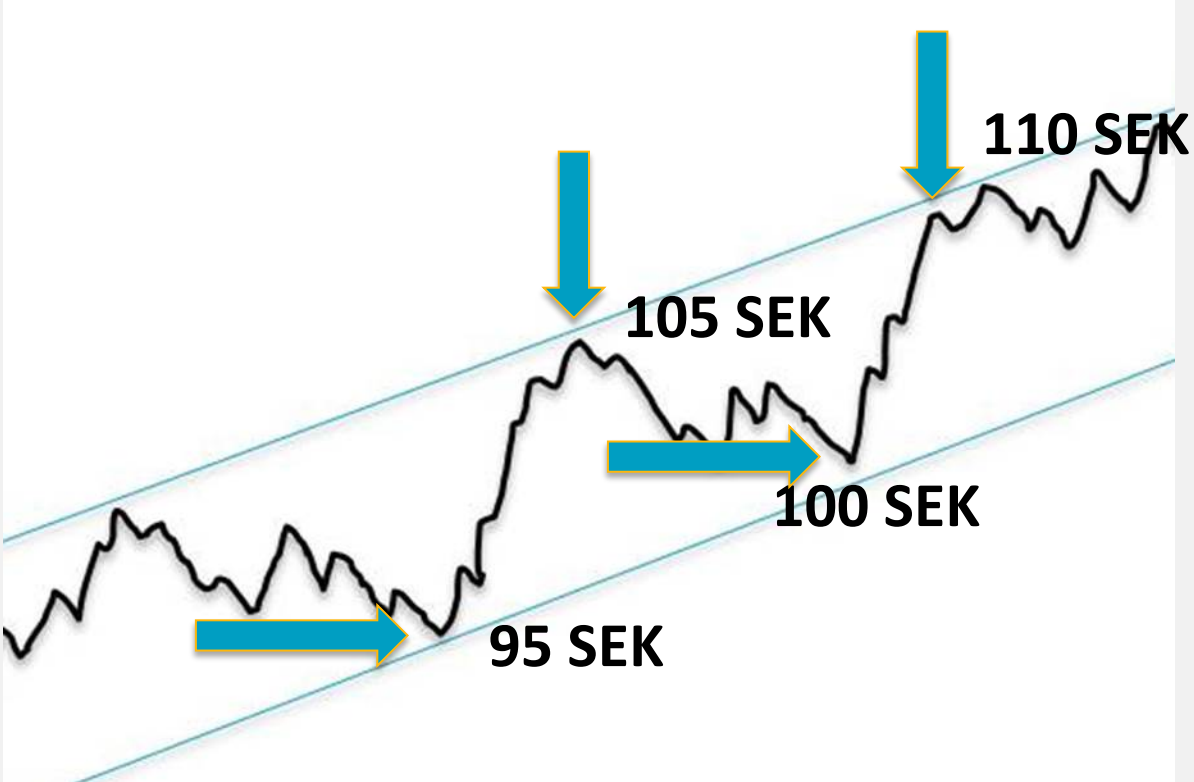
Sell (write) puts with strike price 95 kr, receive 3,00 SEK

In total you receive 6 SEK

Outcome @ 100 SEK?

Outcome @ 105 SEK?

Outcome @ 95 SEK?

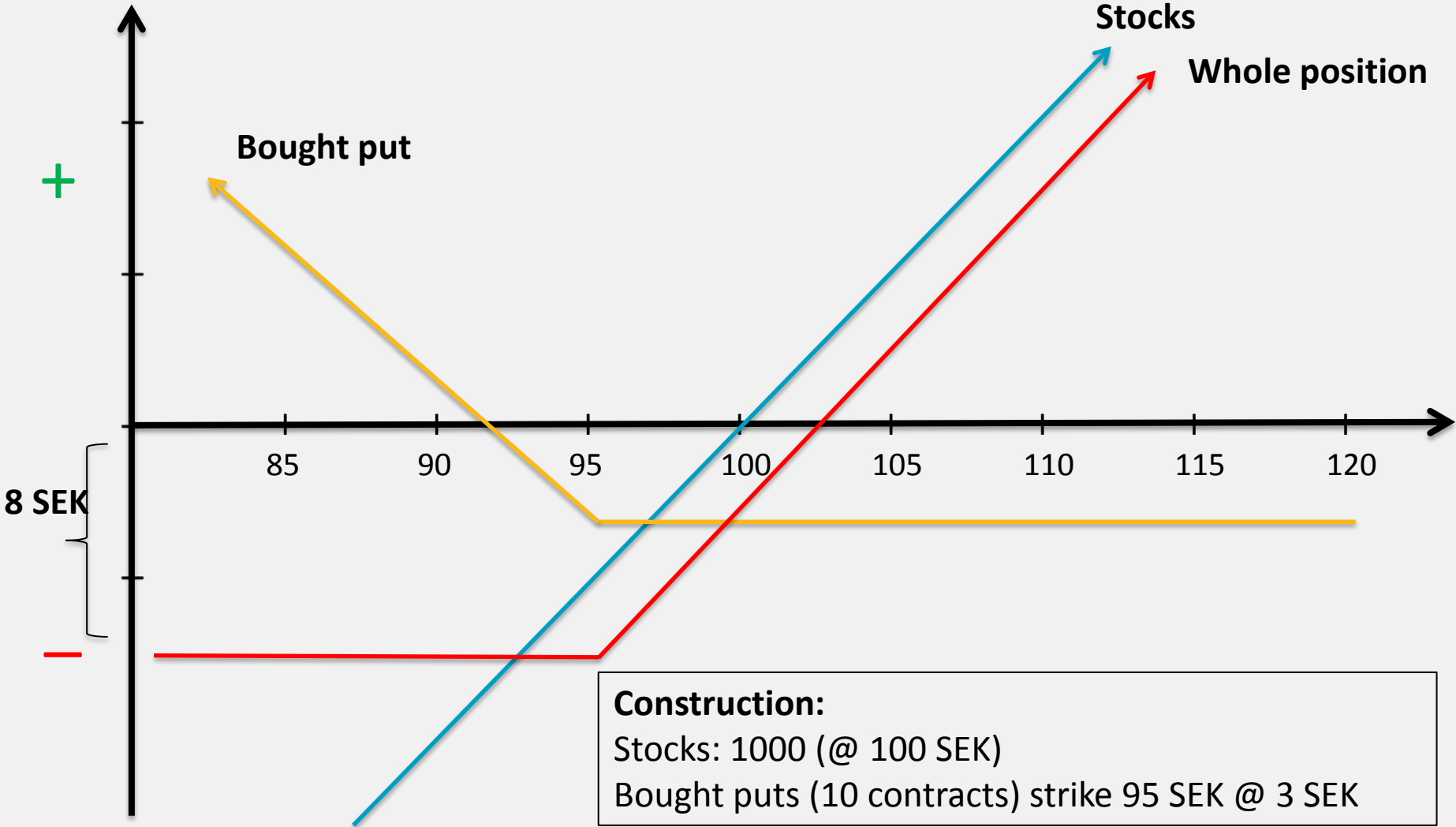


STRATEGY 4

Positive to the stock but want a hedge
(temporary insurance)



PROTECTIVE PUT

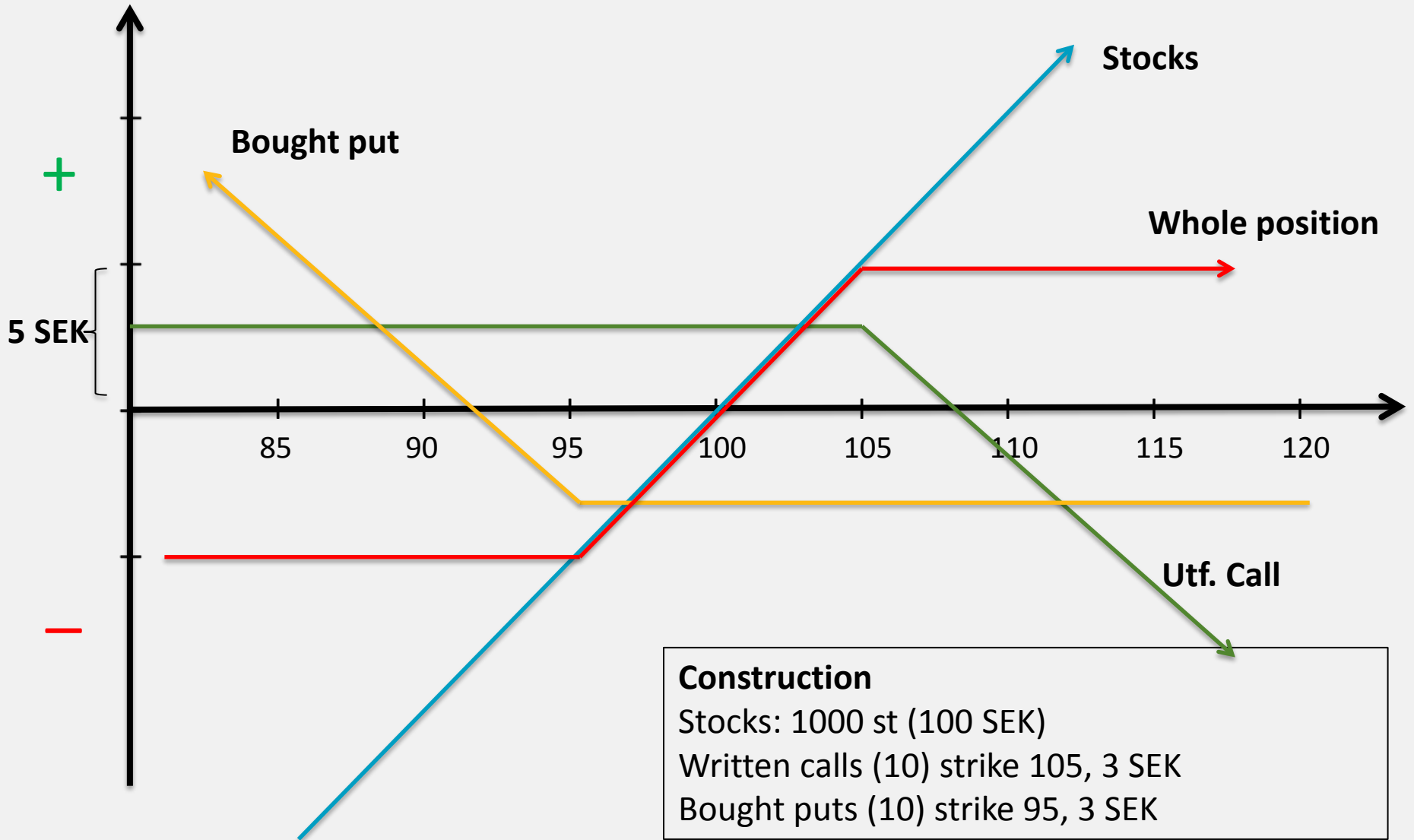


STRATEGY 5

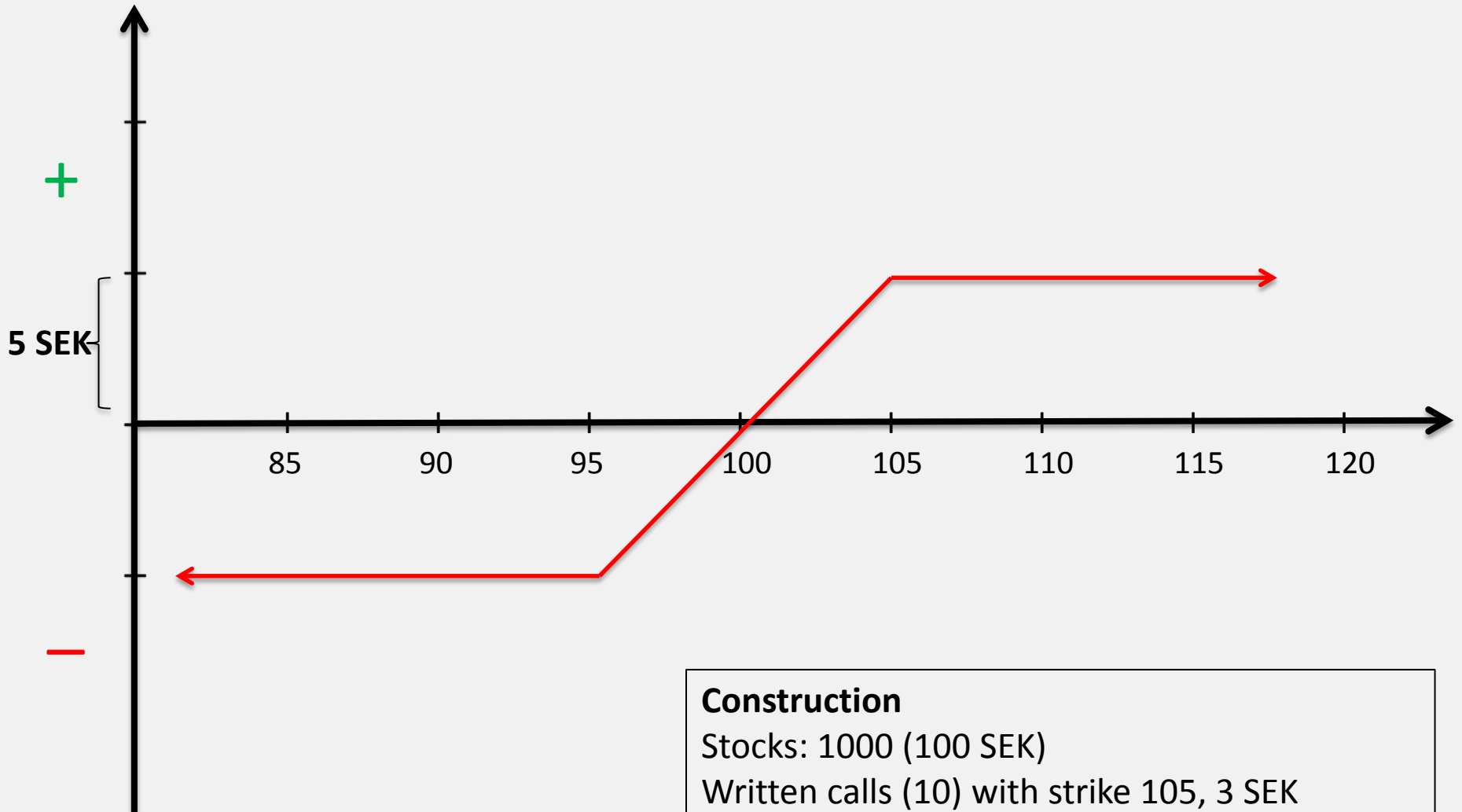
Establish a cheap hedge for the stocks
(with capped upside)



FENCE - COLLAR



FENCE - COLLAR



Construction

Stocks: 1000 (100 SEK)

Written calls (10) with strike 105, 3 SEK

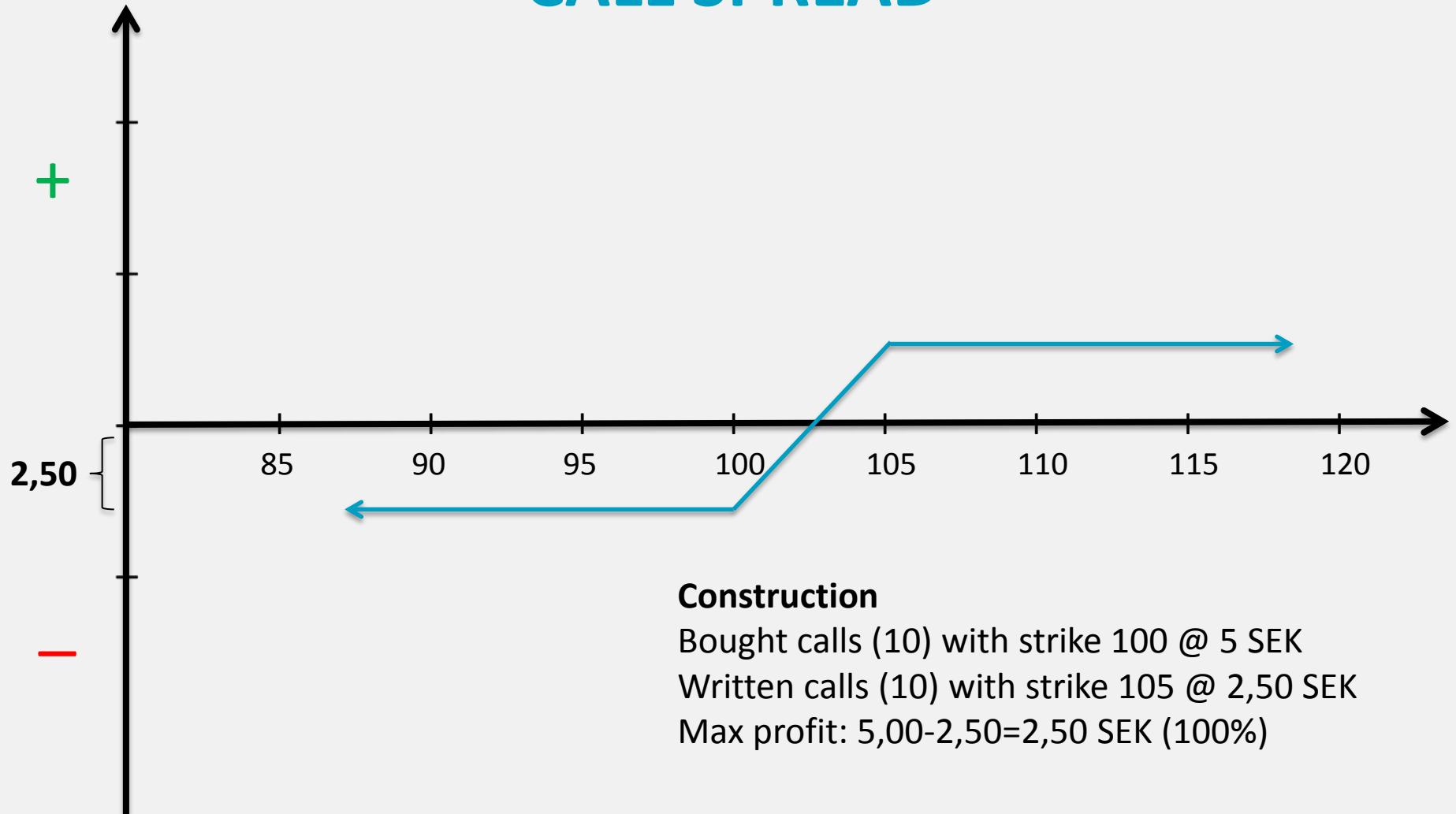
Bought puts (10) with strike 95, 3 SEK

STRATEGY 6

Good return when limited increase in the stock price



"CALL SPREAD"



Construction

Bought calls (10) with strike 100 @ 5 SEK

Written calls (10) with strike 105 @ 2,50 SEK

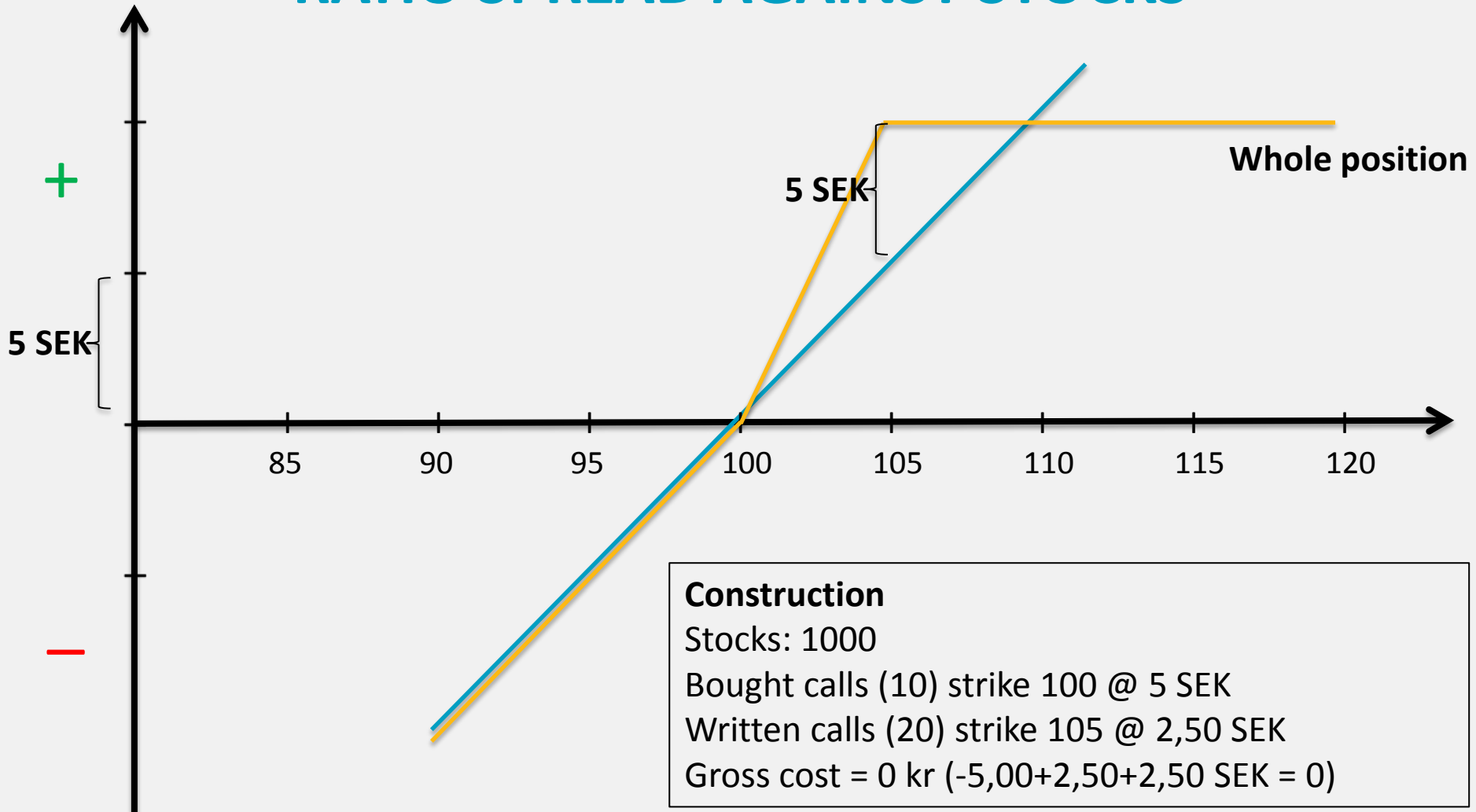
Max profit: $5,00 - 2,50 = 2,50$ SEK (100%)

STRATEGY 7

Maximize the return in a limited increase in the
stock price



"RATIO SPREAD AGAINST STOCKS"

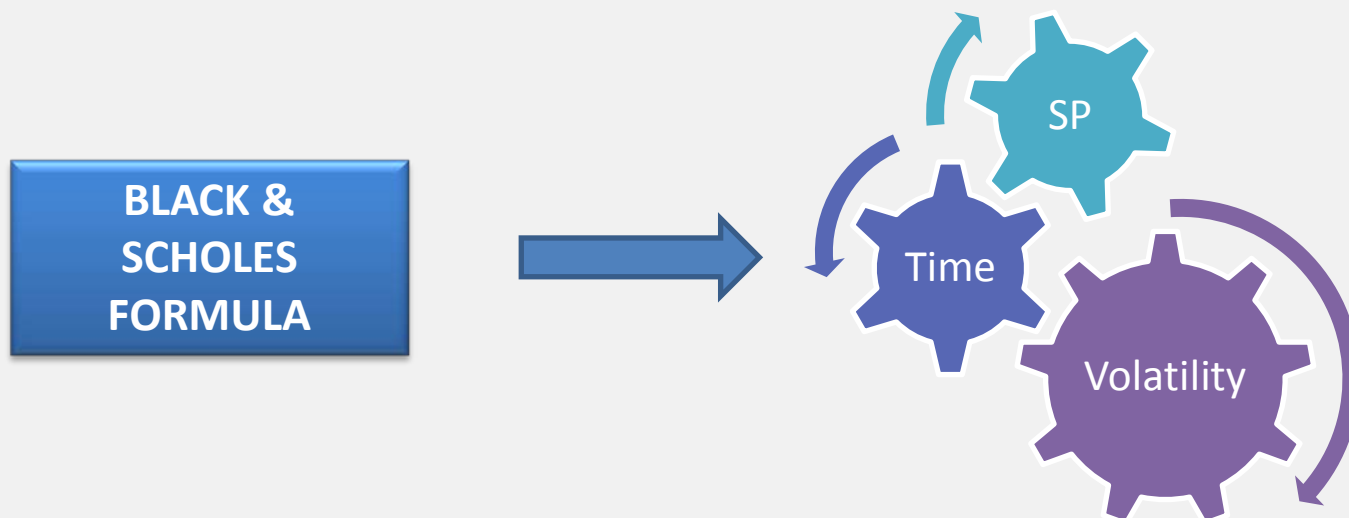


VALUATION



OPTION VALUATION

1. **STRIKE PRICE**
2. **UNDERLYING** Share price
3. **TIME** to expiration
4. **INTREREST RATE**
5. **Pot. DIVIDEND** prior expiration
6. ***VOLATILITY*** of the underlying share

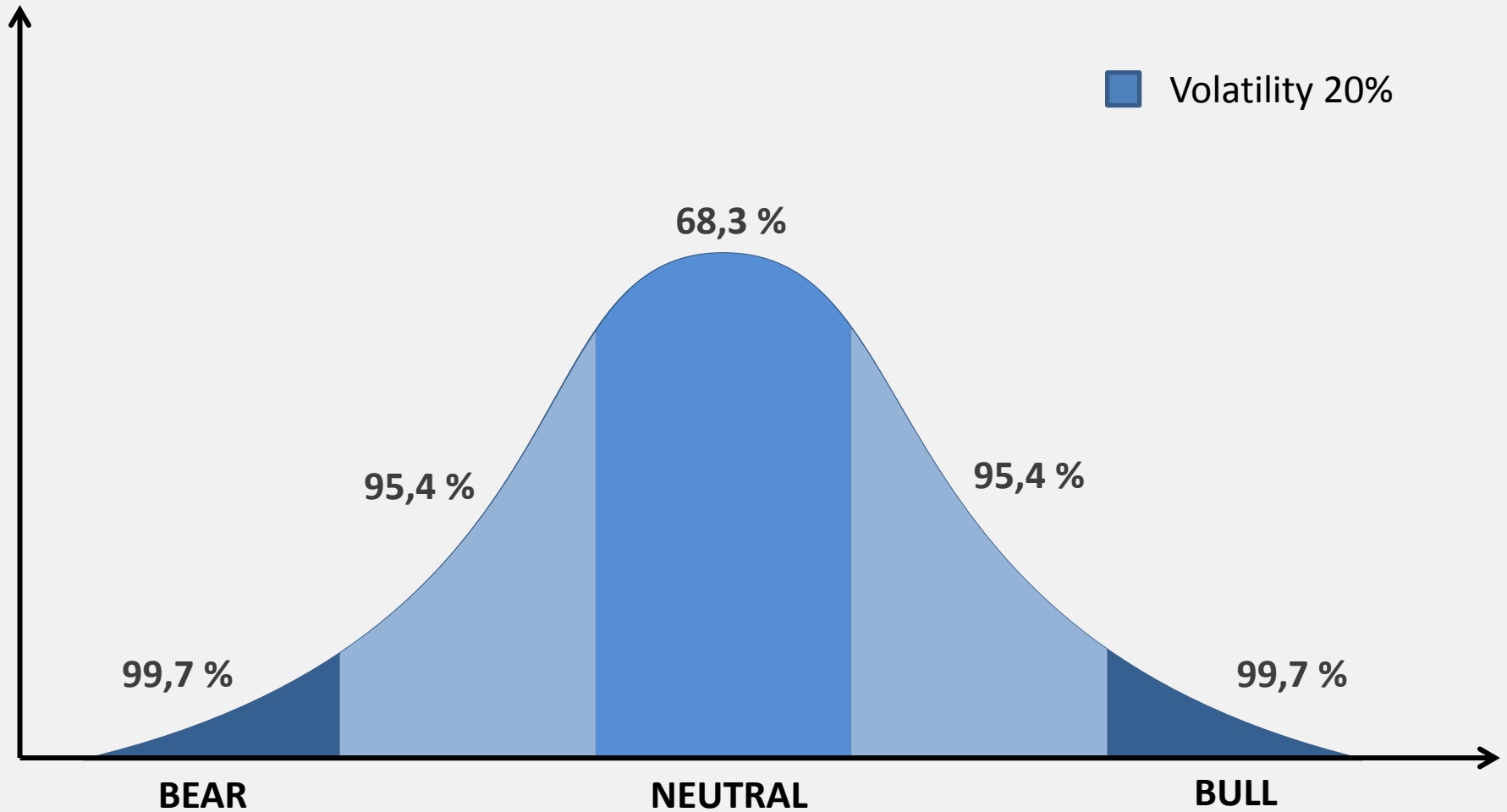


VOLATILITY

- The financial term for the standard deviation
- A percentage figure that indicates a probable change in the option's price
 - Applies for change up or down
 - With the certainty of one (1) standard deviation
- Evaluating the expected market risk (speed)
- Historical Volatility vs. Implied Volatility (Edge)
- Predicting market movements?
- Normal distribution - and lognormal distribution (skew)

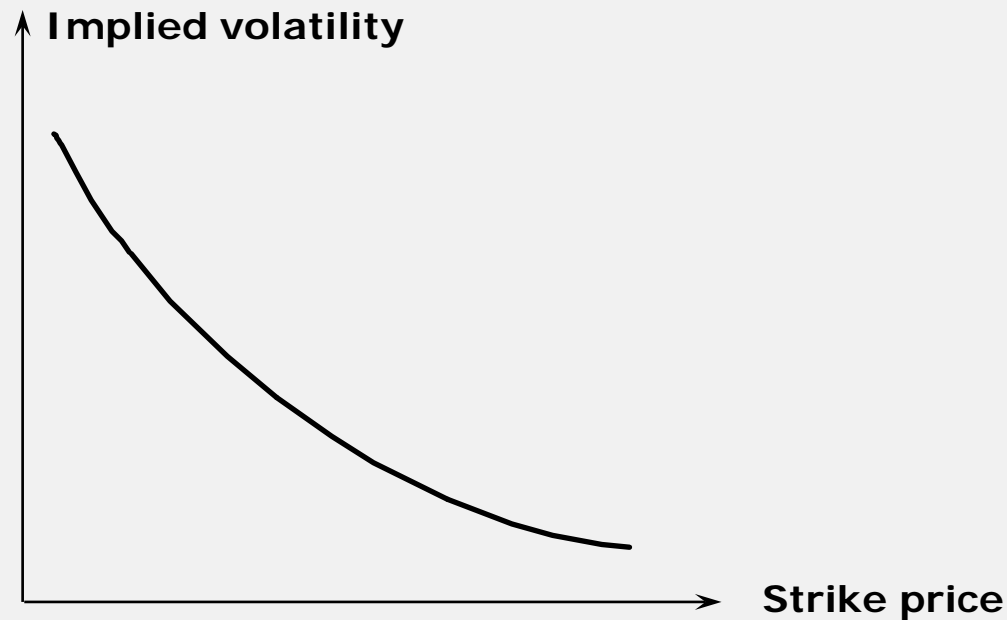
NORMAL DISTRIBUTION CURVE

Probability Theory → Option valuation



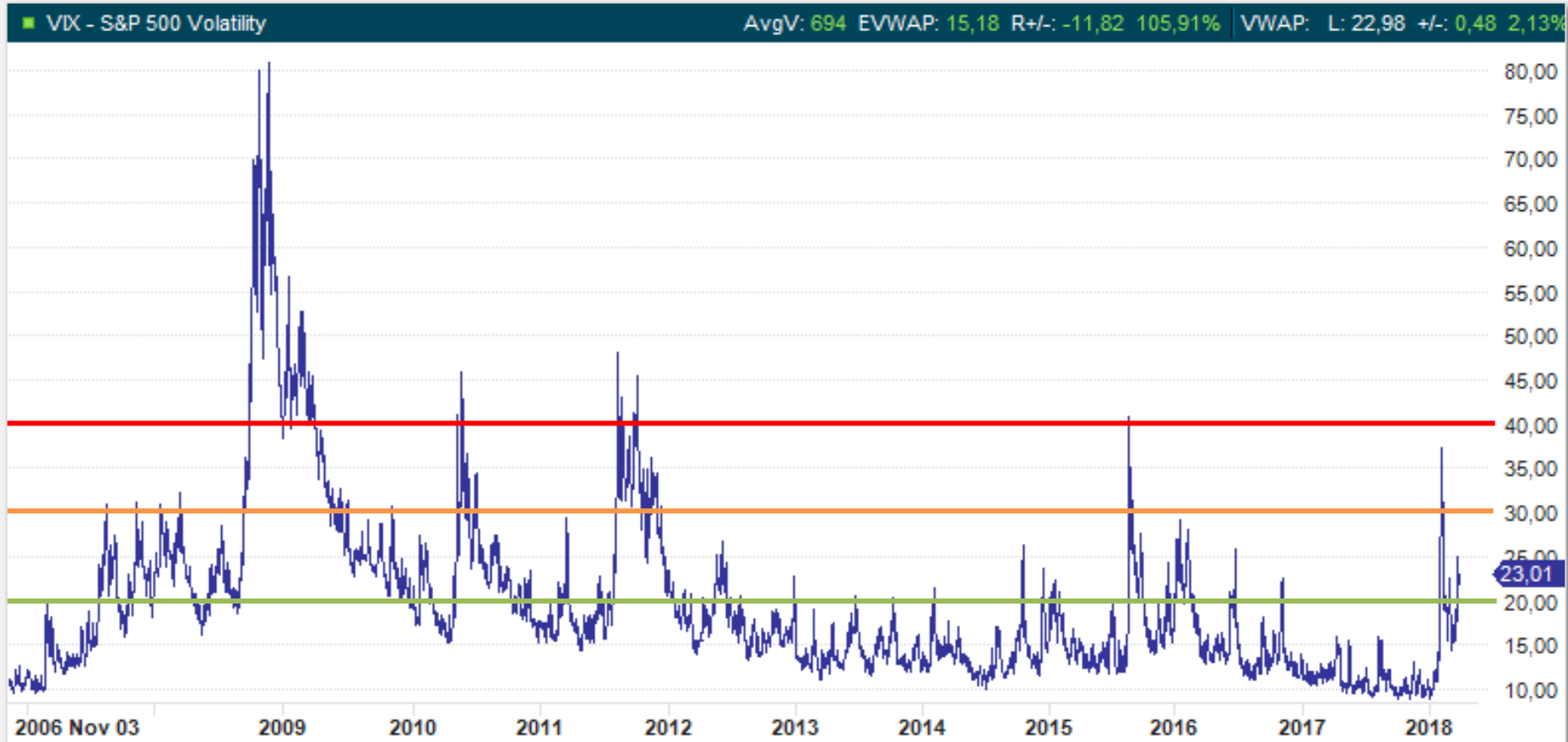
VOLATILITY SMILE

- All options contracts (same underlying) should have the same implied volatility
- More extreme movements than normal distribution lists = SKEW
- A "volatility-smile" shows the variation of the implied volatility
- A "volatility-smile" should be identical regardless of CALL or PUT
- Wider "smile" indicates the likelihood of greater movement in the market



VIX INDEX

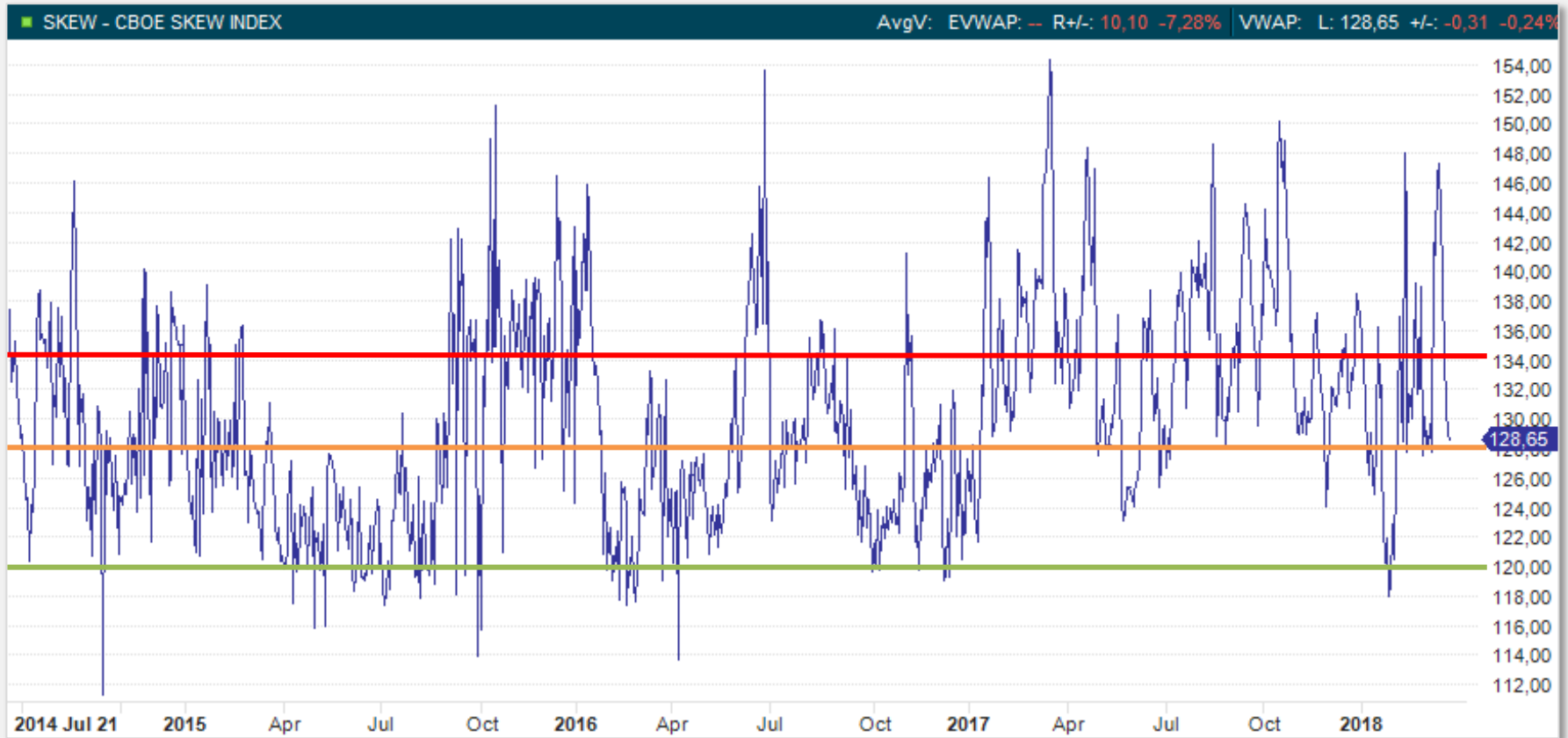
S&P 500 Imp. Vol. 30 days



Volatility index – “Fear Index”

SKEW INDEX

S&P 500



120 = normal

128 = Avg (5y)

134 = Avg (6m)

"Tail Index"

How to lose money with a long call in a bullish market

Scenario:

Stock = 750 (SEK)

Profit warning/bad news

Stock = 500

Buying ATM Call = 32

Day after:

Stock = 520 (recovers + 4%)

Option leverage = Big profit?

Stock	500
Strike	500
Time	30 days
Rate	1 %
Volatility	55 %
Call teor. Price:	31,61

P/L
- 15,60 %

Stock	520
Strike	500
Time	29 days
Rate	1 %
Volatility	25 %
Call teor. Price:	26,99

THANK YOU!

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