12de Technische Analysedag

Zaterdag 5 maart 2016

HOGESCHOOL GENT
Hogent Campus BME/CTL
V(alentijn) Vaerwyckweg 1, 9000 Gent

Opgelet: Inrit Parking uitsluitend via V(alentijn), Vaerwyckweg 1

VOORLOPIG PROGRAMMA

	GROTE AULA	GROOT LOKAAL
8u45	Ontvangst met koffie	
9u10	**Verwelkoming** door Patrick Verelst, *afgevaardigd bestuurder VFB*	
9u15 – 10u	**Macro-economische vooruitzichten** Spreker: Danny Reweghs, *directeur strategie Inside Beleggen*	
10u05 – 10u50	**Emotieloos navigeren door het huidige beursklimaat** Spreker: Geert Van Herck, *Keytrade Bank*	**Opties en Griekse variabelen, hoe helpen ze u praktisch?** Spreker: Maarten Redant
10u55 – 11u40	**Overzicht TA disciplines & praktische toepassingen** Spreker: Karel De Bie, *technisch analist BNP Paribas Fortis*	**De anatomie van optiestrategieën: een praktische kijk op het ontstaan en verloop van het Risk/Reward profiel** Spreker: ir. Dirk Arens
11u45 – 12u30	**Tel je rijk!** Spreker: Paul Gins, *ceo CompuGraphics*	
12u30	Broodjesmaaltijd	
13u30 – 14u15	**Technische analyse met ChartMill** Spreker: Dirk Vandycke, *Monest.net en Chartmill.com*	
14u20 – 15u05	**Introductie Relative Rotation Graphs (RRG), theorie en praktijk** Spreker: Julius de Kempenaer, *directeur RRG Research*	**ETF's en markttiming** Spreker: Etienne Verhelle, *onafhankelijk technisch analist*
15u10 – 15u55	**10 aandelen geselecteerd door Beurssignaal** Spreker: Marc Brems, *technisch analist Beurssignaal*	
15u55 – 16u00	**Slotwoord** door Patrick Verelst, *afgevaardigd bestuurder VFB*	

BIJ VOORKEUR INSCHRIJVEN VIA WWW.VFB.BE

of via overschrijving naar rekeningnr. 403-7065211-95 van VFB
(IBAN: BE76 4037 0652 1195 – BIC: KREDBEBB) met als vermelding: **TA dag**

- 25 € voor VFB-leden, abonnees Inside Beleggen, klanten monest.be en chartmill.com en klanten CompuGraphics
- 10 € voor studenten (< 25 jaar)
- Combi-tarief: 1 jaar lid VFB + TA-dag voor slechts 65 euro

In deze prijs zijn koffie en broodjesmaaltijd (met drank) en ruime parking inbegrepen.

Vlaamse Federatie van Beleggers
Blarenberglaan 4, 2800 Mechelen
info@vfb.be | www.vfb.be | 015 21 51 64

Welkom

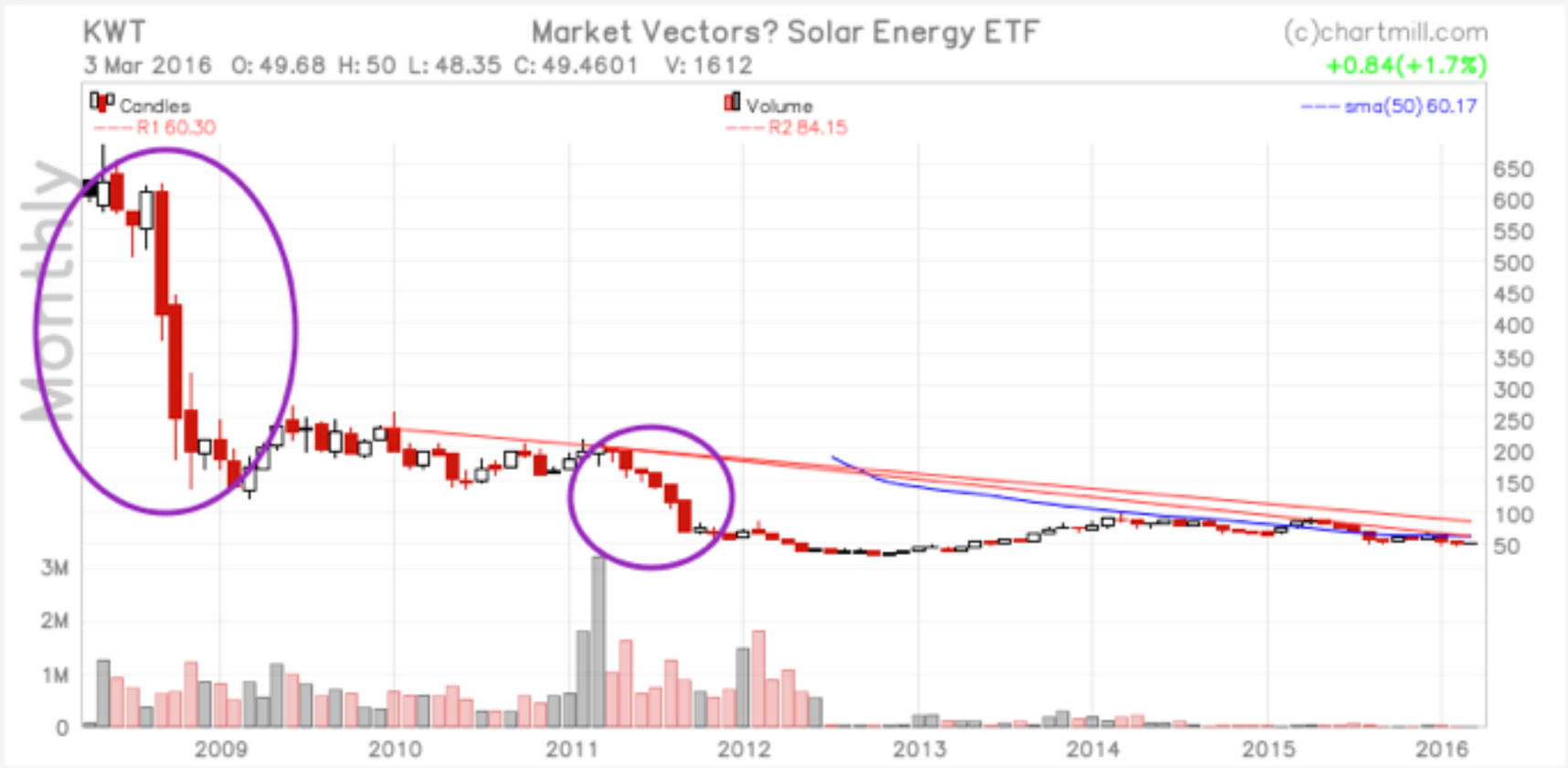
Opties en Griekse variabelen, hoe helpen ze u praktisch?
Spreker: Maarten Redant

1/ Wie ben ik ?

en waarom opties?

koop eens een fonds (2008)

SOLAR


KWT
Market Vectors? Solar Energy ETF
(c)chartmill.com
3 Mar 2016 O: 49.68 H: 50 L: 48.35 C: 49.4601 V: 1612
+0.84(+1.7%)
Candles
R1 60.30
Volume
R2 84.15
sma(50) 60.17
Monthly
650
600
550
500
450
400
350
300
250
200
150
100
50
3M
2M
1M
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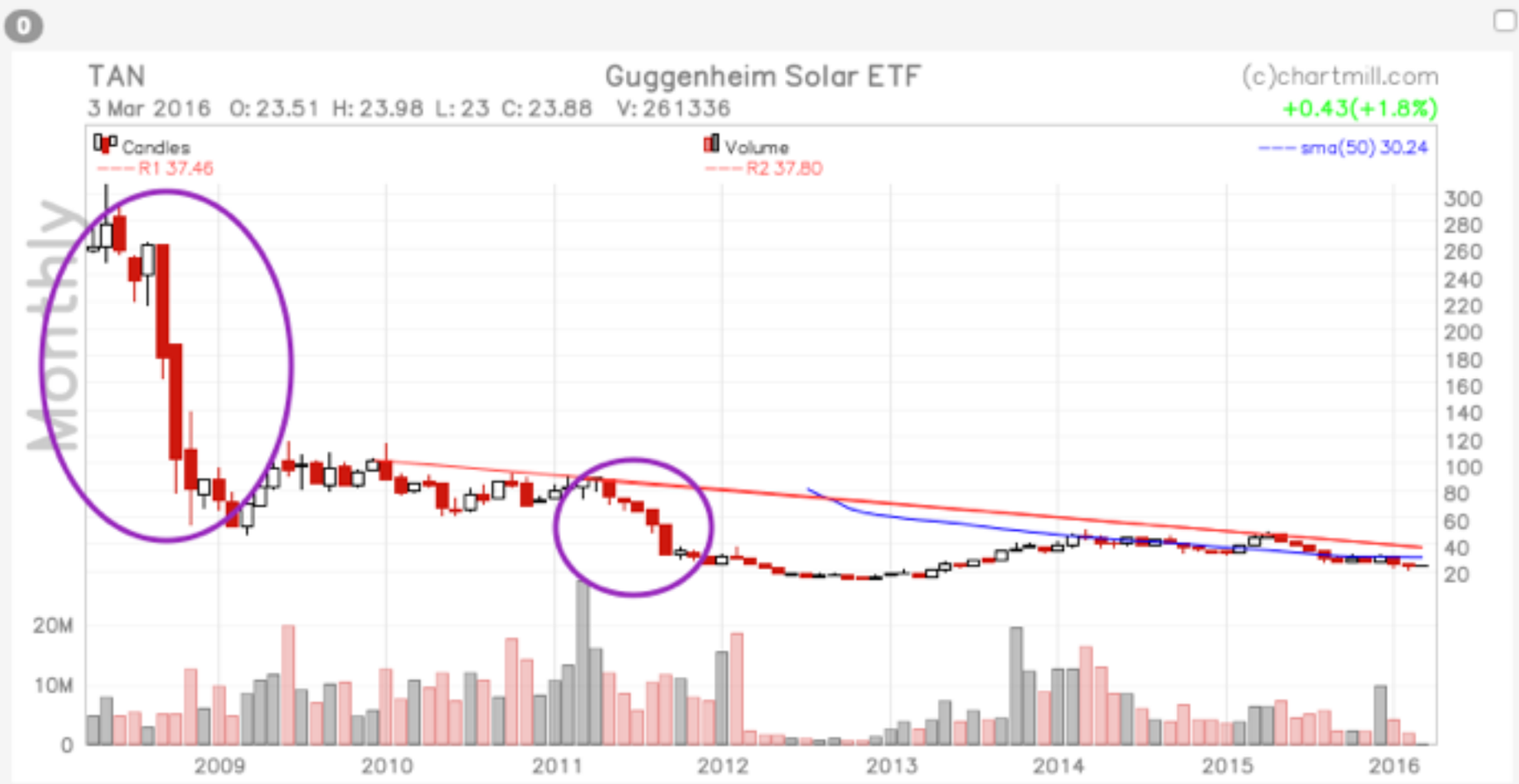
2009
2010
2011
2012
2013
2014
2015
2016


TAN
Guggenheim Solar ETF
(c)chartmill.com
3 Mar 2016 O: 23.51 H: 23.98 L: 23 C: 23.88 V: 261336
+0.43(+1.8%)
Candles
R1 37.46
Volume
R2 37.80
sma(50) 30.24
Monthly
300
280
260
240
220
200
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20M
10M
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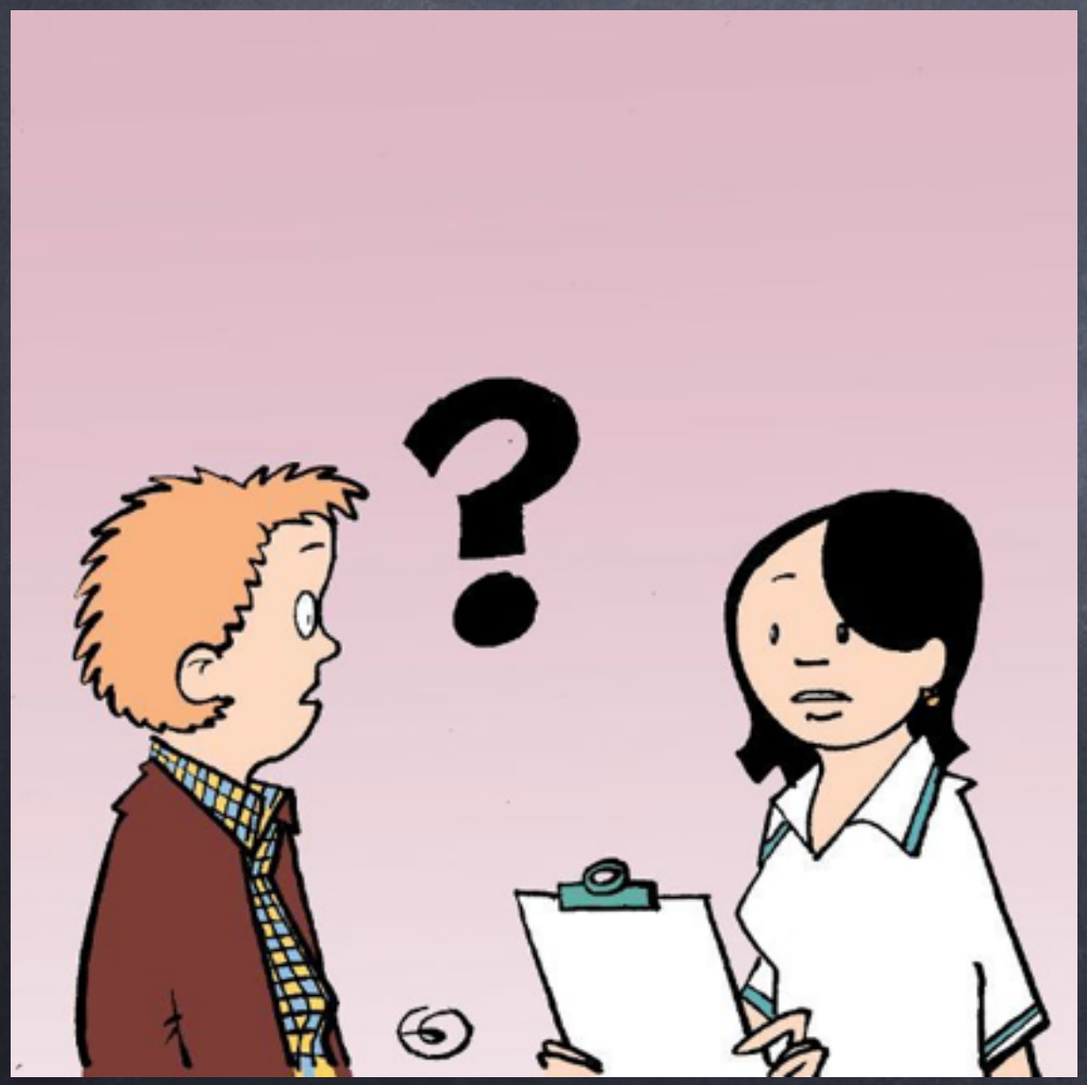
2009
2010
2011
2012
2013
2014
2015
2016

Kapitaalsgarantie ?



YouTube BE

de kapitaalsgarante weddenschap

De Kapitaalsgarante Weddenschap

kundaloni

Abonneren 19

106 weergaven

Toevoegen aan Delen Meer

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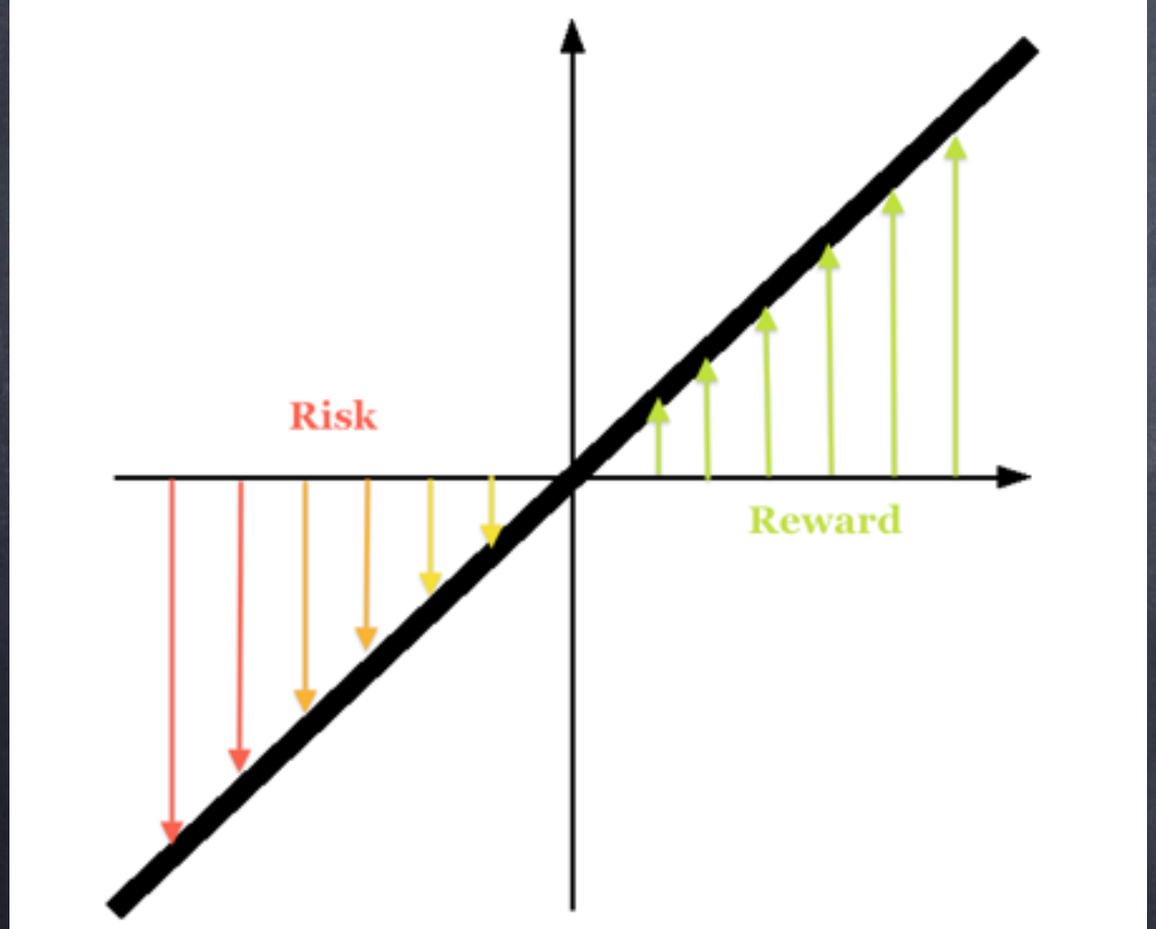
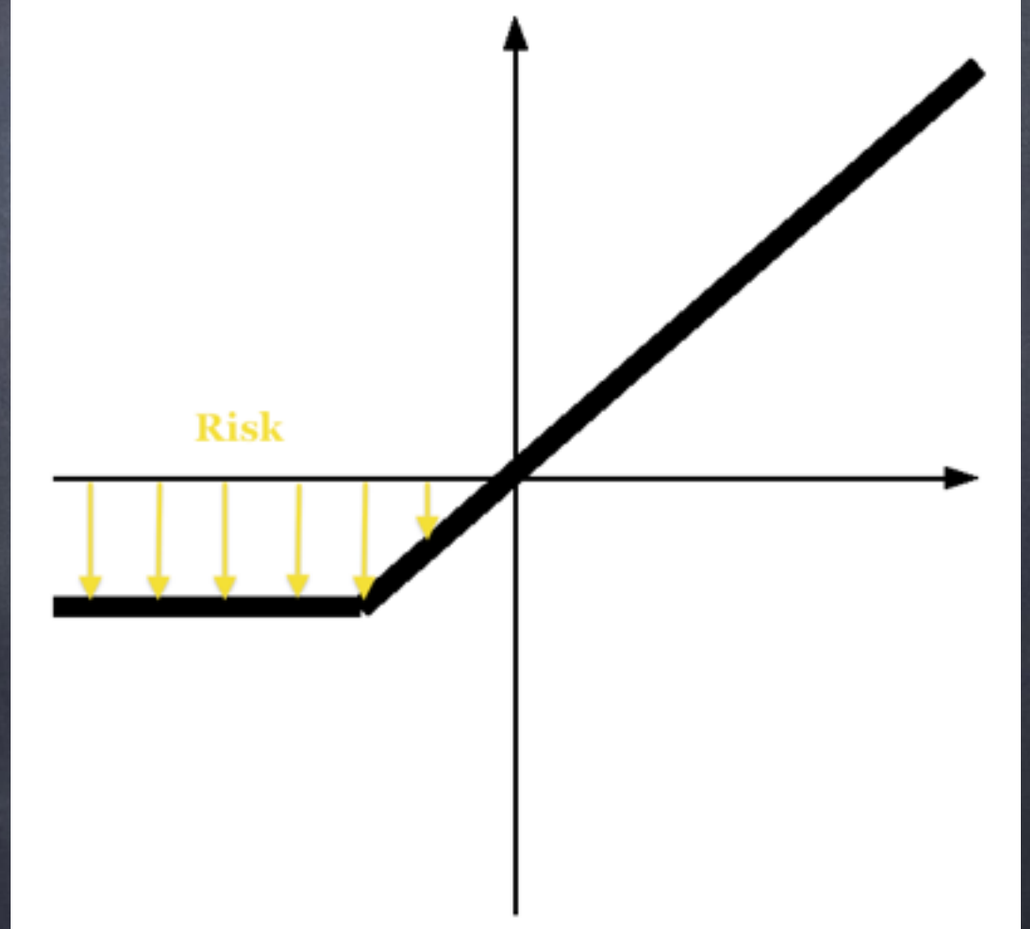
BEURSBUBBELS

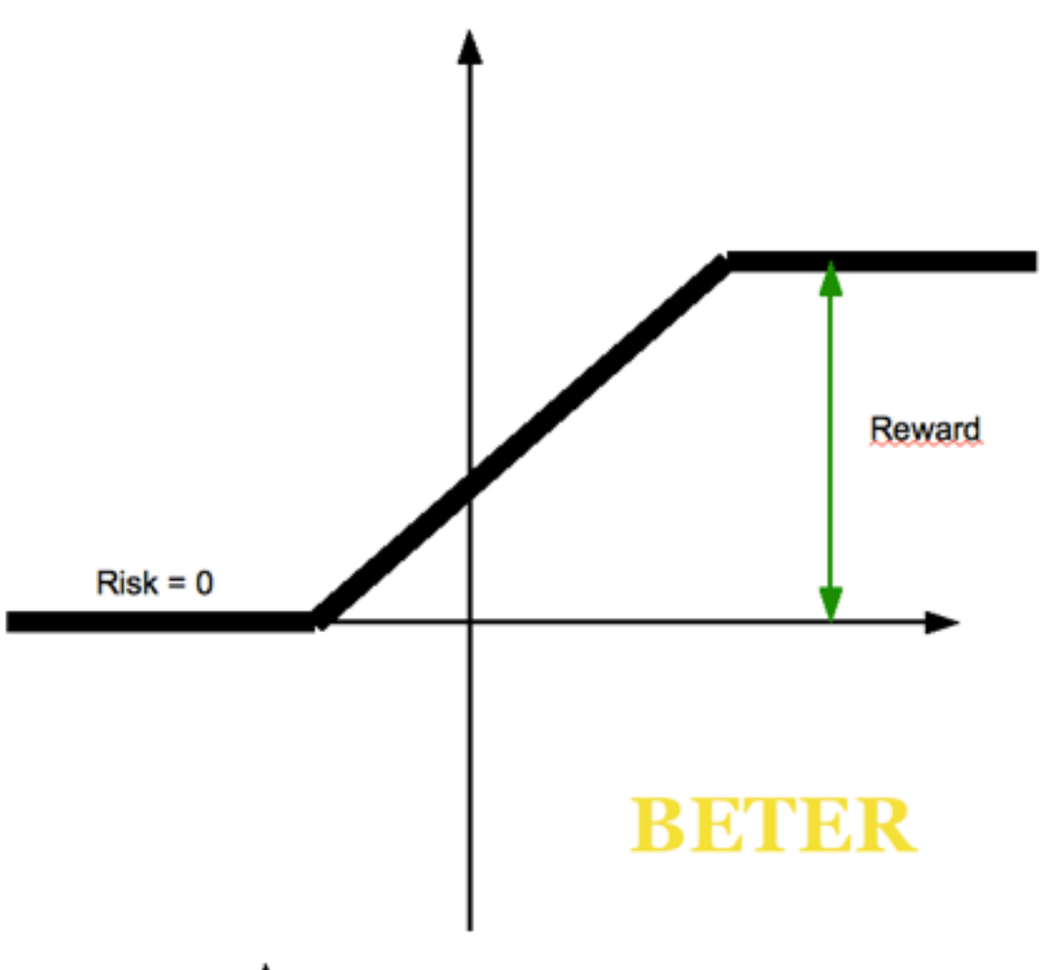
RENDEMENTSGEDREVEN + BESCHERMEND BELEGGEN





to make a call

hedging



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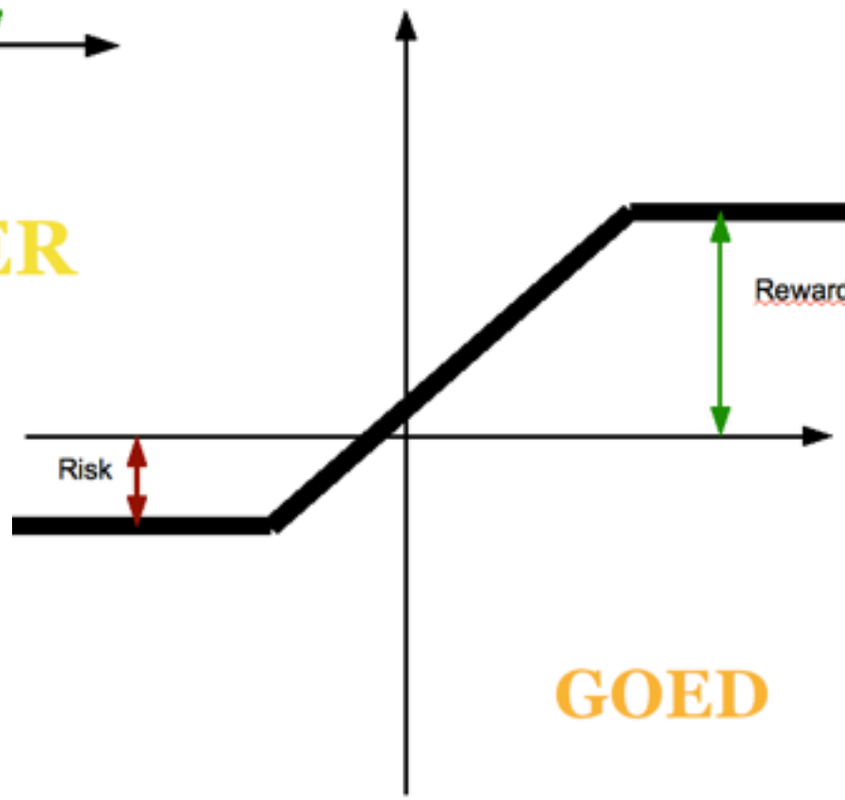
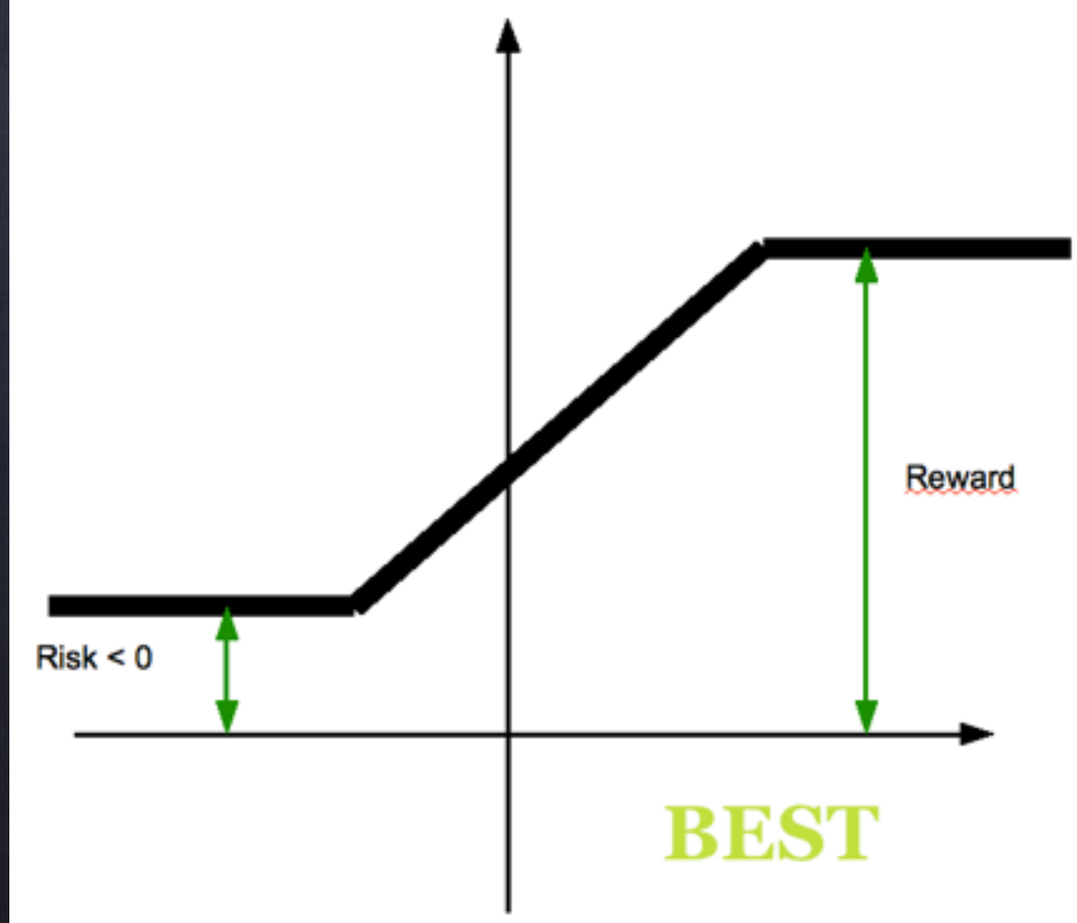
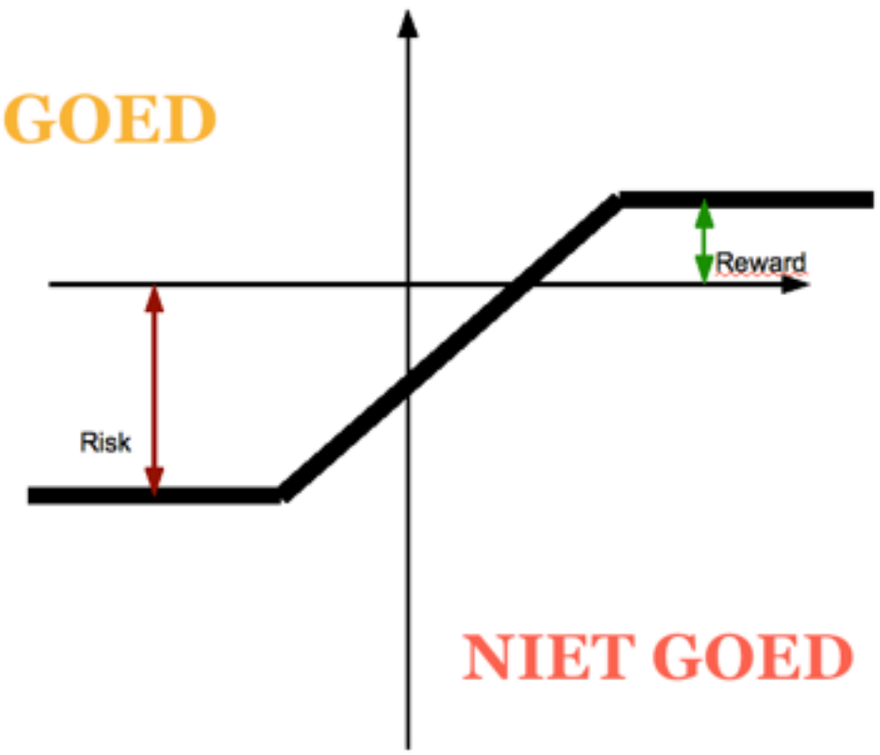


GOED



BEST



NIET GOED

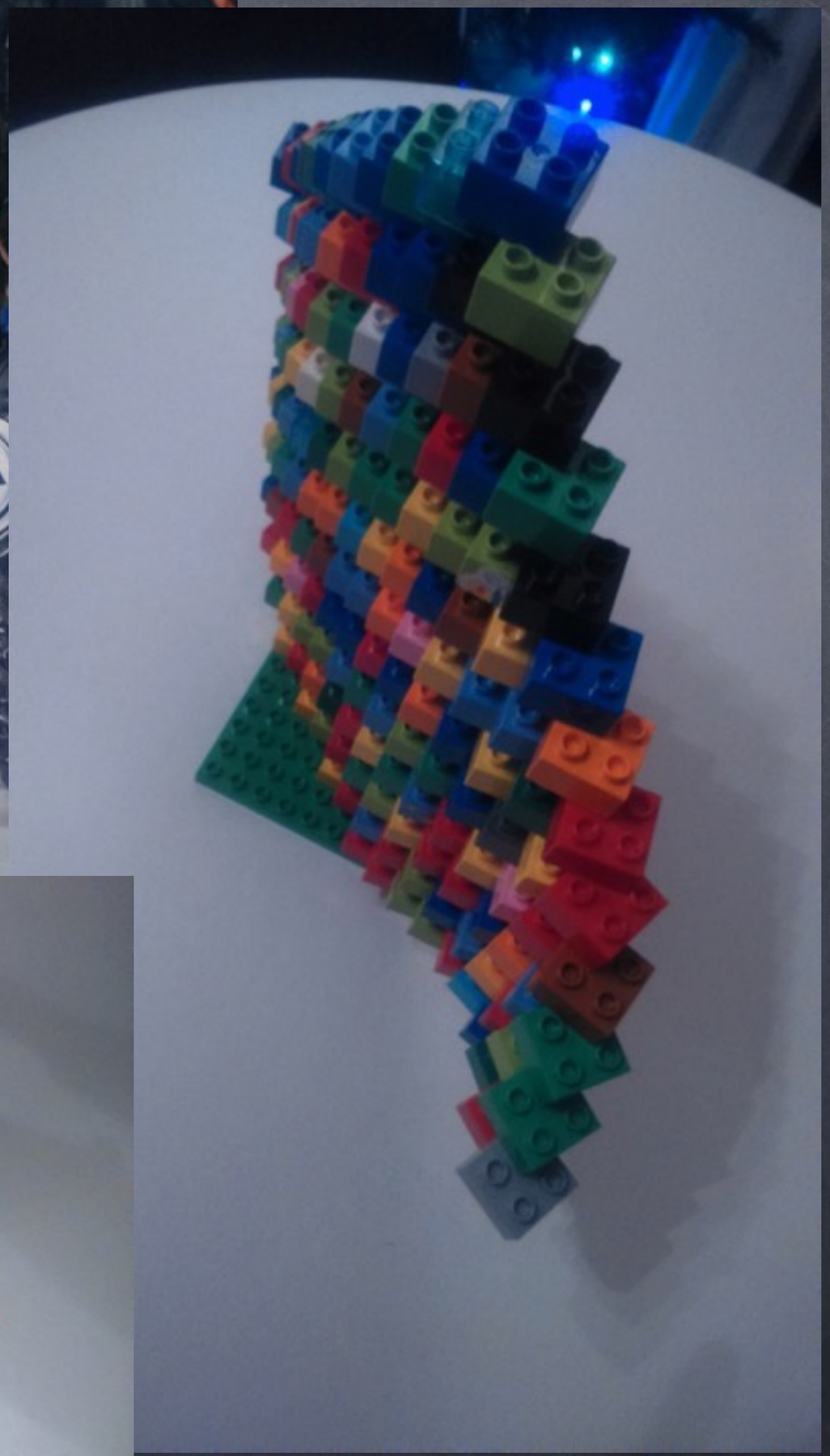
80% praktijk
20% theorie

prijs is tegenstander

Contract	Category / Auto Expire	Last / Type	Change % / Action	Low / Account	High / TIF	Avrg Vlm ($) / Delta	Volume ($) / Lmt Price	Volume / Quantity	Volume/Min / Aux. Price	Short % of Float / Status	Range / Destination
BFX INDEX		3829.90	1.17%	3800.50	3835.10						
TNET SBVM	Telecom Services	55.340	5.43%	54.260	55.900	7.33M	13.1M	219K			
BELG SBVM	Telephone-Integrated	34.500	3.39%	3.425	34.590	35.9M	30.3M	814K			
UCB SBVM	Medical-Drugs	70.400	2.07%	8.900	70.470	25.8M	6.51M	85.6K			
NYR SBVM	Metal-Diversified	3.730	1.86%	.656	3.750	6.40M	2.99M	741K			
DIE SBVM	Distribution/Wholesale	33.950	1.68%	33.	33.950	1.80M	552K	15.1K			
DELB SBVM	Food-Retail	84.270	1.43%	82.94	84.490	44.4M	12.3M	135K			
KBC SBVM	Commer Banks Non-US	57.780	1.33%	57.000	57.870	55.8M	26.7M	427K			
BEKB SBVM	Wire&Cable Products	26.080	1.36%	25.650	6.090	4.36M	1.53M	54.2K			
BEFB SBVM	REITS-Diversified	65.600	1.28%	64.800	00	2.98M	1.11M	15.7K			
UMI SBVM	Recycling	41.670	1.23%	41.100	41.6	26.2M	5.75M	128K			
ACK SBVM	Diversified Operations	111.550	1.13%	110.500	111.650	4.16M	1.17M	9.71K			
AGS SBVM	Multi-line Insurance	34.065	0.96%	33.700	34.080	18.6M	10.8M	294K			
SOLB SBVM	Chemicals-Diversified	135.250	0.90%	134.650	135.500	38.0M	11.5M	78.8K			
ABI SBVM	Brewery	115.200	0.83%	114.650	115.650	187M	60.9M	490K			
GBLB SBVM	Investment Companies	79.180	0.79%	78.600	79.420	10.2M	3.79M	44.3K			
DL AEB	Multi-line Insurance	18.055	0.64%	18.005	18.	3 M	7.	373			
ELIA SBVM @SBVM	Electric-Transmission	40.985	0.43%	40.660	4	2 M	7	17.5			
COFB SBVM	REITS-Office Property	111.100	0.27%	110.700	11	5 M	1.	9.82			
COLR SBVM	Food-Retail	43.445	0.21%	43.205	4	1 M	4.	85.7			
GSZ SBF	Electric-Integrated	19.270	-0.23%	19.220	19	M	35	1.71			
TG4 SBVM @SBVM	Therapeutics	5.771	-3.77%	5.720	6.012	796K	521K	31.4K			
MOBB SBVM	Cellular Telecom	14.885	-14.94%			2.57M	15.2M	943K			
DX SBVM	Commer Banks Non-US	C0.070		067	0.070			15.8M			

aandelen eerst

ELKE DAG



Ondersteboven
Binnenstebuiten
Achterstevoren
Omgedraaid

2/ Opties gevaarlijk ?

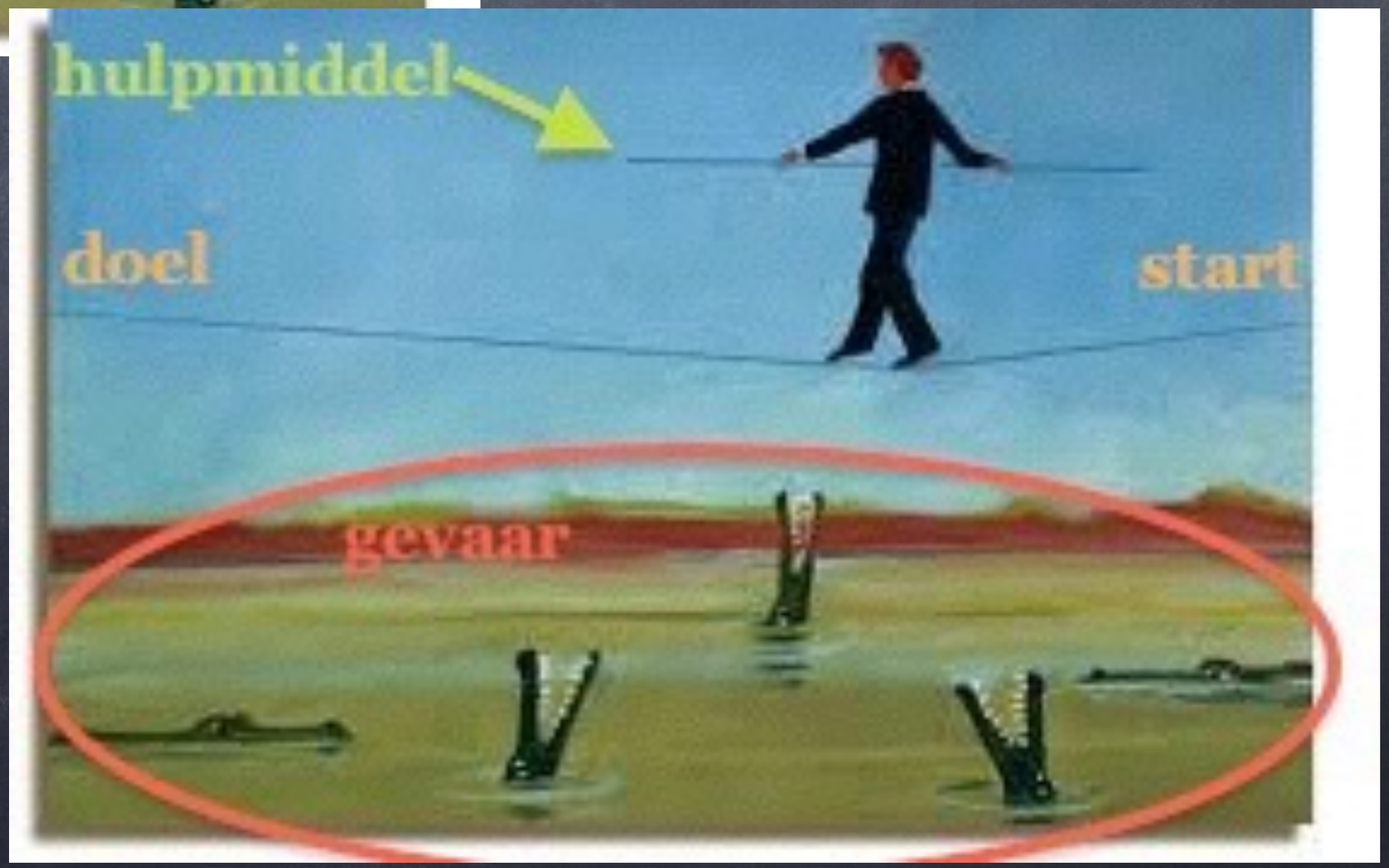
Gevaarlijk terrein
OPTIES
Verboden toegang voor onbevoegden

GEVAARLIJK ?

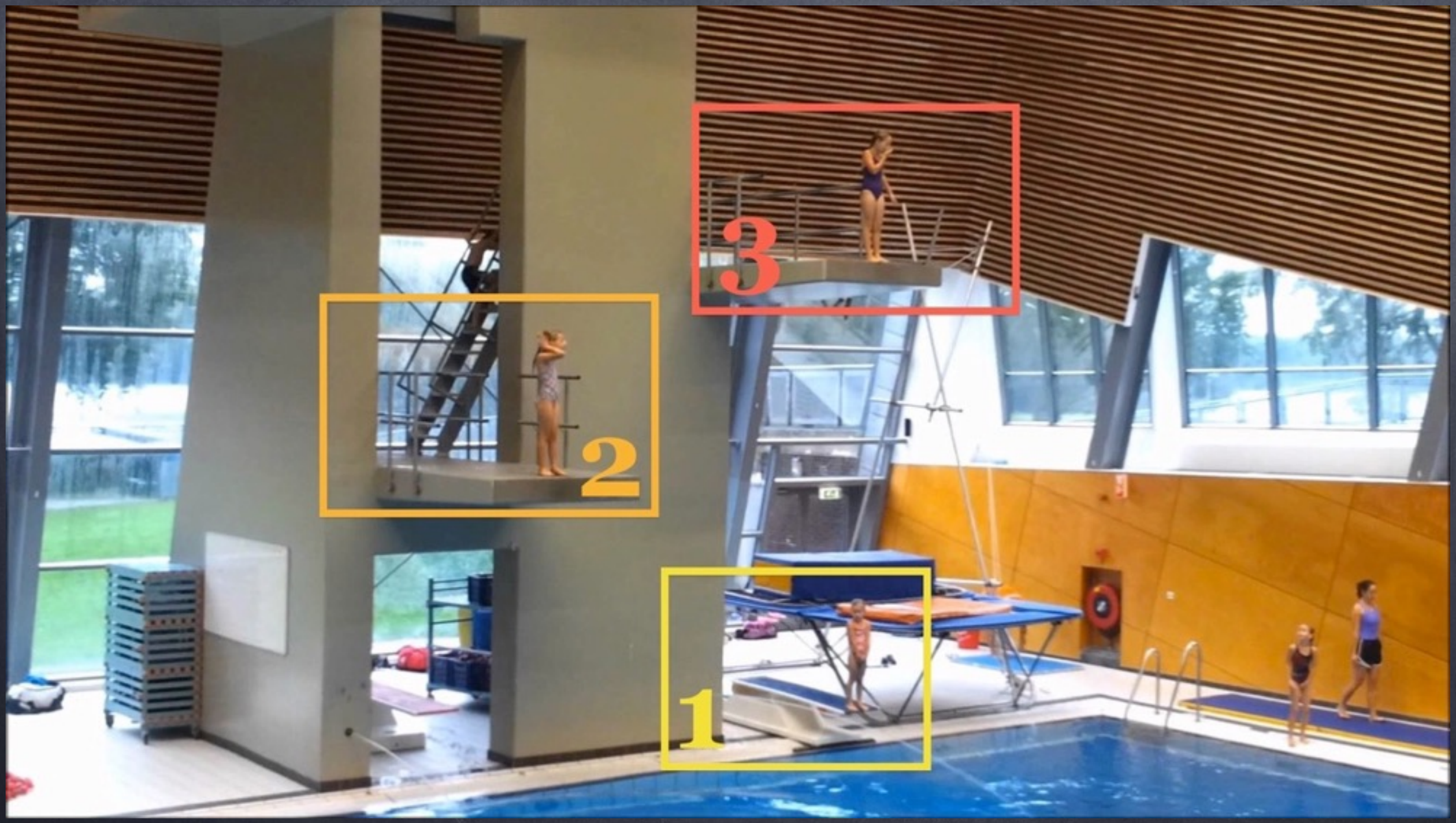
elf
touch 4
bopper
Kawasaki
JA!
MOTORCYCLEUSA.COM
KAWASAKI-MOTOGP.COM PHOTO

SUZUKI
SOLD
NEE!!

Thinking about Risk?
© Victor Lucas 2006


hulpmiddel
doel
start
gevaar

LIVE FILIPINO BAND
Vietjet Air.com
Tiger
HAFASCO


3
2
1

1
2
3
4

4
REDBULLCLIFFDIVING.COM
Red Bull

Effect-blootstelling matrix		Blootstelling				
		Geen	Laag	Matig	Hoog	Zeer hoog
Effect	Beperkt					
	Mogelijk ernstig					
	Ernstig				♀	
	Mogelijk zeer ernstig					
	Zeer ernstig					♂

	RISICO MATRIX	DELTA BLOOTSTELLING				
		Geen *neutraal*	Laag *< 5 %*	Matig *5,00%*	Hoog *> 5 %*	Zeer hoog *> 10 %*
B	Beperkt					
E	(minder dan 2 %)					
W						
E	Ernstig					
G	(naar 10 %)					
I						
N	Zeer ernstig			*		
G	(meer dan 10 %)					

* 20 posities x 5% = 100%

3/ Black & Scholes

- Fischer Black (*)

- Myron Scholes (*)

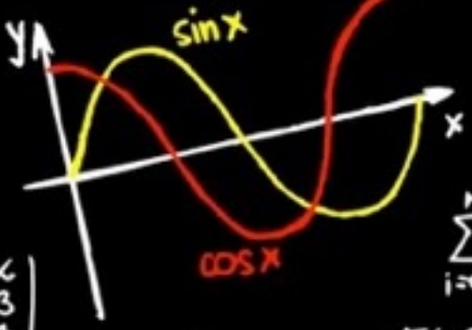
- Nobelprijs economie (1997)

(*) de uitvinders van de optie-formule

De Nobelprijs kregen ze voor het feit dat in hun model, optieprijzen onafhankelijk zijn van de mate van risico en daarmee ook onafhankelijk van de mate van risico-aversie, een groot theoretisch probleem in de financiële wiskunde.

Een formule

$x^3+x^2+y^3+z^3+xyz-6=0$



$grad f = \left(\frac{\partial f}{\partial x}; \frac{\partial f}{\partial y}\right)$

$Y_{i+1} = Y_i + b \cdot k_2$

$\sum_{i=0}^{n} (P_2(x_i) - y_i)^2$

$tg2x = \frac{2tgx}{1-tg^2x}$

$tgx = \frac{\sin x}{\cos x}$

$tgx \cdot \operatorname{cotg} x = 1$

$2x^2yy' + y^2 = 2$

$x_1 = -11p, x_2 = -p, x_3 = 7p, p \in \mathbb{R}$

$B = \begin{pmatrix} 2 & 1 & -1 & 0 \\ 3 & 0 & 1 & 2 \end{pmatrix}$

$a^2 = b^2 + c^2 - 2bc\cos\alpha$

$tg\frac{x}{2} = \frac{1-\cos x}{\sin x} = \frac{\sin x}{1+\cos x}$

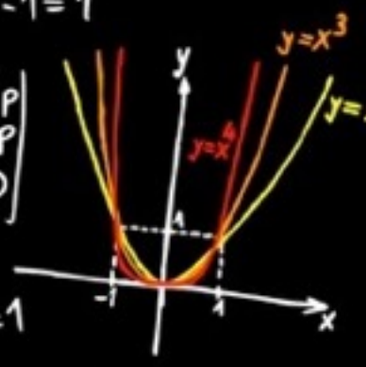
$X_2 = \begin{pmatrix} -\alpha \\ \beta \\ -\gamma \\ -\delta \end{pmatrix}$

$\iiint_M z\,dx\,dy\,dz = \int_0^{2\pi}\left(\int_0^2\left(\int_{\frac{1}{2}r}^{1} r\,dr\,dz\right)dz\right)d\varphi$

$\lambda x - y + z = 1$
$x + \lambda y + z = \lambda$
$x + y + \lambda z = \lambda^2$

$F_z = 2xyz - 1 = 1$

$X_1 = \begin{pmatrix} 2p \\ -p \\ 0 \end{pmatrix}$



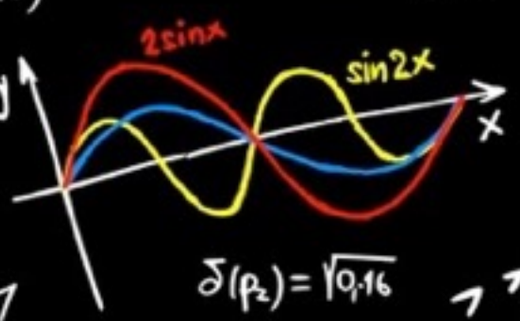
$2arctgx - x = 0,\ I = (1,10)$

$\lim_{n\to+\infty} \frac{\sqrt{n^3+1}+n}{\sqrt[3]{3n^2+2n-1}}$

$\frac{a}{\sin\alpha} = \frac{b}{\sin\beta} = \frac{c}{\sin\gamma}$

$(1+e^x)yy' = e^x$
$y(1) = 1$

$\int_{-\pi/2}^{\pi/2} \sin^4 x \cdot \cos^3 x\,dx$



$y = \sqrt[3]{x+1}\ ;\ x = tgt$

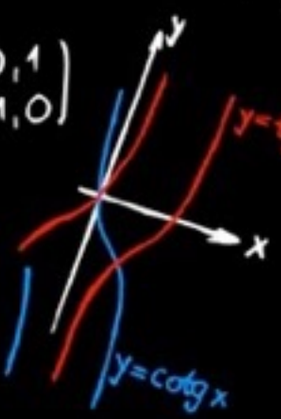
$X_1 = \begin{pmatrix} \alpha \\ \beta \\ \gamma \end{pmatrix}$

$\cos 2x = \cos^2 x - \sin^2 x$

$\cos^2\alpha + \cos^2\beta + \cos^2\gamma = 1$

$\delta(p_2) = \sqrt{0{,}16}$

$C = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$



$\sin^2 x + \cos^2 x = 1$

$A+B+C = 8$
$-3A-7B+2C = -10{,}3$
$-18A+6B-3C = 15$

$\frac{\partial z}{\partial x} = 2;\ \frac{\partial z}{\partial y} = 0$

$\vec{n} = (F_x'; F_y'; F_z')$

$a^2 + b^2 = c^2$

$\alpha, \beta, \gamma \in C$

$\int R\left(x, \sqrt[n]{\frac{ax+b}{cx+d}}\right)dx$

$\frac{\sin x}{x} \leq \frac{x}{x} = 1$

$\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 0$

$\sin 2x = 2\sin x \cdot \cos x$

$f(x) = 2^{-x} + 1, \varepsilon = 0.005$

$\lambda_2 = i\sqrt{14}$

$e^z - xyz = e\ ;\ A[0;e;1]$

$\lim_{x\to 0} \frac{e^{2x}-1}{5x} = \frac{2}{5}$

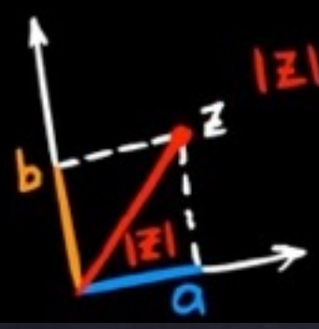
$|\alpha| + |\beta| \neq 0\ ;\ \mu \neq 0$

$\frac{2x}{x^2+2y^2} = 2$

$z = \frac{1}{x}\arcsin\frac{\sqrt{2}}{2}$

$\eta_1 = \lambda_1^2 - 3\lambda_1 + 1 \neq 0$

$|z| = \sqrt{a^2+b^2}$

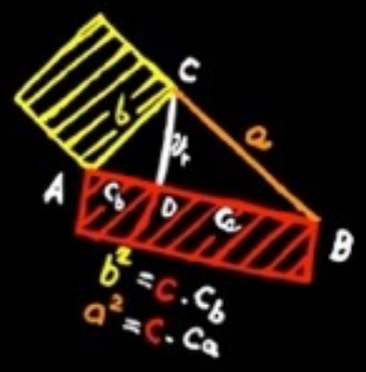


$\frac{\partial f}{\partial x} = 16 - x^2 + 16y^2 - 4z > 0$

$A = \begin{vmatrix} x & 1+x^2 & 1 \\ y & 1+y^2 & 1 \\ z & 1+z^2 & 1 \end{vmatrix};\ x=0, y=1, z=2$

$\sin(x+y) = \sin x\cos y + \cos x \sin y$

$y' - \frac{\sqrt{y}}{x+2} = 0;\ y(0) = 1$



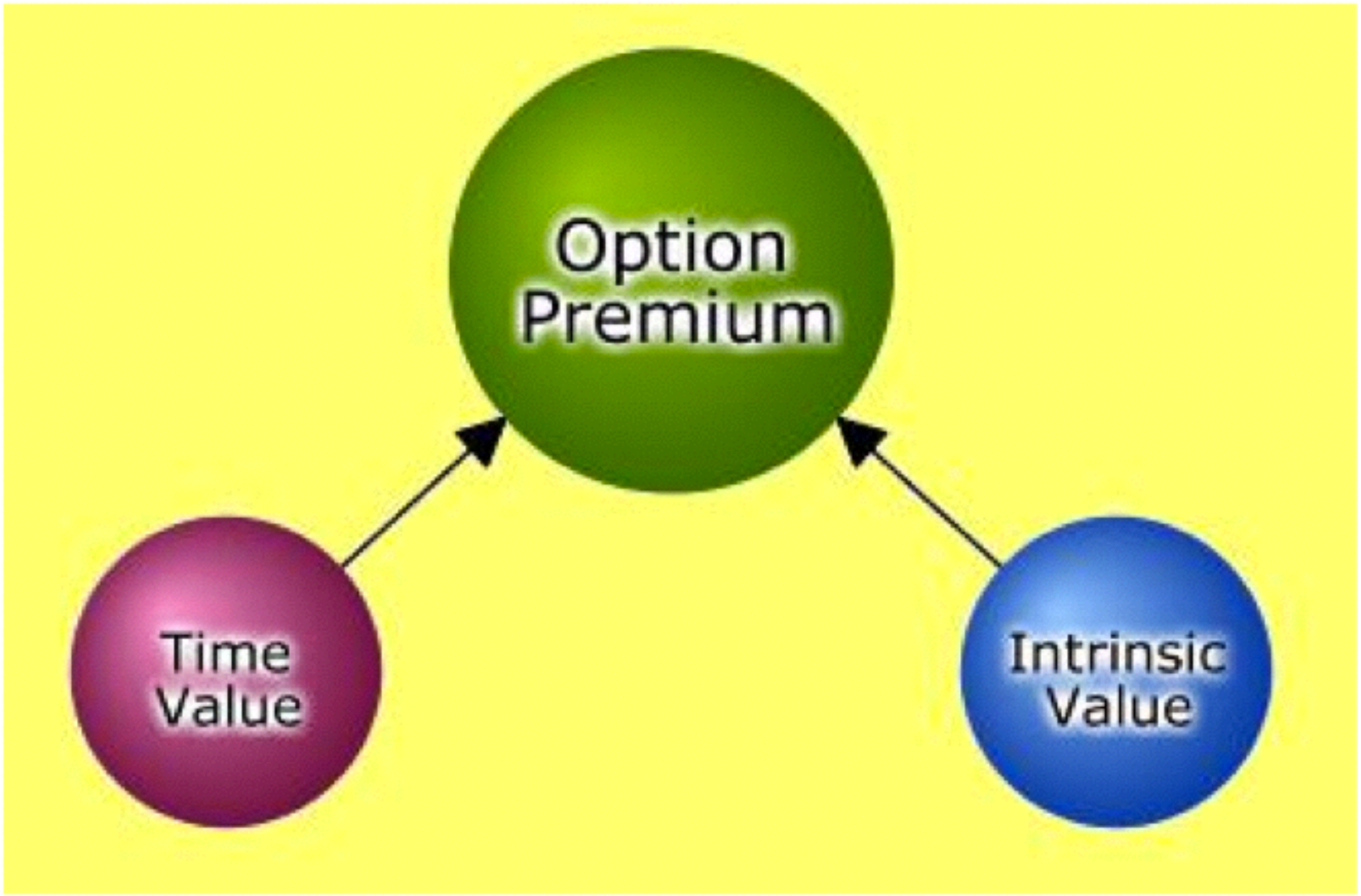
$\oint 3x^7 + 1{,}66x^{-0{,}17}dx$

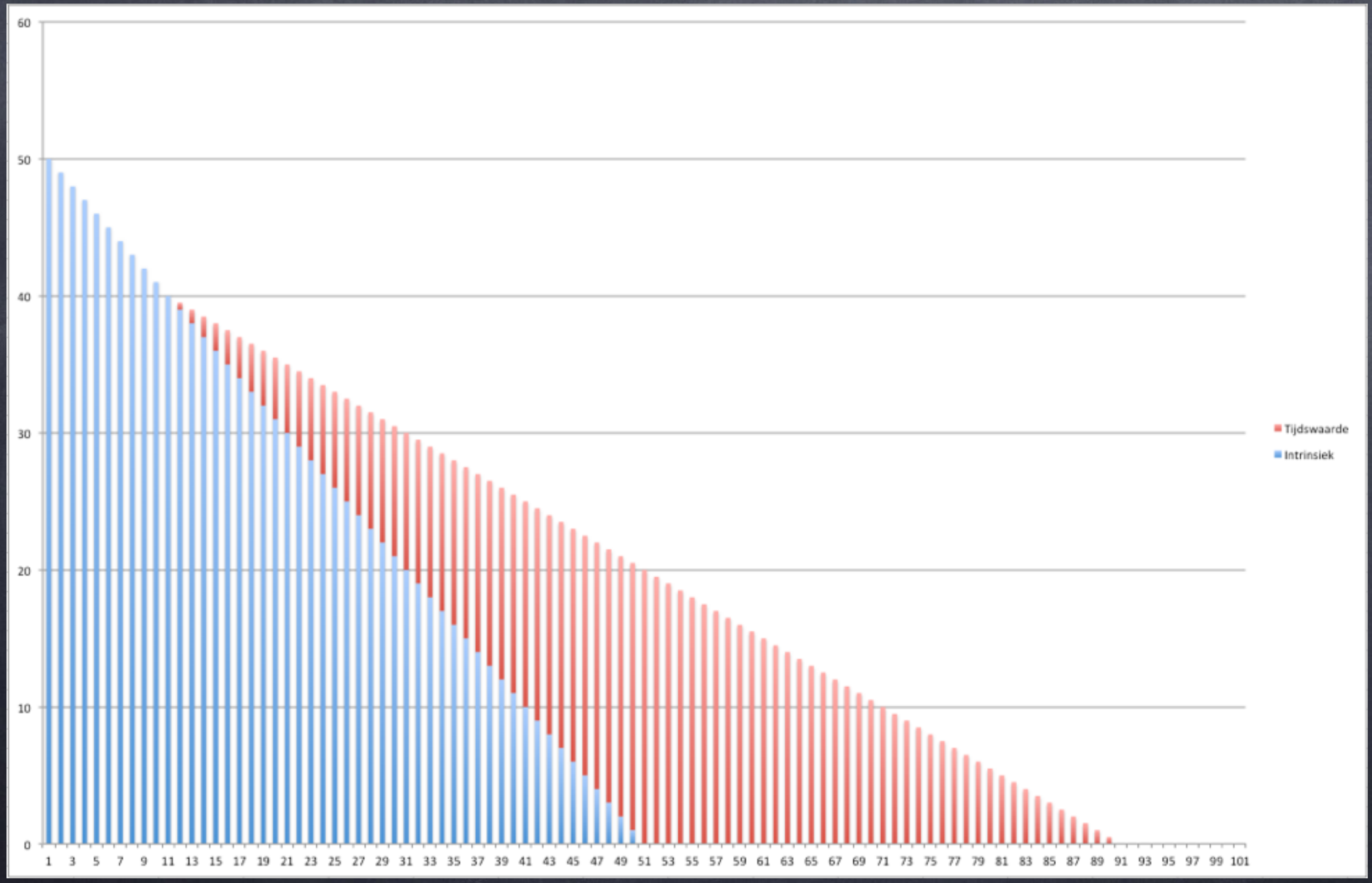
$\lim_{n\to+\infty}\left(1+\frac{3}{n}\right)^n$

$A = [1;0;3]$

$\cos\varphi = \frac{(1;0)\cdot\left(\frac{1}{2\sqrt{3}}; \frac{1}{4\sqrt{3}}\right)}{\sqrt{\frac{1}{12}+\frac{1}{48}}}$

maar eerst dit

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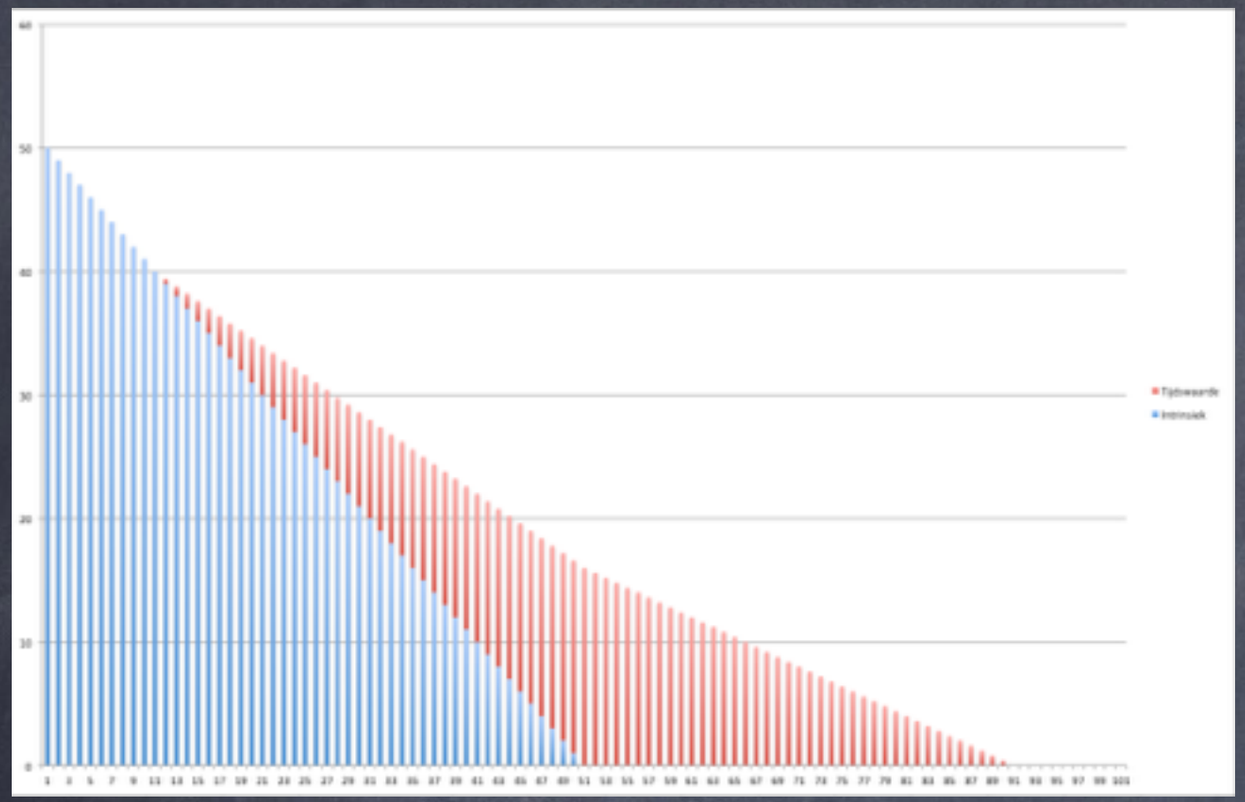
Tijdswaarde
Intrinsiek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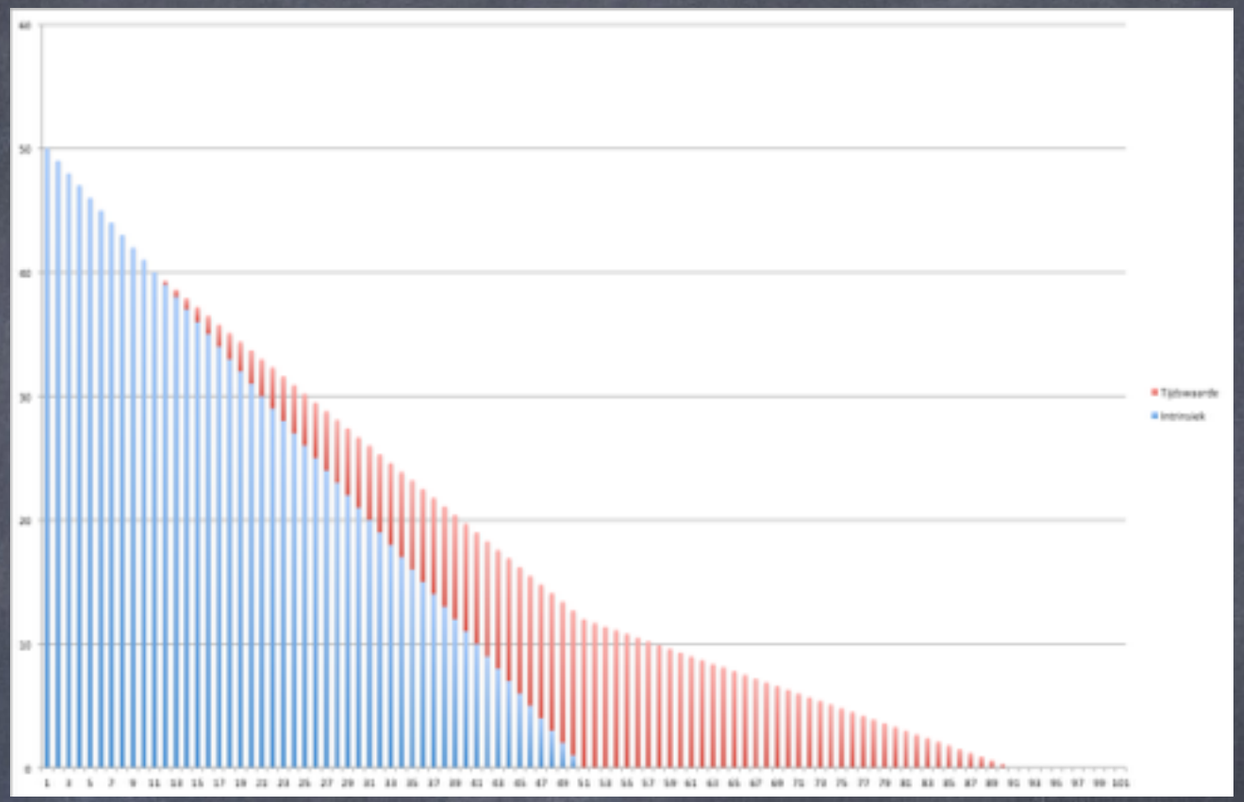
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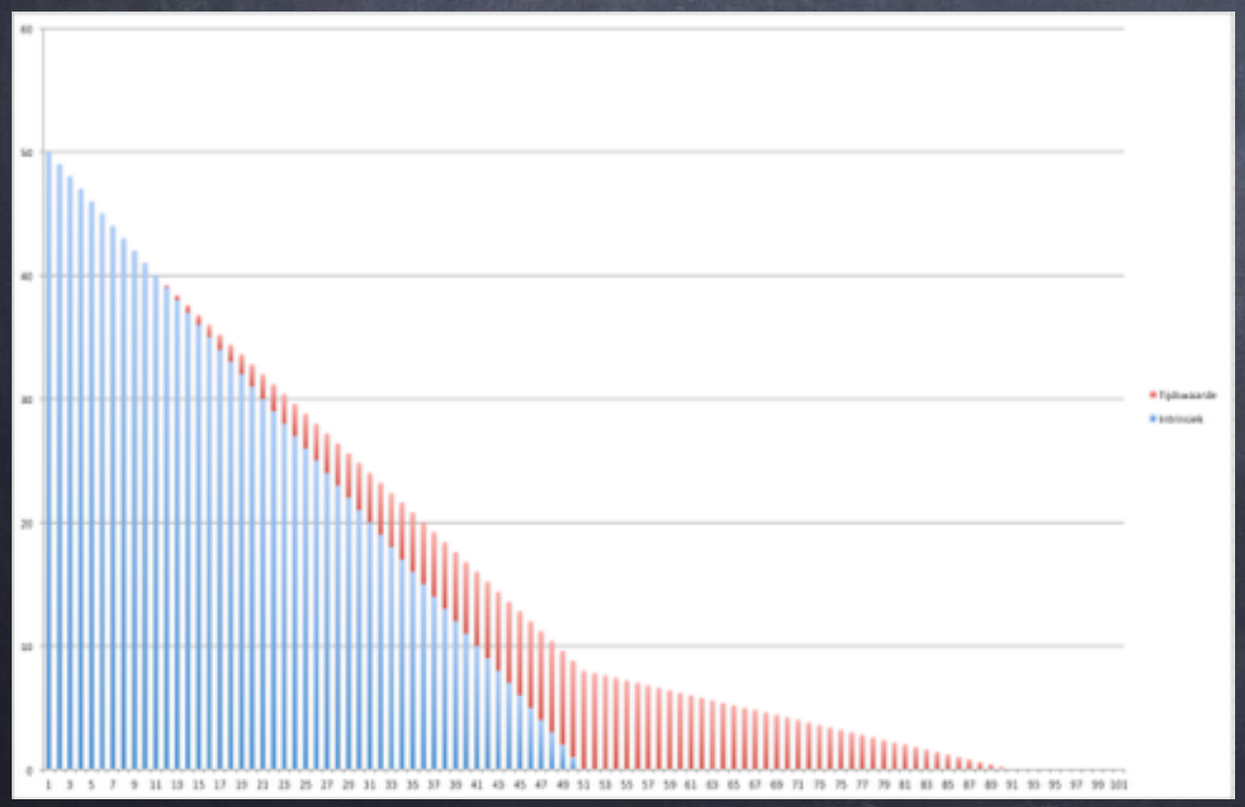
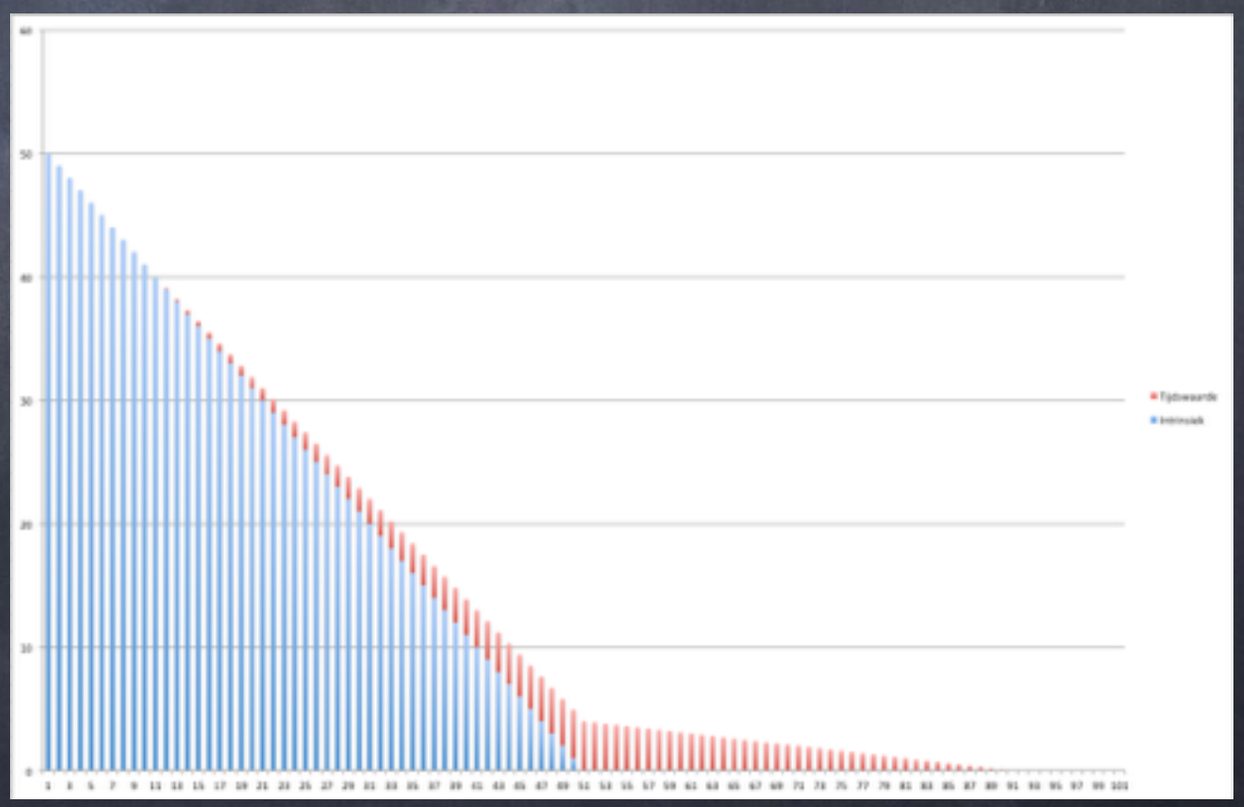
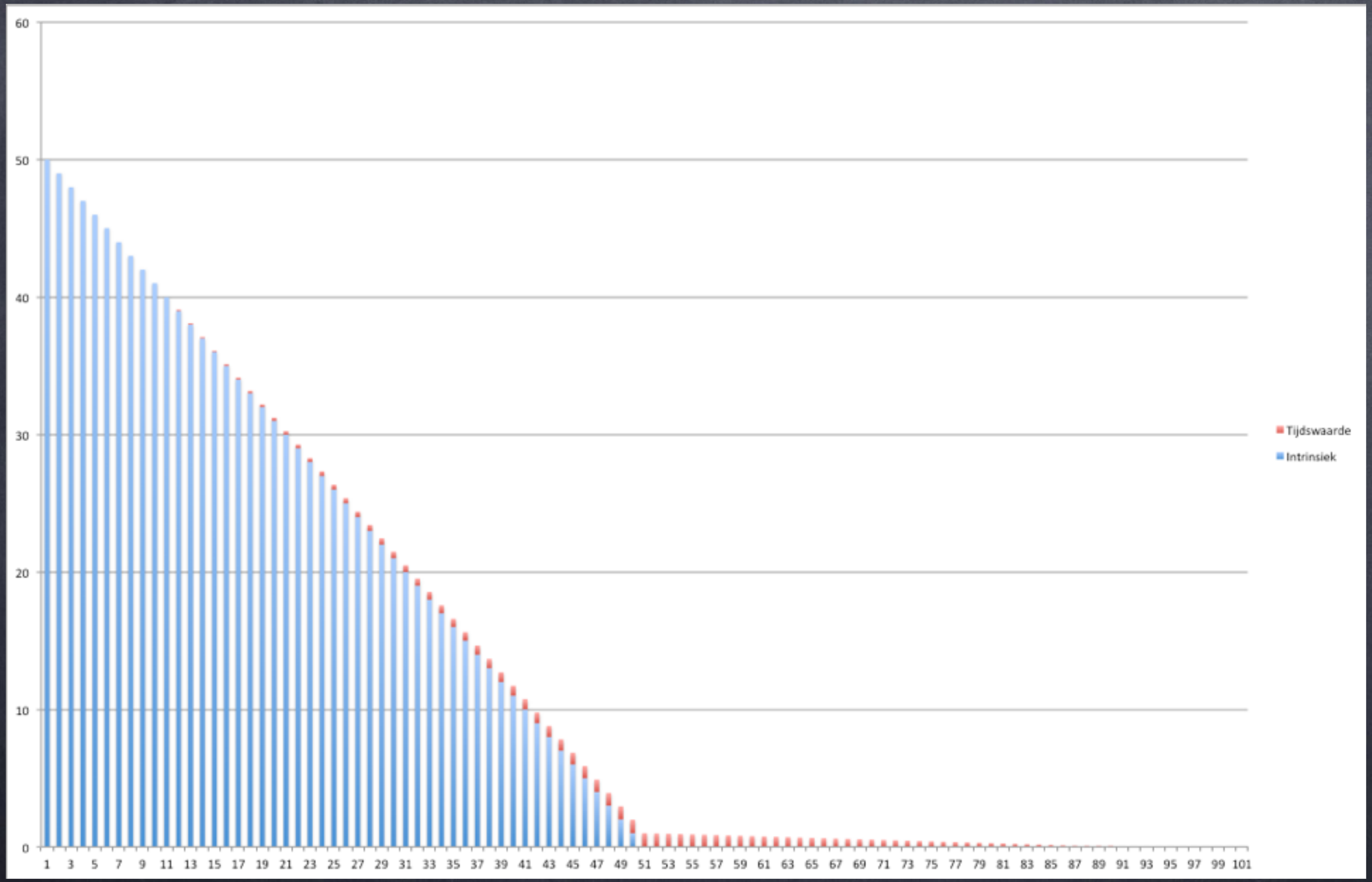
Intrinsiek


Tijdswaarde
Intrinsiek


Tijdswaarde
Intrinsiek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10
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101
Tijdswaarde
Intrinsiek

Notation [edit]

Let

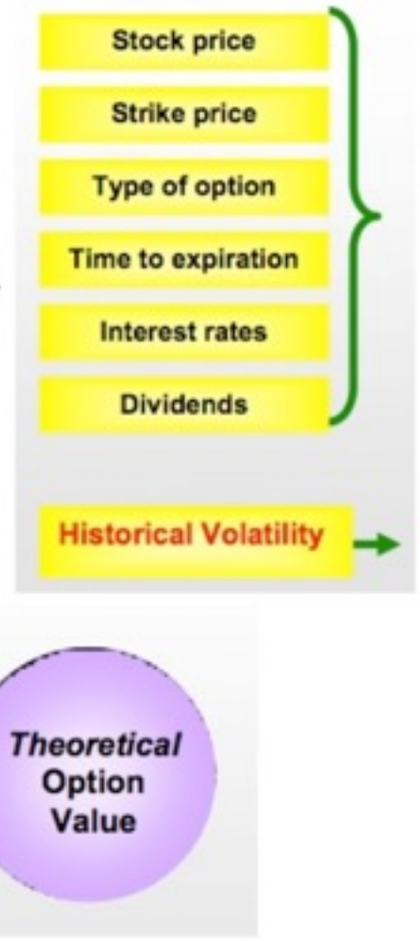
S, be the price of the stock (please note inconsistencies as below).
$V(S,t)$, the price of a derivative as a function of time and stock price.
$C(S,t)$ the price of a European call option and $P(S,t)$ the price of a European put option.
K, the strike price of the option.
r, the annualized risk-free interest rate, continuously compounded (the force of interest).
μ, the drift rate of S, annualized.
σ, the volatility of the stock's returns; this is the square root of the quadratic variation of the stock's log price process.
t, a time in years; we generally use: now=0, expiry=T.
Π, the value of a portfolio.

Finally we will use $N(x)$ which denotes the standard normal cumulative distribution function,

$$N(x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{x} e^{-\frac{1}{2}z^2}\,dz$$

$N'(x)$ which denotes the standard normal probability density function,

$$N'(x) = \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$$



Theoretical option price

Black & Scholes

Stock price

Strike price

Type of option

Time to expiration

Interest rates

Dividends

Historical Volatility

Option Pricing Model

Theoretical Option Value

Theorie
versus
Praktijk

Implied Volatility calculated from real option prices in the market

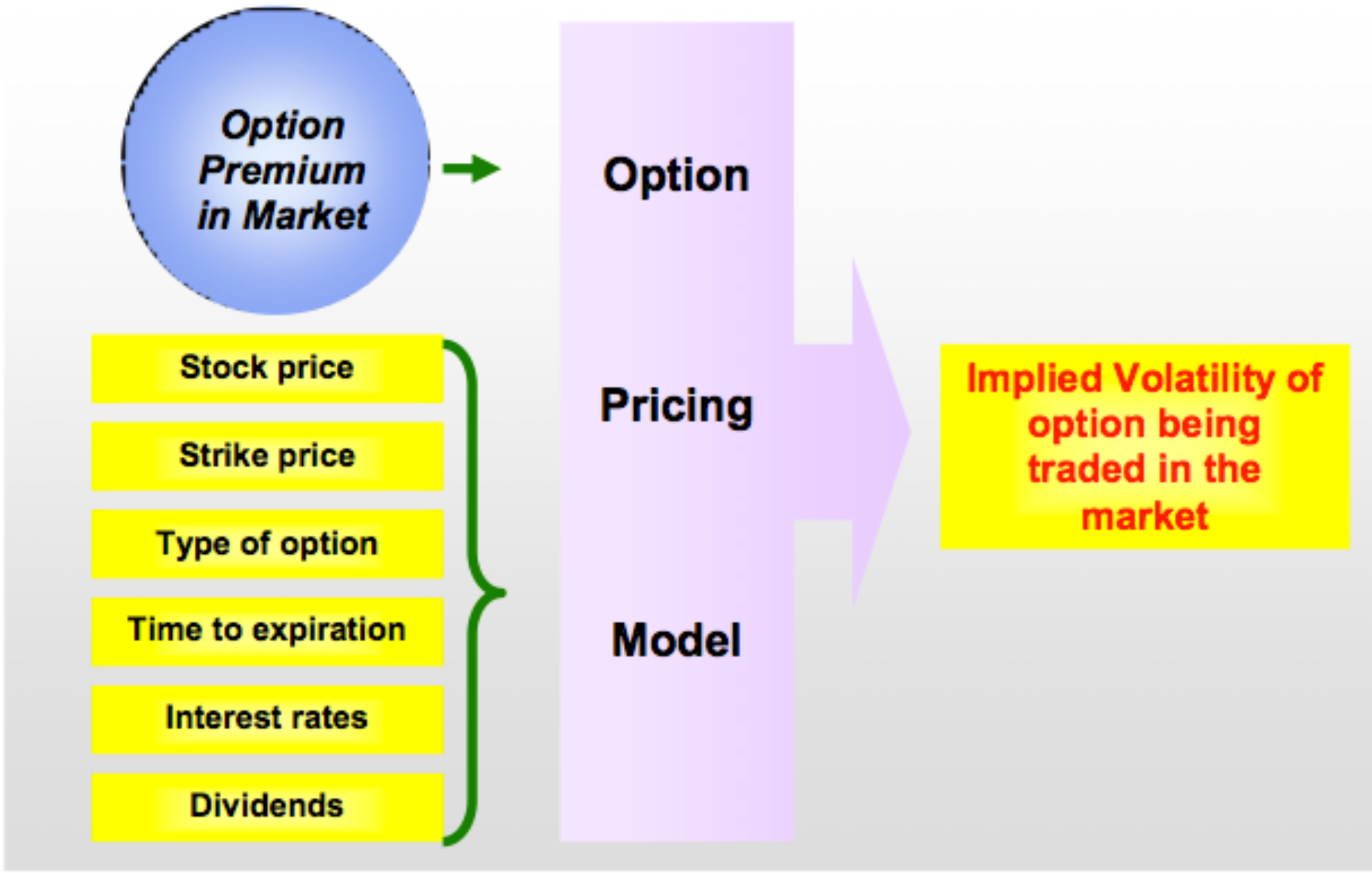
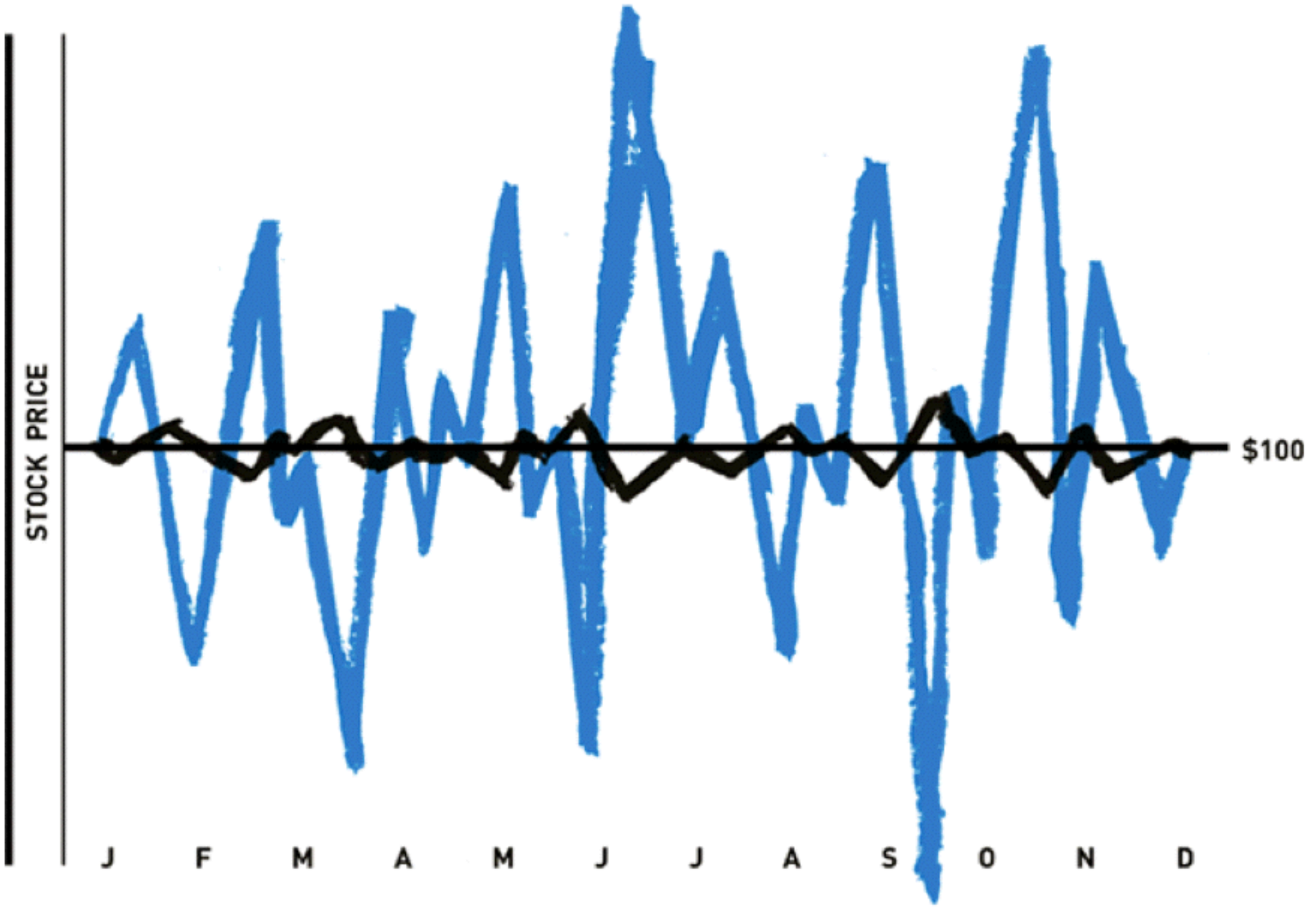
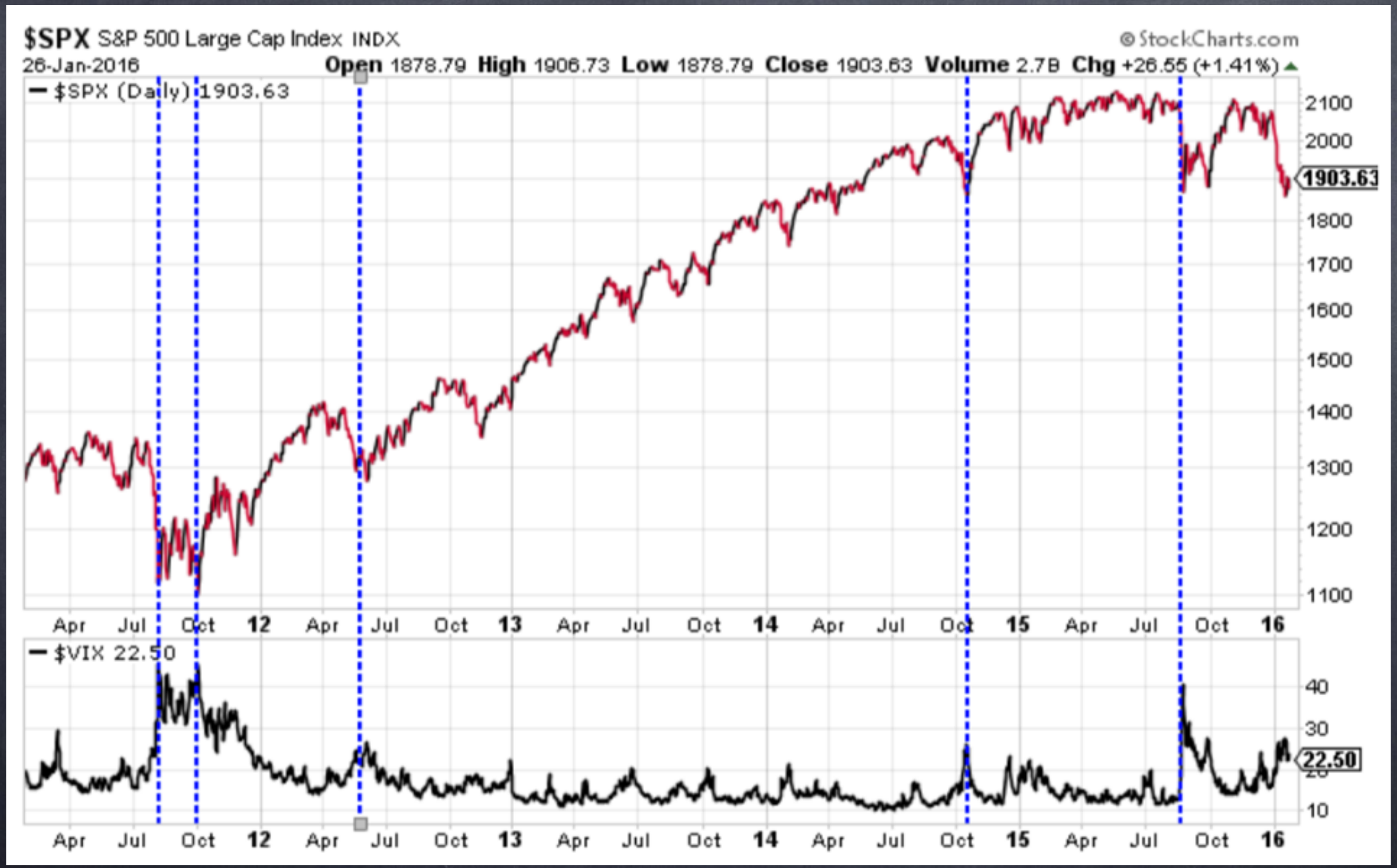


Figure 1: Historical volatility of two different stocks




$SPX S&P 500 Large Cap Index INDX
© StockCharts.com
26-Jan-2016 Open 1878.79 High 1906.73 Low 1878.79 Close 1903.63 Volume 2.7B Chg +26.55 (+1.41%)
$SPX (Daily) 1903.63
2100
2000
1903.63
1800
1700
1600
1500
1400
1300
1200
1100
Apr Jul Oct 12 Apr Jul Oct 13 Apr Jul Oct 14 Apr Jul Oct 15 Apr Jul Oct 16
$VIX 22.50
40
30
22.50
10
Apr Jul Oct 12 Apr Jul Oct 13 Apr Jul Oct 14 Apr Jul Oct 15 Apr Jul Oct 16

formules

The value of a call option for a non-dividend-paying underlying stock in terms of the Black–Scholes parameters is:

$$C(S,t) = N(d_1)S - N(d_2)Ke^{-r(T-t)}$$

$$d_1 = \frac{1}{\sigma\sqrt{T-t}}\left[\ln\left(\frac{S}{K}\right) + \left(r + \frac{\sigma^2}{2}\right)(T-t)\right]$$

$$d_2 = \frac{1}{\sigma\sqrt{T-t}}\left[\ln\left(\frac{S}{K}\right) + \left(r - \frac{\sigma^2}{2}\right)(T-t)\right]$$

$$= d_1 - \sigma\sqrt{T-t}$$

The price of a corresponding put option based on put-call parity is:

$$P(S,t) = Ke^{-r(T-t)} - S + C(S,t)$$

$$= N(-d_2)Ke^{-r(T-t)} - N(-d_1)S$$

For both, as above:

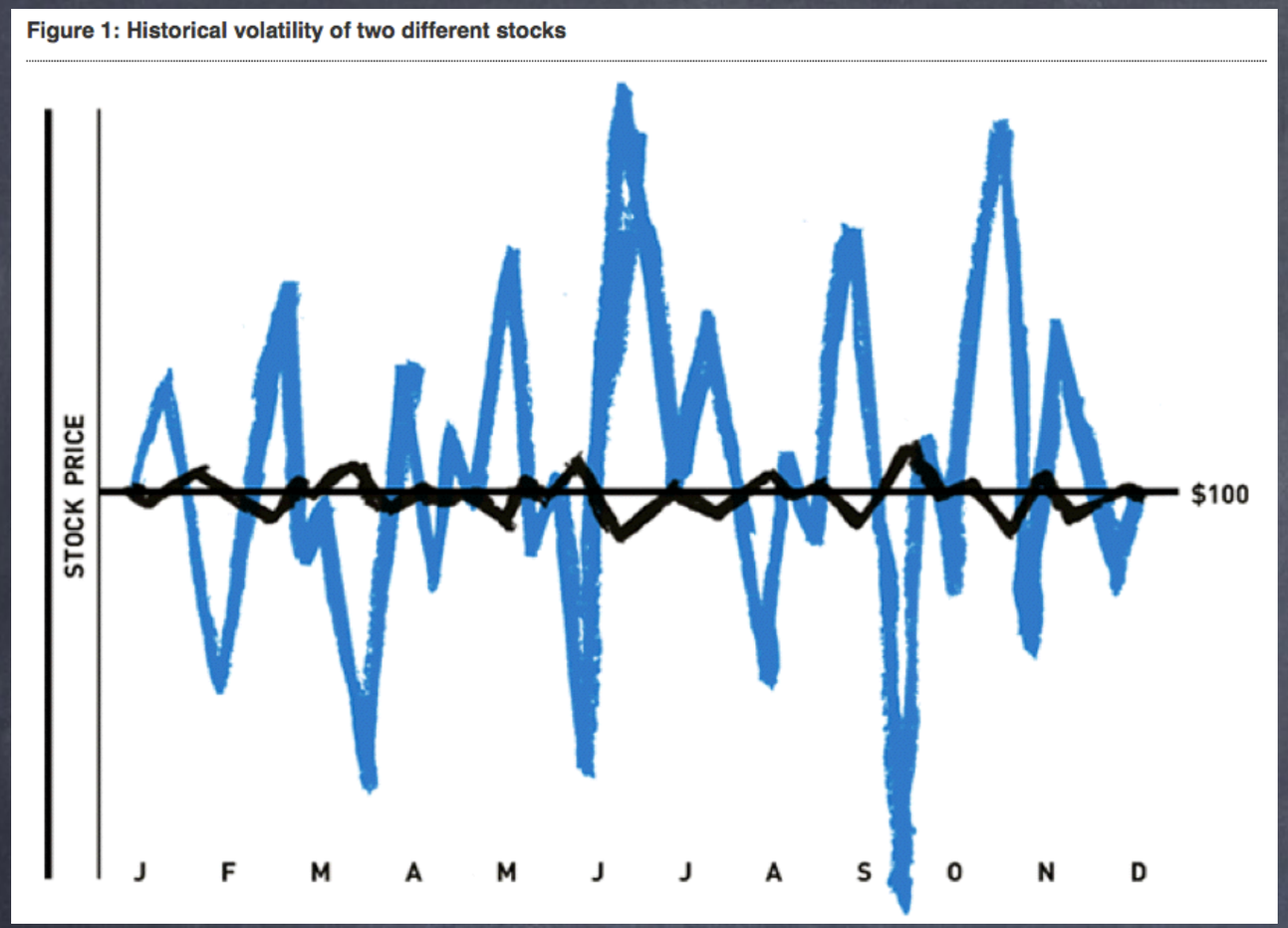
- $N(\cdot)$ is the cumulative distribution function of the standard normal distribution
- $T - t$ is the time to maturity
- S is the spot price of the underlying asset
- K is the strike price
- r is the risk free rate (annual rate, expressed in terms of continuous compounding)
- σ is the volatility of returns of the underlying asset

4/ Wat weten we en wat niet?

prijs is tegenstander

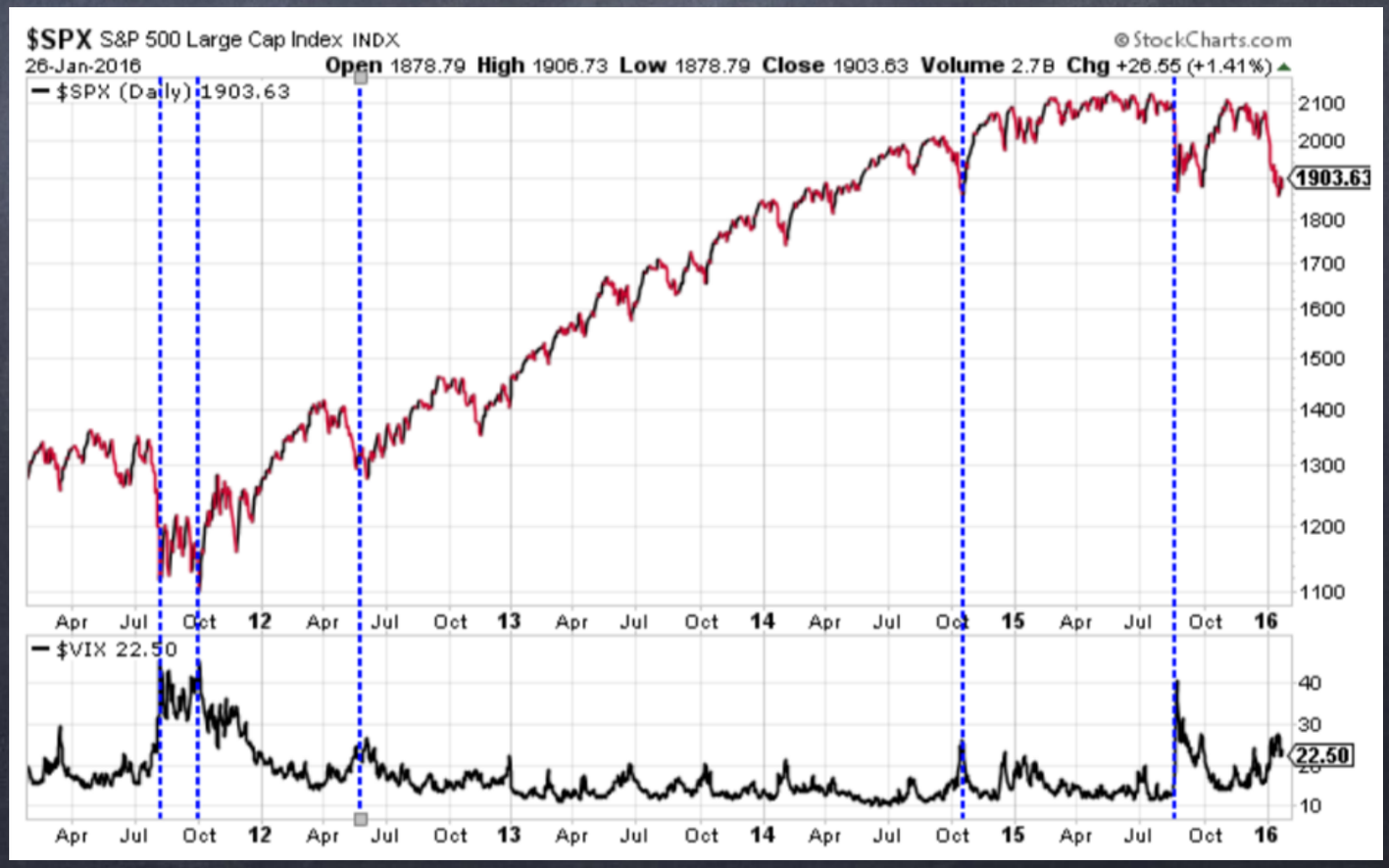
1
2
3
THETA

Wat is Implied Volatility?

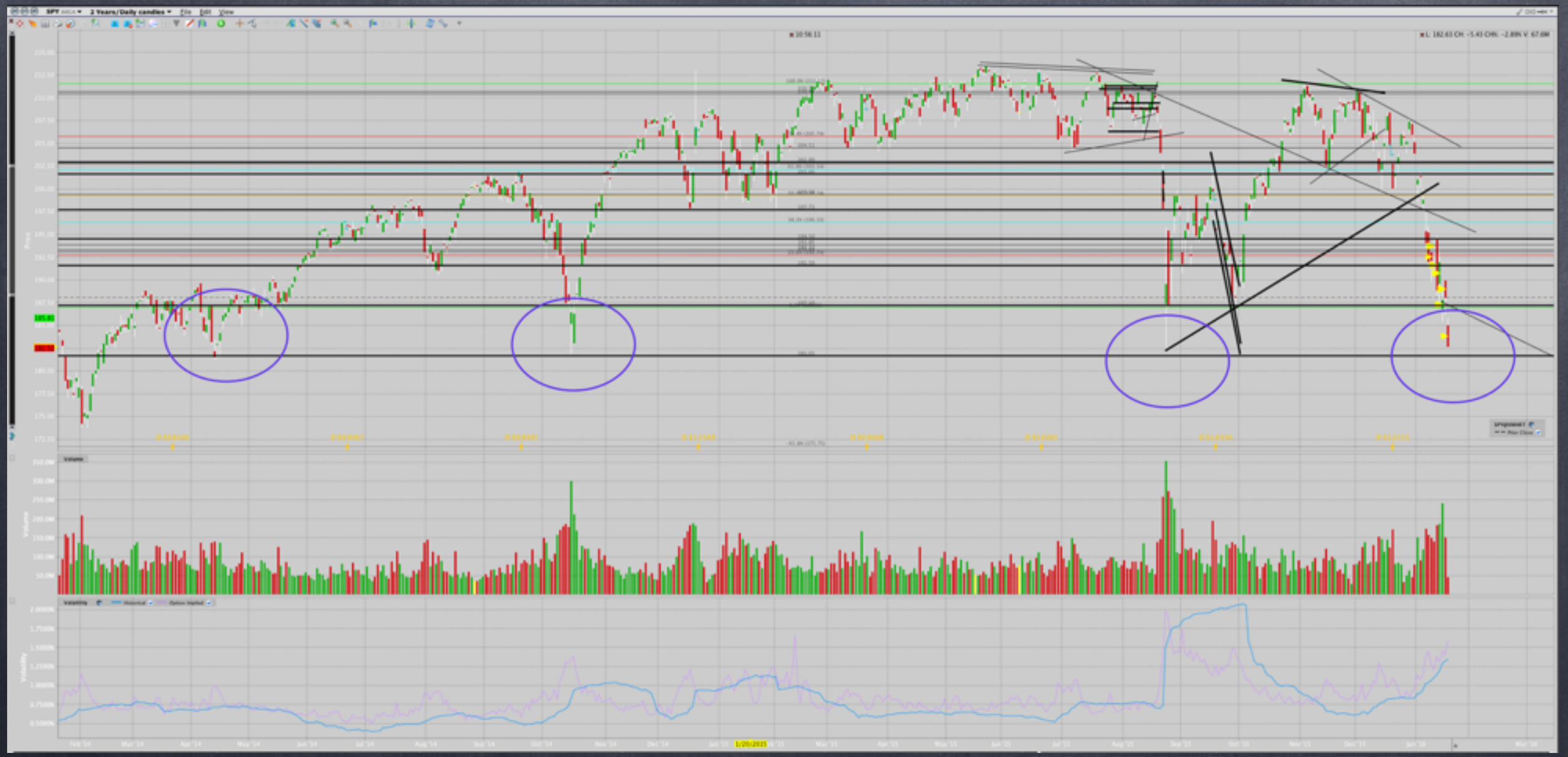


hist vola

impl vola



SPY (S&P 500)



blauw: hist vola, paars: impl vola

$/ Formules & Grieken (*)

(*) griekse variabelen

opties

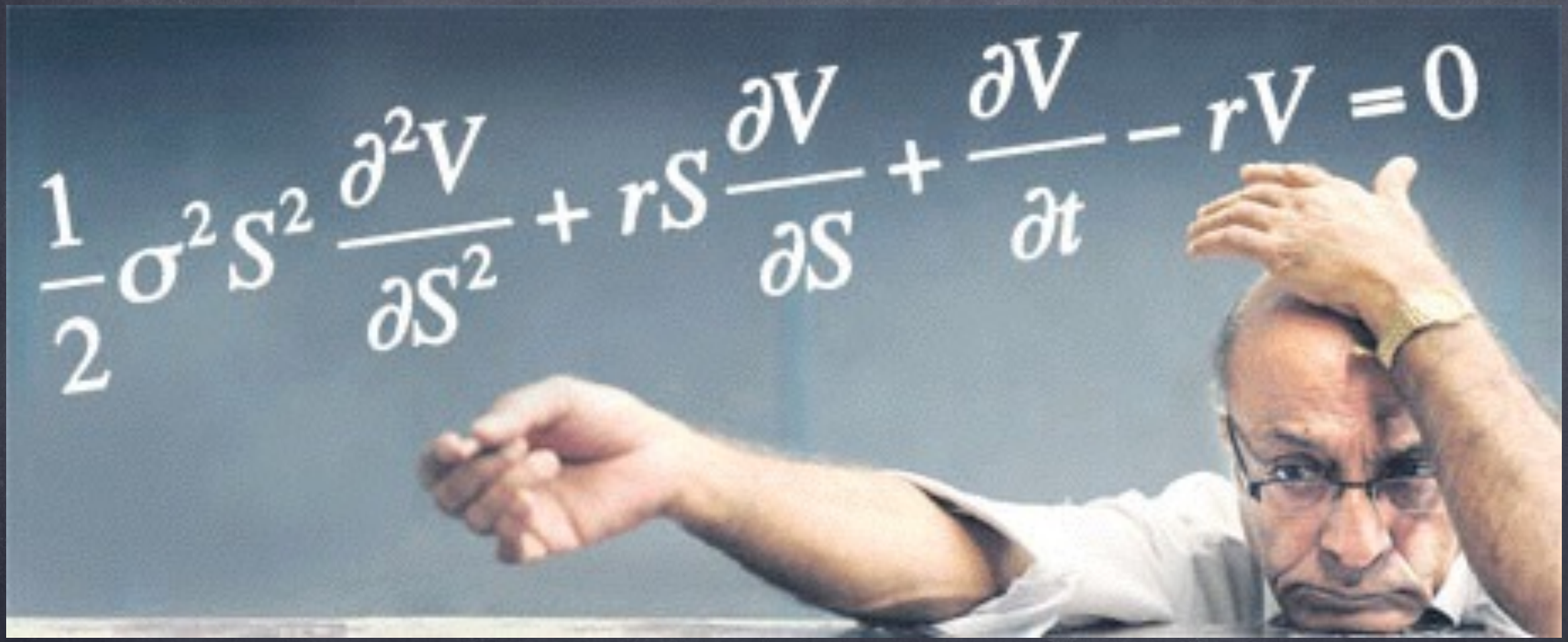
aandelen

Worth1000.com

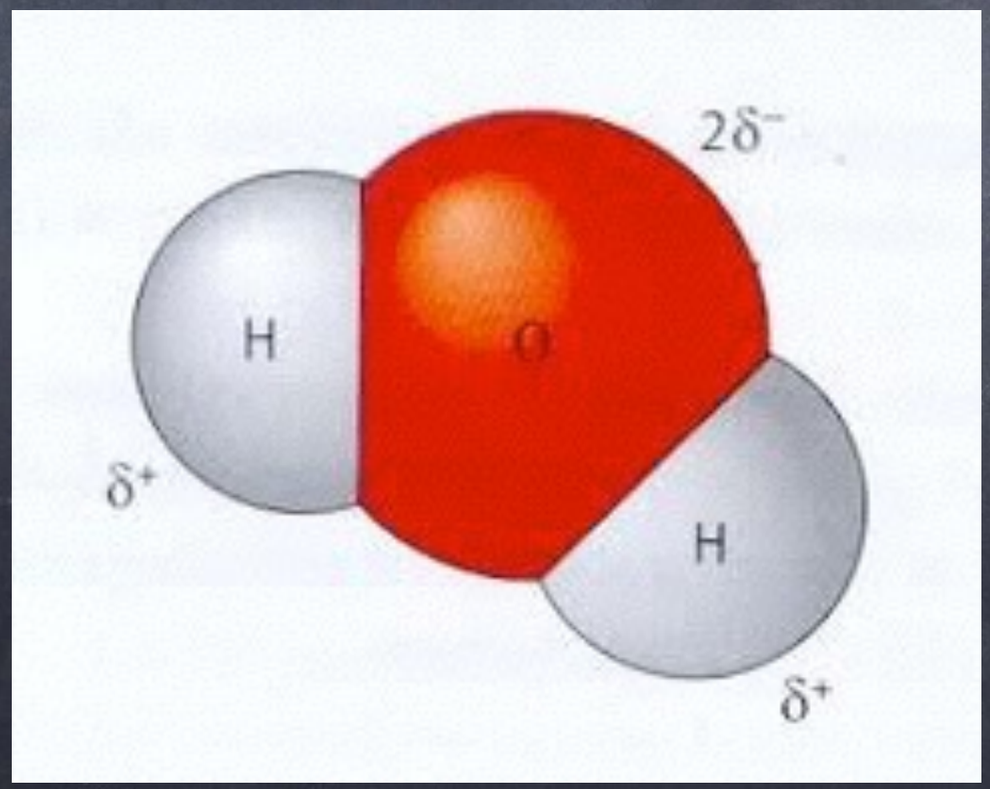
Feeling Bar

Waar komen die GRIEKEN vandaan?

Wat betekenen die GRIEKEN ???


$\frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} + rS\frac{\partial V}{\partial S} + \frac{\partial V}{\partial t} - rV = 0$

Formules



Eigenschappen:

- Hardheid
- Zuurtegraad
- Temperatuur

		Calls	Puts
Delta	$\frac{\partial C}{\partial S}$	$N(d_1)$	$-N(-d_1) = N(d_1) - 1$
Gamma	$\frac{\partial^2 C}{\partial S^2}$	$\frac{N'(d_1)}{S\sigma\sqrt{T-t}}$	
Vega	$\frac{\partial C}{\partial \sigma}$	$SN'(d_1)\sqrt{T-t}$	
Theta	$\frac{\partial C}{\partial t}$	$-\frac{SN'(d_1)\sigma}{2\sqrt{T-t}} - rKe^{-r(T-t)}N(d_2)$	$-\frac{SN'(d_1)\sigma}{2\sqrt{T-t}} + rKe^{-r(T-t)}N(-d_2)$
Rho	$\frac{\partial C}{\partial r}$	$K(T-t)e^{-r(T-t)}N(d_2)$	$-K(T-t)e^{-r(T-t)}N(-d_2)$

1e en 2e graad afgeleiden

theta
delta
gamma
vega
4 van 40 Griekse Variabelen

6/ Griekse Variabelen

- delta (prijs)
- theta (tijd)
- vega (iv)

Opties handelen = Grieken blootstelling

Delta:

OTM

ATM

ITM

De optie met uitvoerprijs 0?

opties
(option price)

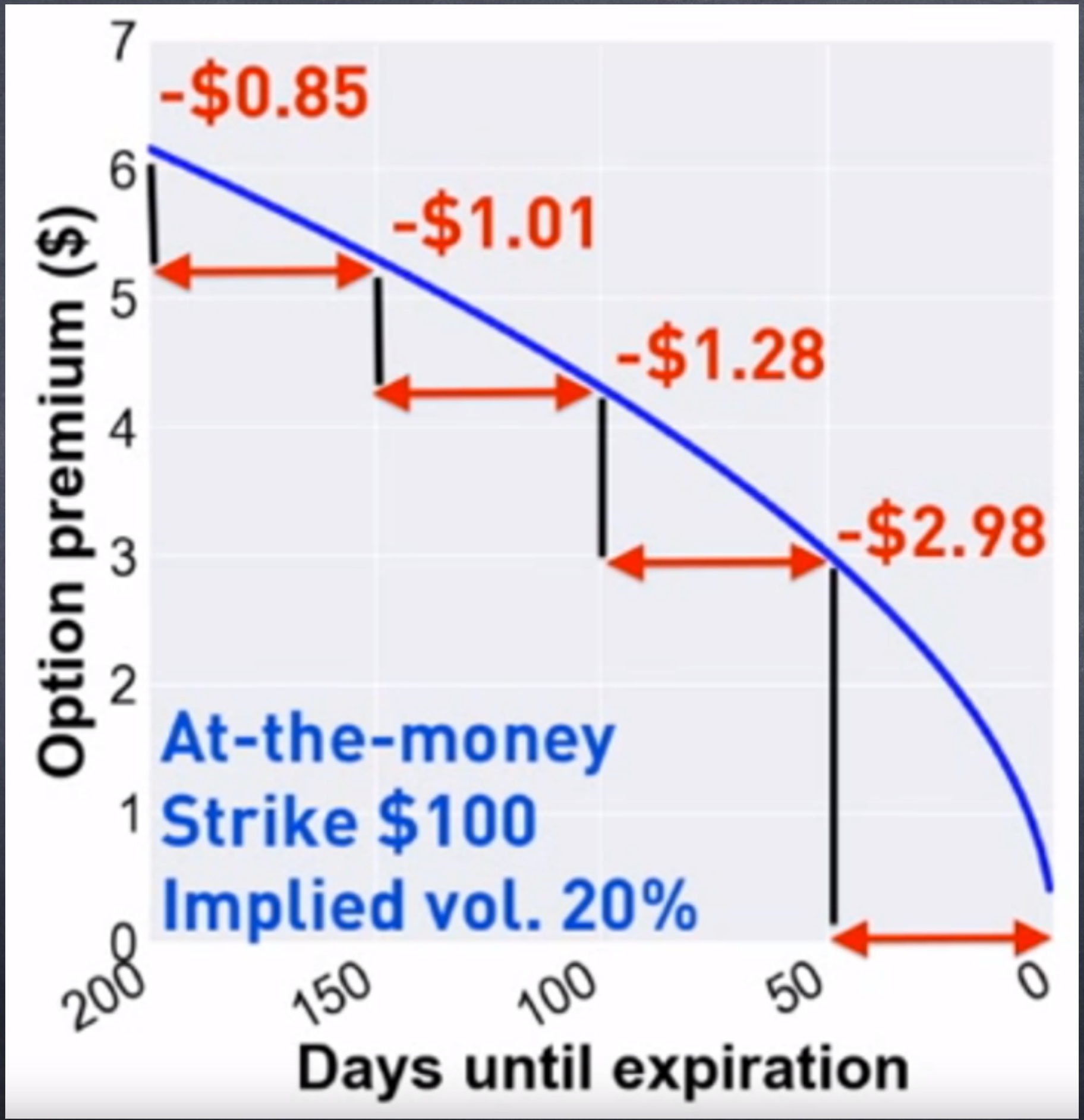
gamma

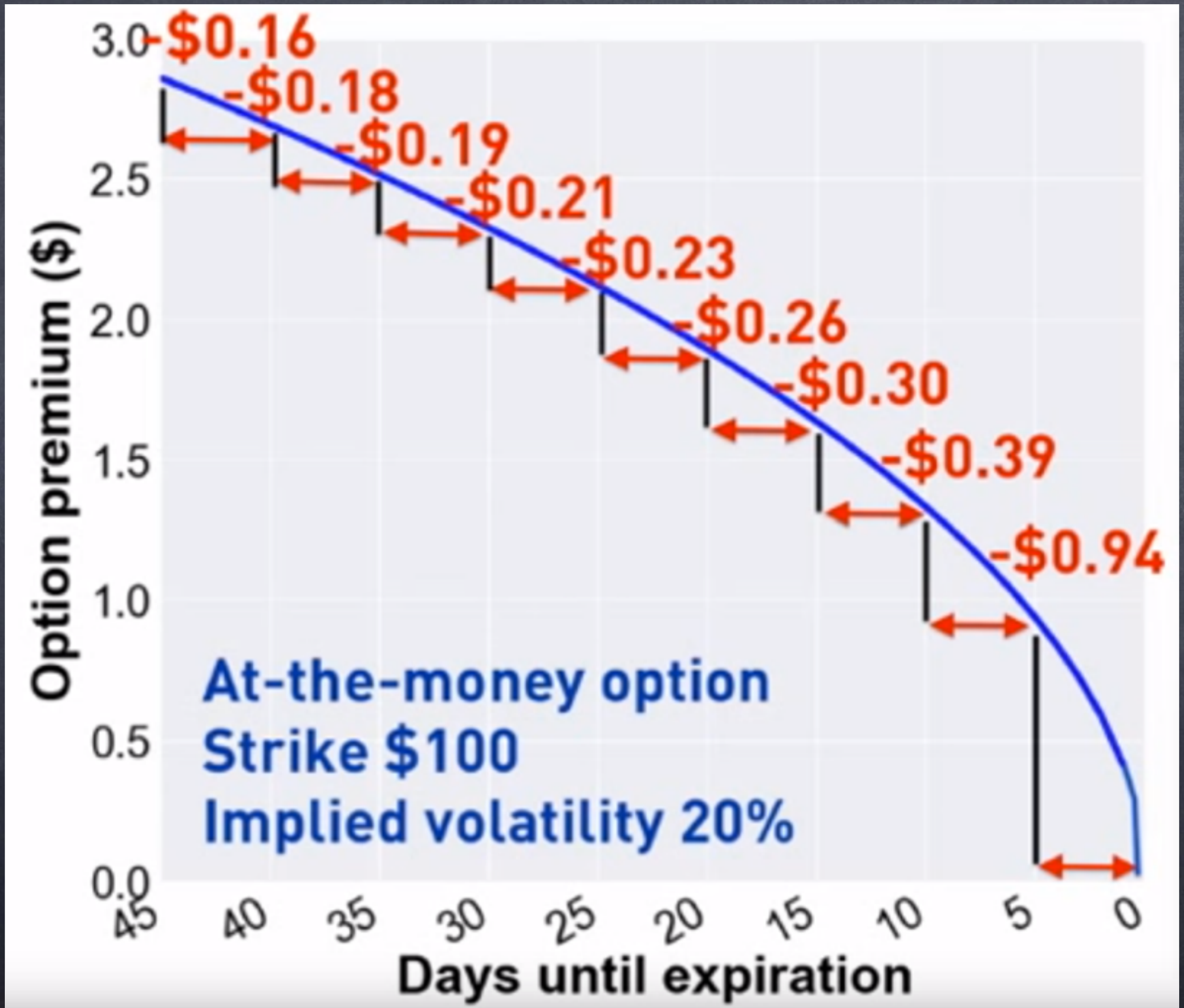
delta

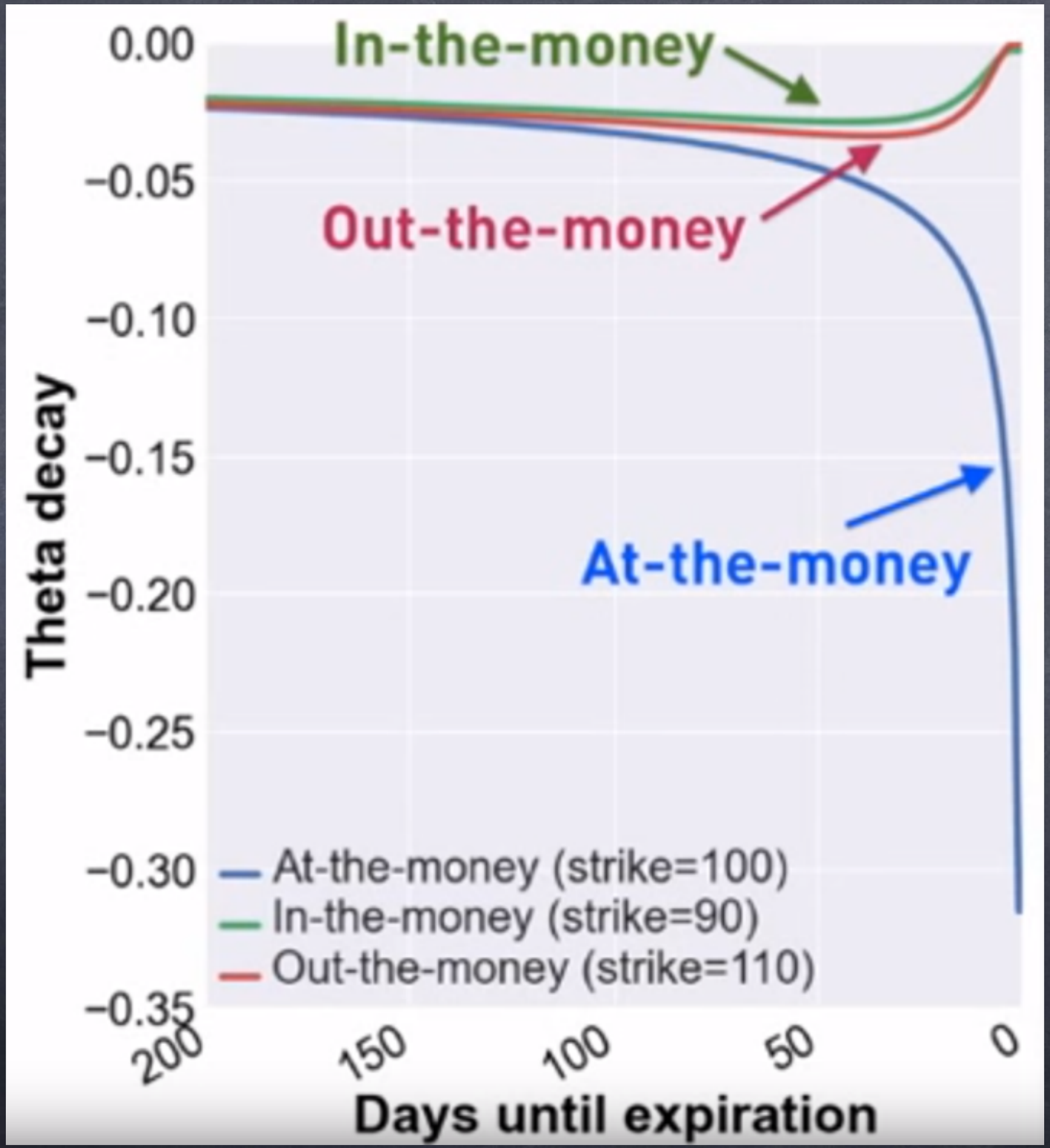
aandelen
(stock price)

theta

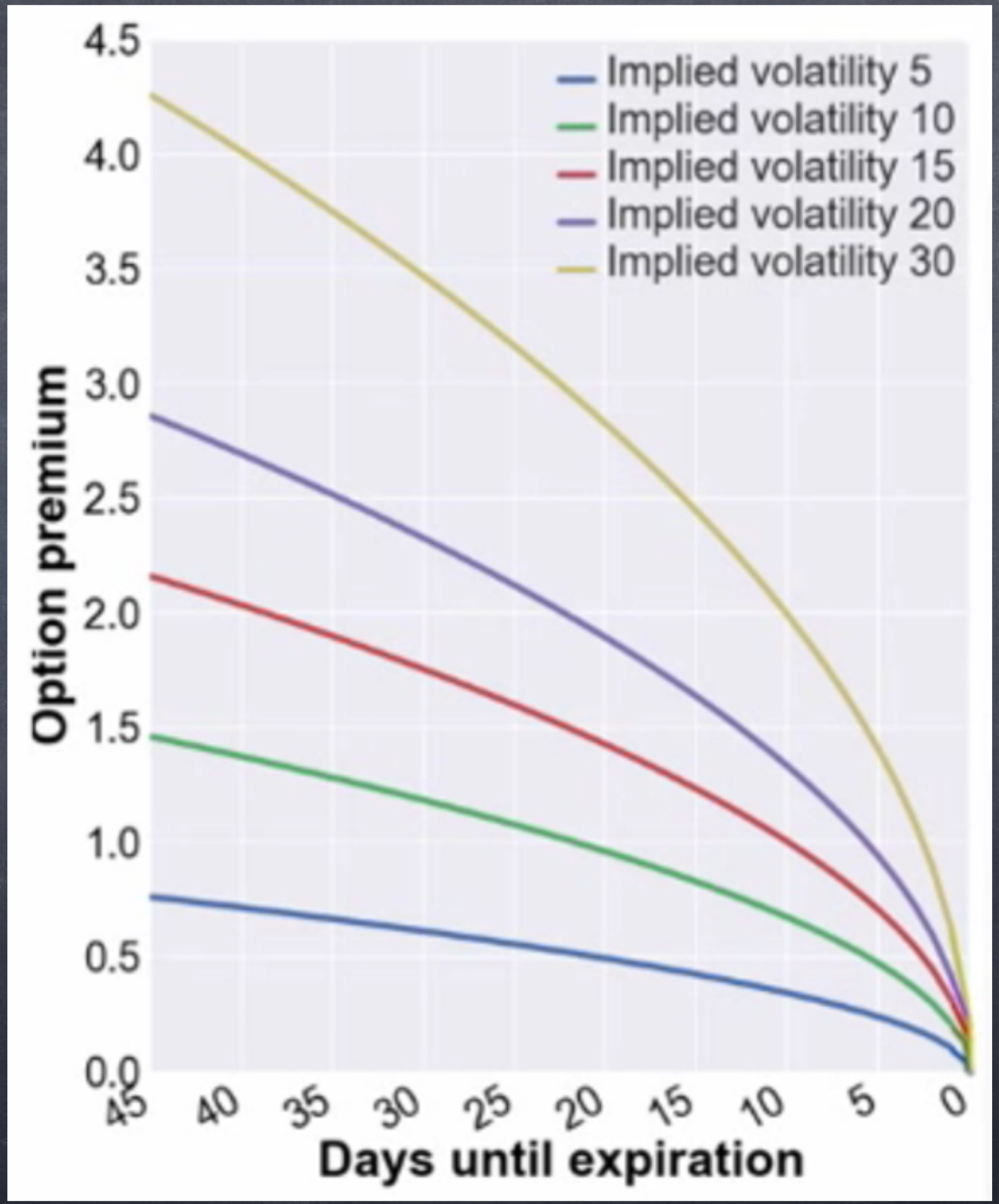
Theta (tijd)


-$0.85
-$1.01
-$1.28
-$2.98
At-the-money
Strike $100
Implied vol. 20%
Option premium ($)
7
6
5
4
3
2
1
0
200
150
100
50
0
Days until expiration

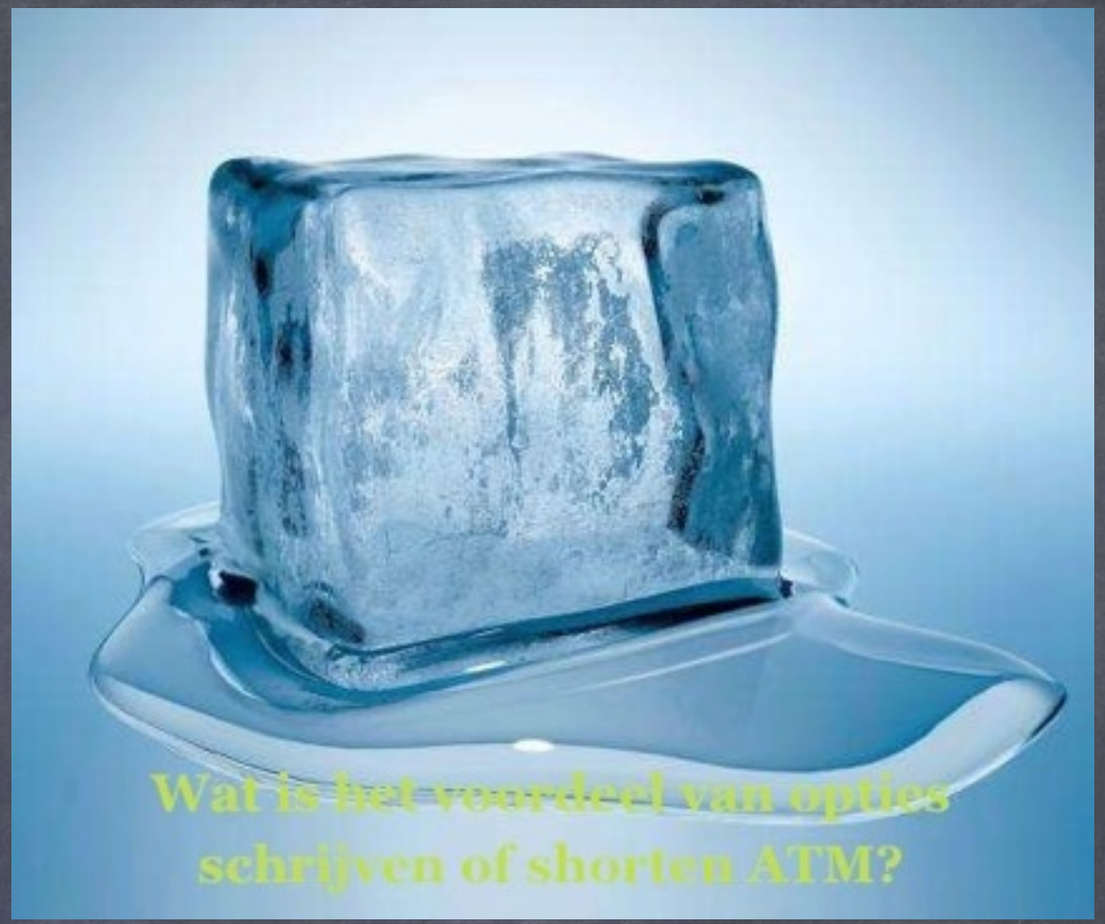

-$0.16
-$0.18
-$0.19
-$0.21
-$0.23
-$0.26
-$0.30
-$0.39
-$0.94
At-the-money option
Strike $100
Implied volatility 20%
Option premium ($)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
45
40
35
30
25
20
15
10
5
0
Days until expiration


In-the-money
Out-the-money
At-the-money
0.00
−0.05
−0.10
−0.15
−0.20
−0.25
−0.30
−0.35
Theta decay
200
150
100
50
0
Days until expiration
At-the-money (strike=100)
In-the-money (strike=90)
Out-the-money (strike=110)

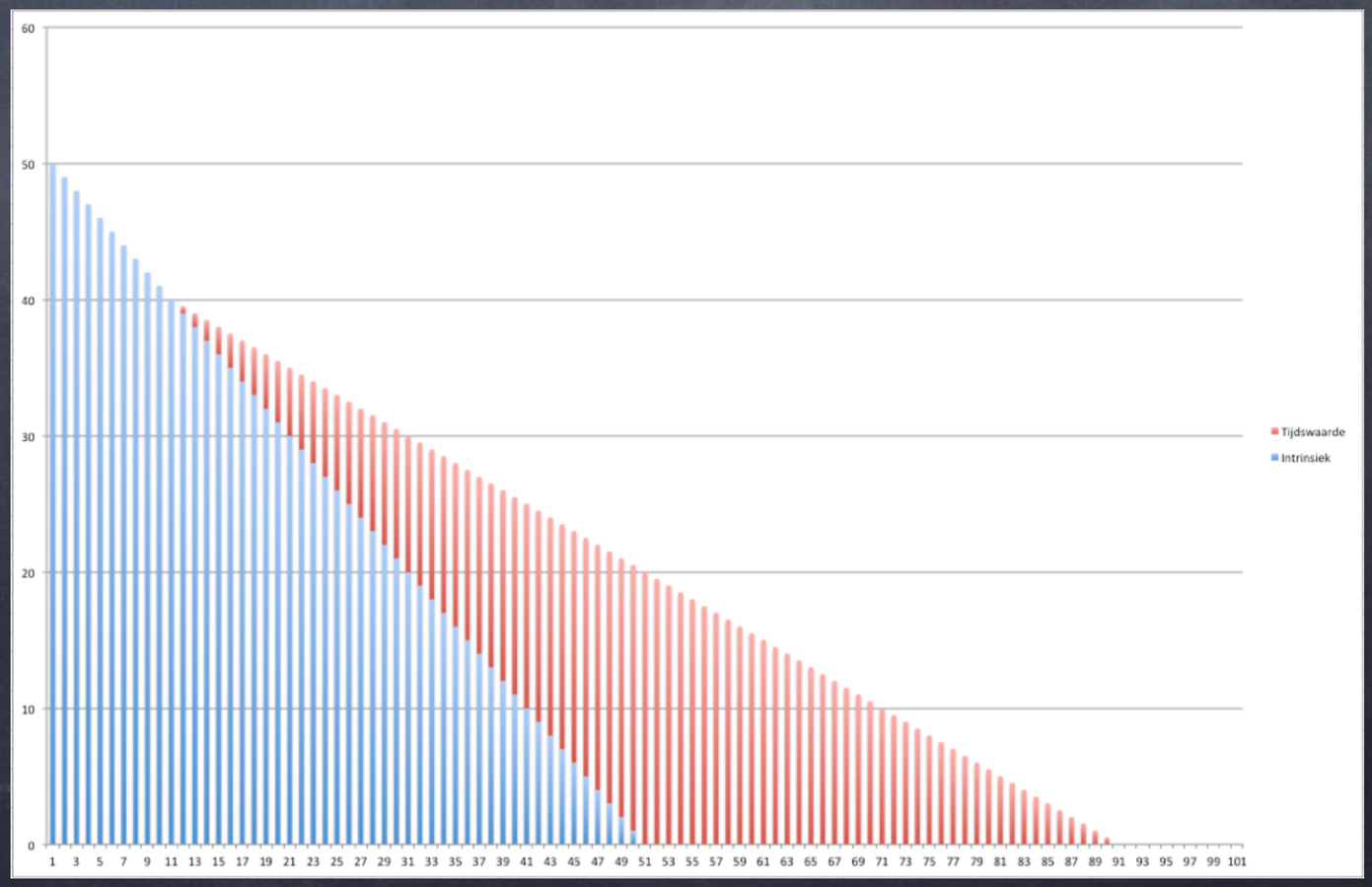
Vega


Implied volatility 5
Implied volatility 10
Implied volatility 15
Implied volatility 20
Implied volatility 30
Option premium
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
45
40
35
30
25
20
15
10
5
0
Days until expiration

Wat is het grootste nadeel van opties kopen ATM?


Wat is het voordeel van opties schrijven of shorten ATM?

dargaud presenteert
LUCKY LUKE
DE PREMIEJAGER
MORRIS & GOSCINNY
ATM
WANTED!
John Doe
$ 2.000


60
50
40
30
20
10
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101
Tijdswaarde
Intrinsiek

7/ Grieken ?

Wat? Waar?

vega

MAF

gamma

delta

2832

theta

Load

aandelenprijs

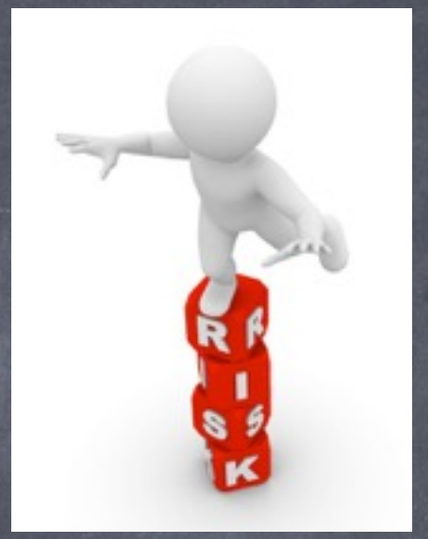
Rijd niet blind!!

8/Conclusie:

Optie = Contract

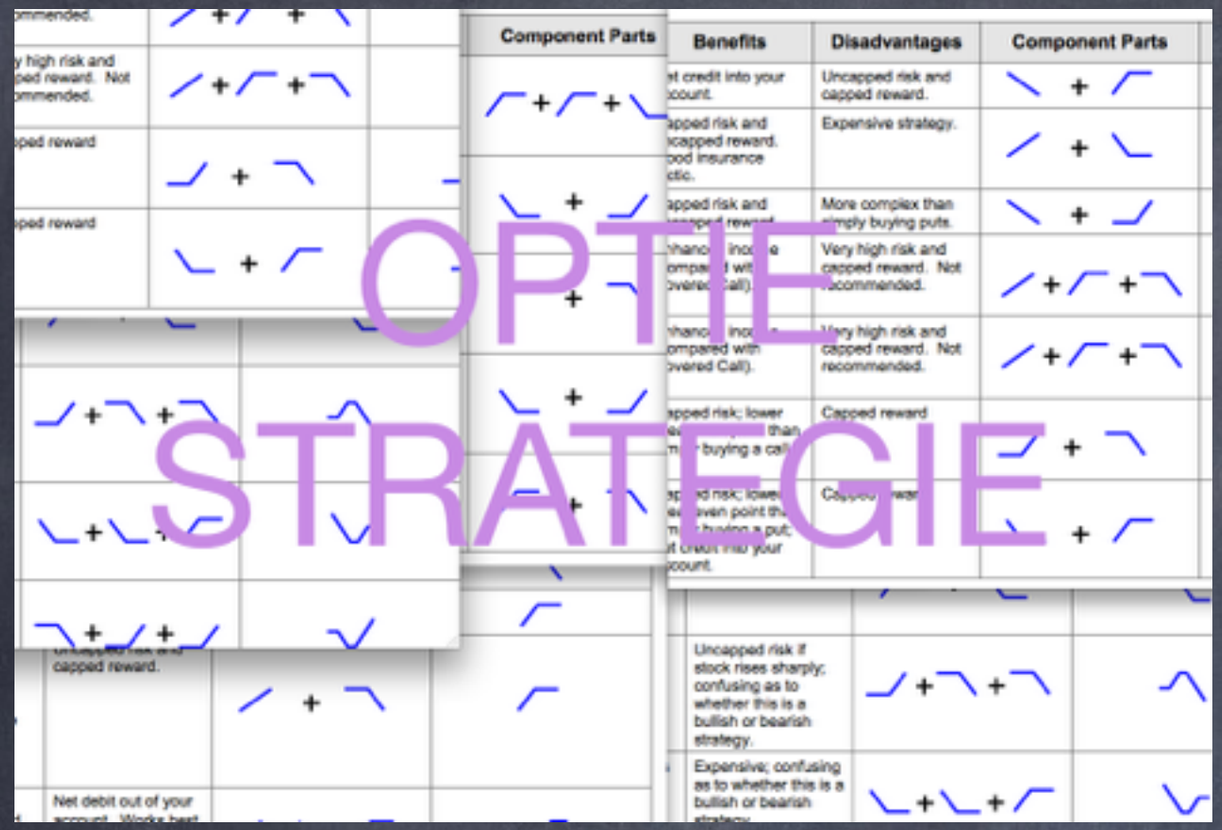
Profile	Description	Max Risk	Max Reward	Breakeven
	buy stock	purchase price	uncapped	purchase price
	short asset	uncapped	short sale price	short sale price
	buy call	call premium	uncapped	strike + premium
	sell call	uncapped	premium received	strike + premium
	buy put	put premium	strike - premium	strike – premium
	sell put	strike - premium	premium received	strike - premium

Opties handelen
=
Grieken
blootstelling
!!!



Delta Dollars	Delta (Δ)	Gamm...	Vega	Theta (Θ)
1,402	3	-25.59	431.96	629.31

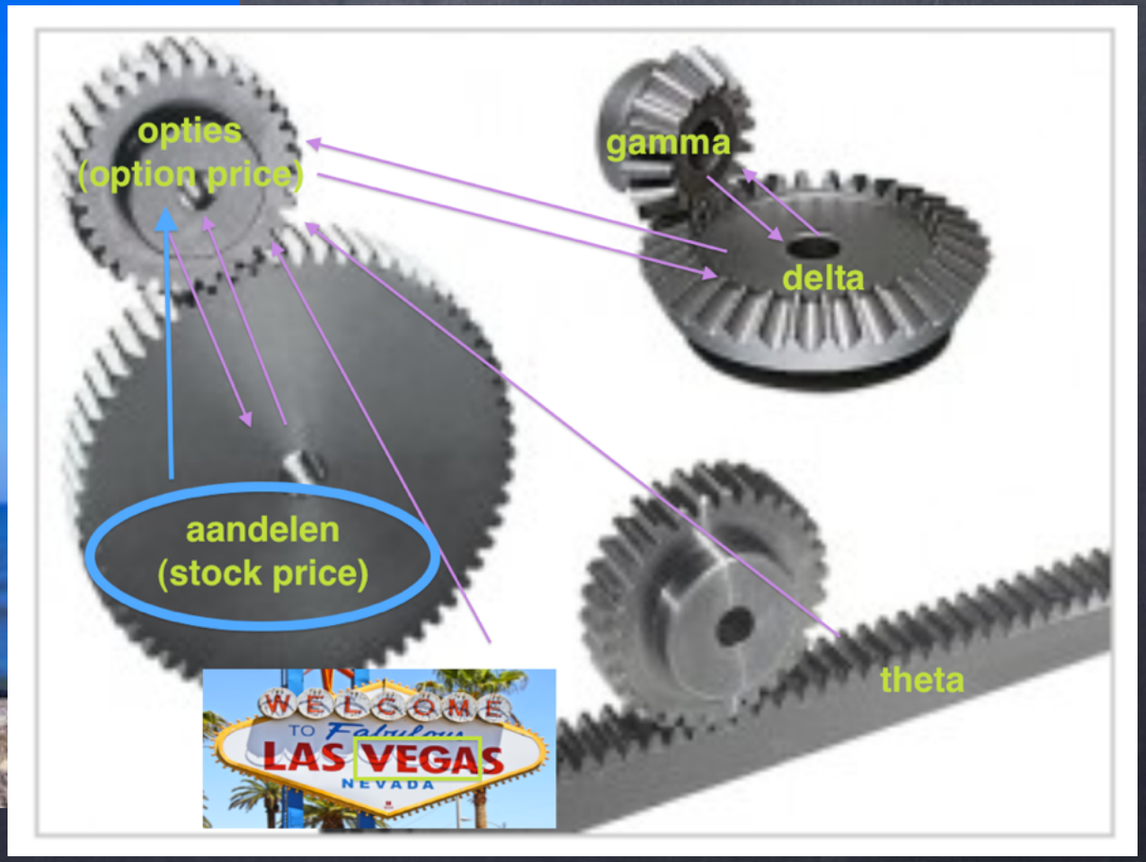
Risk Reward



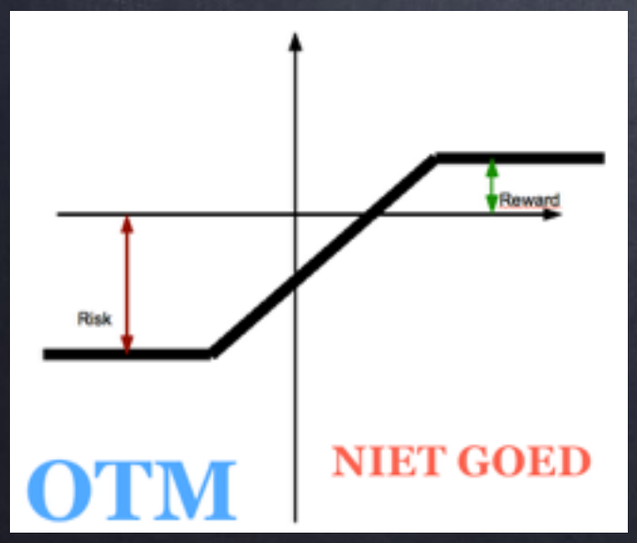
OPTIE STRATEGIE

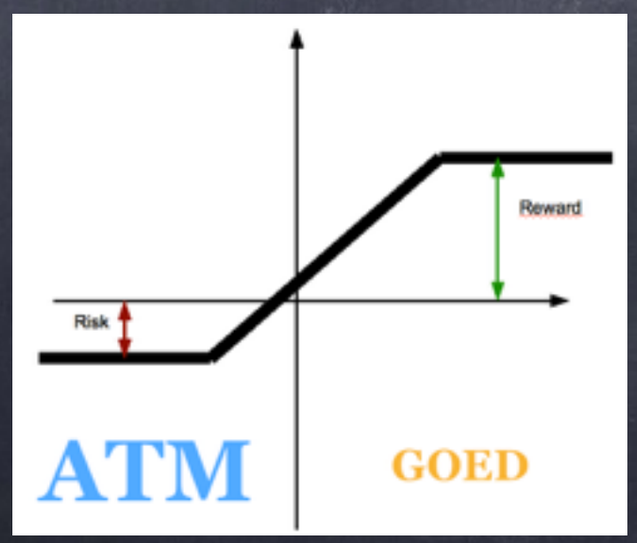
Optie-trading inkomensgericht

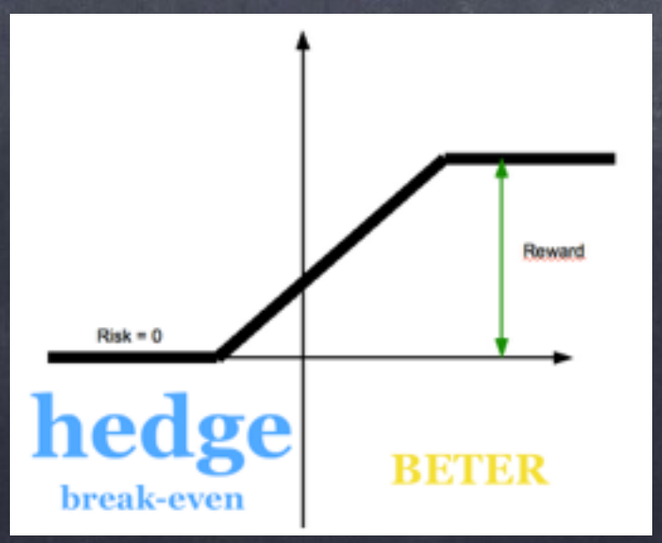
Waarom belangrijk?

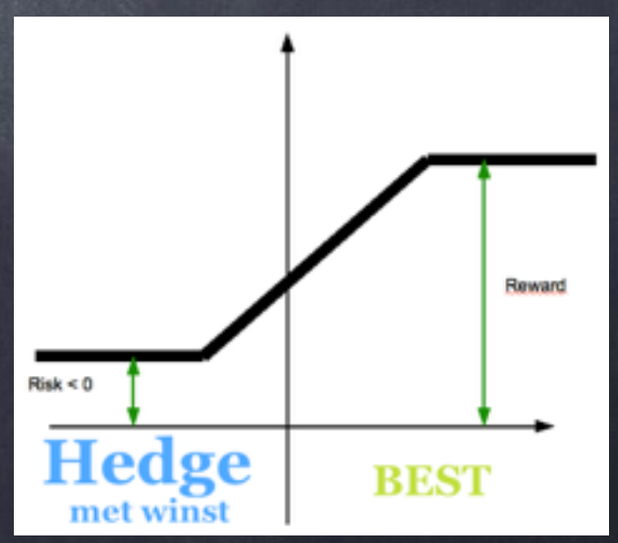


"That's all Folks!"


Reward
Risk
OTM
NIET GOED


Reward
Risk
ATM
GOED


Reward
Risk = 0
hedge
break-even
BETER


Reward
Risk < 0
Hedge
met winst
BEST