



Mathematical optimization models (quantitative / rule-based)

Why mathematical optimization models will always generate sustainable added value

Due to various influencing factors (political events, weather scenarios, economic changes, etc.), no one can predict the price development on an exchange for the future - ergo: the discretionary market participant i.e. the company has a 50:50 chance - buy (go long) or sell (go short).

By using mathematical optimization (rule-based) trading models, the company is able to handle massive volumes of data while covering a very large number of securities (stocks, futures, foreign exchange, etc.). The result is a large and extremely broadly diversified number of implementable investment ideas of high quality. The "pattern recognition" gained from this allows this 50:50 chance to rise to 88% / 90% success.

This is why mathematical optimization models are always linked to functioning risk and money management mechanisms. These are inherently quantitative concepts with multiple exit scenarios that can be clearly measured and controlled. Thus, mathematical optimization model trading in combination with risk and money management generates the added value in a sustainable manner a company are looking for.

Approach

My philosophy of mathematical optimization rule-based model trading, based on over 36 years of trading experience, follows the following approach: diversification not only via models and markets but also via methods of trading. The market does not always behave the same way, which is why it is important that models are adaptive to changing market situations.

On slide 7 the extract of over 40 awards given for the performance of my Thales Swing Trading Programme.

- Trading with mathematical optimization models always works according to "**fixed**" rules
- Daily comparison of the optimization models with the tradable products
- As soon as an opportunity is "discovered" = **comparison with risk and money management**
- No "forcing" of trading opportunities
- Organisation / process of the trade is always the same "**set-up / trigger / follow-thru**".
- Each trade from a model must be replicable !!! (pattern recognition)
- **Diversification across models & markets**

Diversification I

Models & Market Setups

Rule based trading models:

- Rules instead of forecast
- Diversification of the models

Methods of trading:

- Diversification by
- Asset classes
- Trading Style
- Markets

Models

Market

Money & Risk Management:

- Daily monitoring

- **Systematic quant.-models** (short, medium, long term)
- **Technical & fundamentally market-setup's** (short, medium, long term)
- **Trendfollowing** (medium & long term)
- **Swing Trading, Price reversals** (short term)
- **Pattern Recognition** (short & medium term)
- **Breakout, Volatility** (medium & long term)
- **Counter-Trend, Mean Reversion** (short & medium term)
- **Cycle Periods, Seasonal Trends** (long term)
- **Producer business (COT Report), Spreads** (short, medium & long term)
- Adjustment of the position size (**number of contracts**) using Algorithmic formulas to changing market conditions (**volatility**) in relation to managed assets

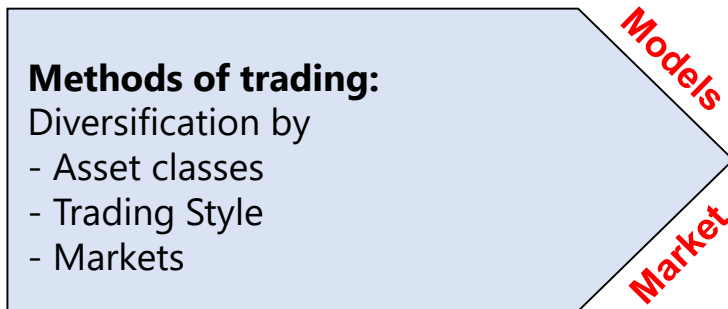
Trading Style

Diversification II

Methods & Products

Diversification by Models (Methods)

- The idea behind this is that you do not know in which "**behavior**" the market is
- Are the price movements more short, medium or long term oriented?
- It is elementary important to apply different models in different market behaviors



Models			
No.	Designation	No.	Designation
1	% R	17	Short Term5
2	Kurumschwung	18	Short Term Kanal
3	Einfache Strategie	19	Short Term STR
4	Zahltag	20	ST4Hours
5	Divergenz	21	2 Farben
6	Stochastik	22	KeltRetter
7	Nr. 4	23	Short TermHL
8	Nr. 5	24	3820
9	Bollinger	25	Divergenz Spez
10	BB Super 3	26	Spread Trading
11	Mom4weeks	27	Reversal Nr. 8
12	CroMa	28	TomHighLow
13	Tube3	29	Formel123
14	TassenDeckel	30	Oops
15	COT	31	RuBa
16	Short Term2	32	

Diversification by Markets (Products)

- Here, too, the advantages of diversification can be exploited

Set-Up / Trigger / Follow-Thru

Logical approach

1. Setup

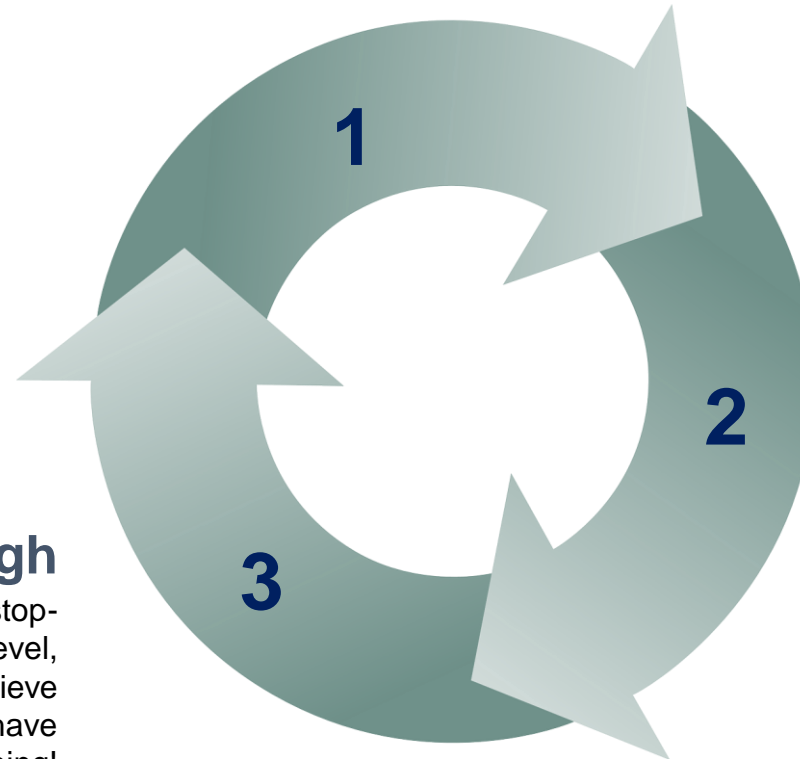
The process begins with the discovery of a statistically valid, highly repetitive pattern that can be expressed in algorithmic terms (programming codes). If it cannot be defined operationally and in formulas, it cannot be tested and therefore cannot be considered in a strategy.

Ergo: The condition must be "true" for the trigger to be activated.

3. Follow-Through

Management of risk through the use of appropriate stop-loss measures, based on market behaviour and risk level, and profit-maximising strategies (exit scenarios) to achieve the big moves. If you can't take the big moves, you have nothing!

Ergo: Only after the setup and subsequent trigger comes the "continuation" of the trade with subsequent repetition.



2. Trigger

Once one or more reliable patterns have been found, they need to be recognised in current market behaviour and considered likely to occur again this time (and in the future). There are many triggers with varying degrees of reliability. Even patterns with extremely high probability (80% or more) require a trigger.

Ergo: The "trigger" determines the time to open a position depending on the previous setup.

BarclayHedge Awards - excerpt from more than 40 Awards presented

my award-winning "Thales Swing Trading Program" - competing with around 1'507 CTAs worldwide



76x IASG Trading Awards
 17x Systematic
 23x Trend Following
 20x Diversified
 16x CTA Index





Thank you
for your attention

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