

Asset-based Commodity Trading: a NEW Potential for a Socio-Economic Cooperation

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HSG - Trading Room



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❖ Objective

- ❖ To support and promote sustainable and responsible training and research in finance related fields

❖ Mission

❖ Training

- ❖ Familiarize students with asset-based trading, risk management techniques and trading tools in a simulated - but at the same time realistic – environment

❖ Research

- ❖ Provide research opportunities in behavioral finance and related fields



Markets and Industries

- ❖ Equity Banking, Insurance, Pension Funds ...
- ❖ Fixed-Income ..., Debtors
- ❖ Energy Power, Natural Gas, Oil, ...
- ❖ Commodity Production, Metal, Recycling,
- ❖ Derivatives Investment Banking, Hedge Funds, ...
- ❖ Real Estate Insurance, Hedge Funds, ...

... the HR departments of these industries are challenged with filling the executive(-tracked) positions with social competence as well as with market competence.



Innovation in Research, Teaching & Learning

Martingale Pricing of Tradable Assets

- ❖ Expected price change over any time horizon is zero (relative to the riskless asset; money account, respectively – *normalized economy*).
- ❖ One cannot forecast up- or down movements of market prices.
- ❖ Neither up- nor downwards trends of market prices can be assessed.
- ❖ If impairments in annual reports are justified by the management / executives with “market prices too low / too high”, then one may conclude that in the past management / executives had opened risk exposures to decreasing / increasing market prices.
- ❖ The markets are efficient – at any time all public information is incorporated.



Research Trading Behavior

- ❖ Behavioral Finance analyzes...

- ❖ **Human information processing biases**

 - ❖ Representativeness bias (Kahneman and Tversky, 1982)

 - ❖ causes people to over-weight recent information and deemphasize base rates or priors

 - ❖ Conservatism bias (Edwards, 1968)

 - ❖ Investors are slow to update their beliefs, i.e., they underweight sample information which contributes to investor under-reaction to news

 - ❖ Conservatism bias implies investor underreaction to new information

 - ❖ Other biases: Over confidence and biased self-attribution

- ❖ **Limited arbitrage**

 - ❖ Limited capital means arbitrage can be limited

 - ❖ Trading, holding, information costs



HSG - Trading Room

- ❖ Innovative Teaching & Learning
- ❖ Performance-based Examination
- ❖ Research Trading Behavior

Performance-based Examination

- ❖ **To experience the actual risk to reward relationship through trading**
- ❖ **Grade Cash + Paper**

Noll, Thomas and Scherer, Pascal (2013): "Professionelle Trader in einer Gefangenendilemma-Situation"; *in: Jackmuth, de Lamboy, Zawilla : Fraud Management in Kreditinstituten, Frankfurt School Verlag, 257-280*

Stone, Robert W, and Ashley R Lyman. (2006): "The Use of a Financial Trading Room to Develop Risk Management Competency." *Journal of College Teaching & Learning* 3 (9): 93–98.

Innovative Teaching & Learning

- ❖ Experiential learning is **active instead of traditional learning**
- ❖ Experience-based knowledge transfer:
 - ❖ Use of experiential learning to aid students in the development of competency in financial trading by coupling knowledge with skill
 - ❖ Reflection loops
- ❖ While a number of academic programs address financial and risk management education, most do not provide an experiential learning component! We do!
- ❖ Also, the Association to Advance Collegiate Schools of Business International (AACSB) encourages
 - ❖ conceptual reasoning, problem-solving skills, and lifelong learning

Research Trading Behavior

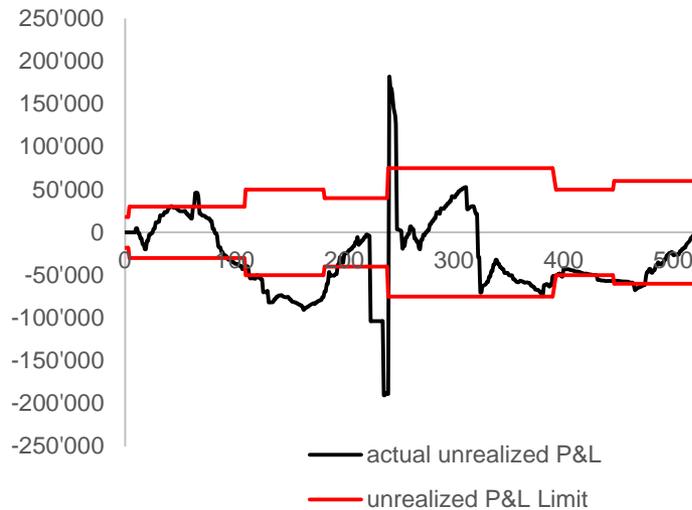
- ❖ “Do risk policies impact speculative trading behavior?”
- ❖ ... in our cases we apply real world risk limits + policies

❖ **Aspects of Behavioral Characteristics**

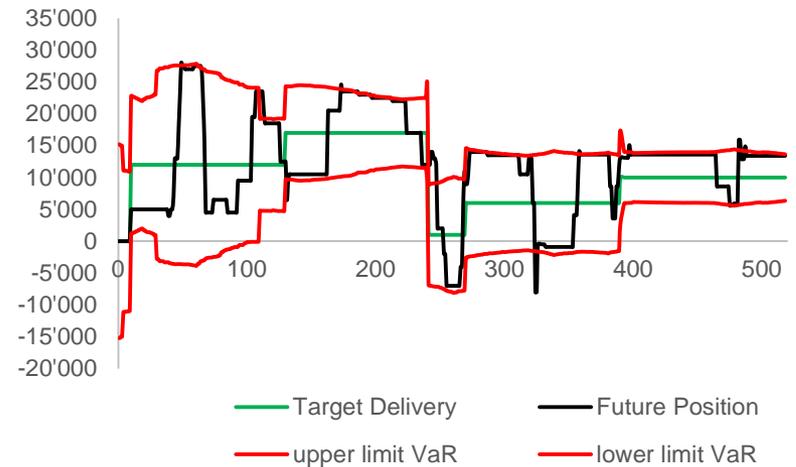
- ❖ Loss aversion
- ❖ Disposition effect
- ❖ Narrow framing
- ❖ Herding
- ❖ Anchoring
- ❖ Regret
- ❖ Mental accounting
- ❖ Media response
- ❖ Diversification
- ❖ Optimism

Performance Measurement (with risk I)

unrealized gains/losses vs. limit



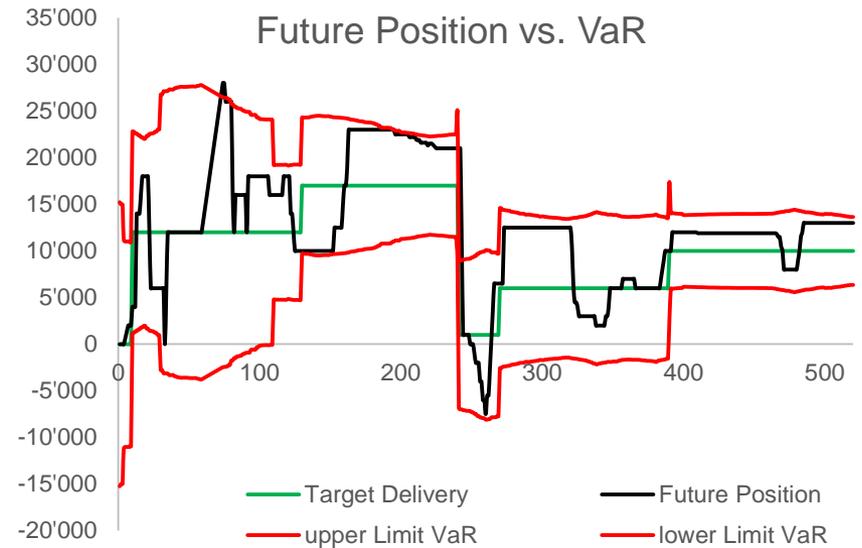
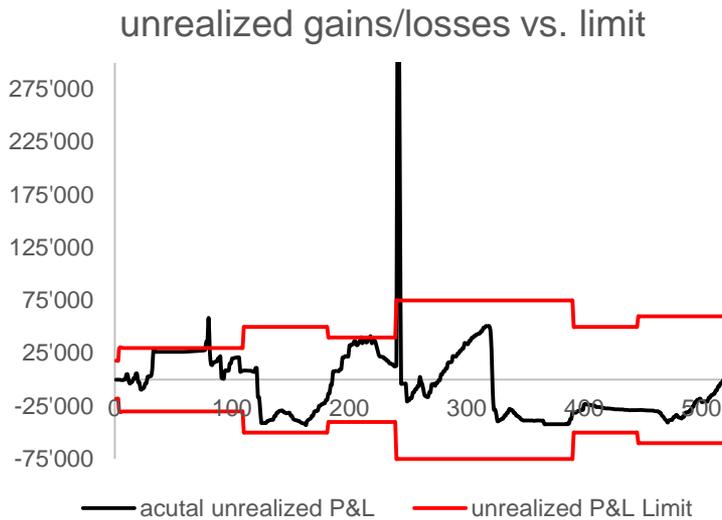
Future position vs. VaR



Trading Profits: 697,496



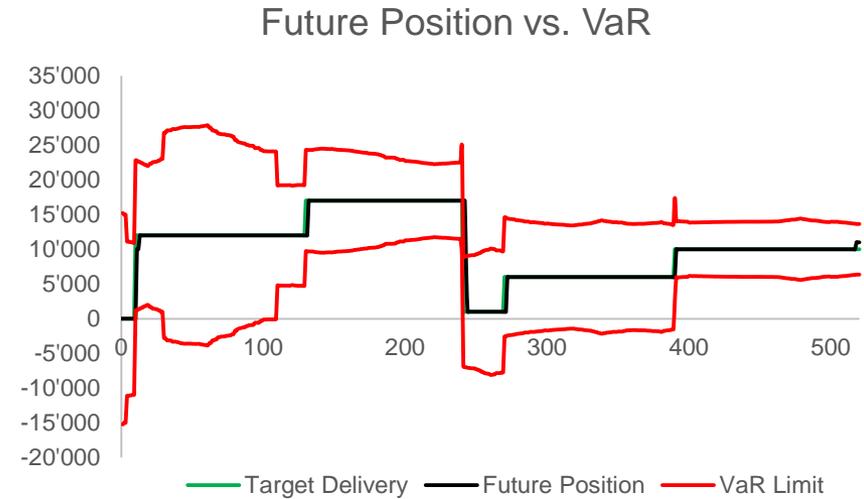
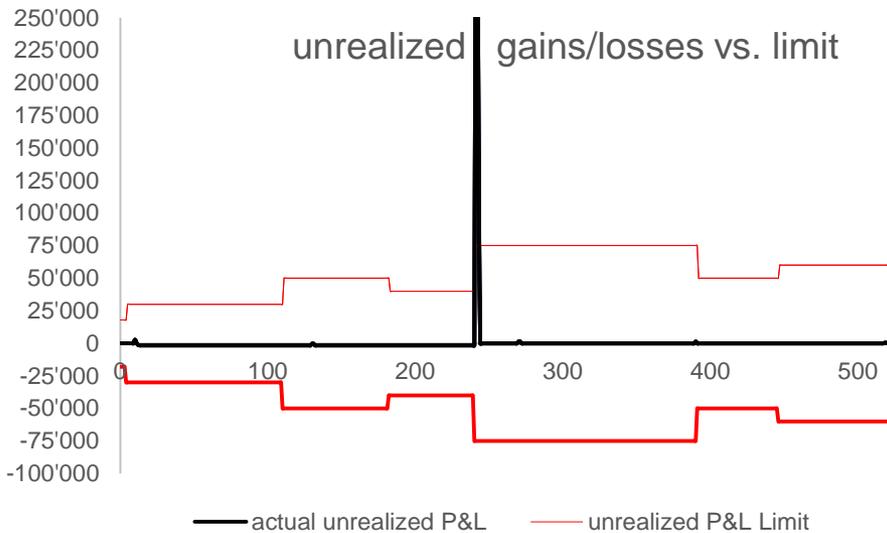
Performance Measurement (with risk II)



Trading Profits: 790,994



Performance Measurement (Riskless Case)



Trading Profits: 272,320



Parameters within Trading Algorithm

- ❖ the dynamics of market prices (short- & long-term volatility; trends)
- ❖ the market liquidity within the order book
- ❖ exercise of market power (opportunity vs. responsibility)
- ❖ distribution of market power to preselected traders
- ❖ withdrawal of market power from preselected traders
- ❖ the release of information
 - ❖ which might be relevant or irrelevant for trading
 - ❖ to preselected traders about their risk-exposure
 - ❖ to preselected traders about utilized and remaining risk capital
- ❖ reports documenting the risk-adjusted performance of a trader after the trading session

Acquire Competences (I)

- ❖ the ability to read short- and long-term volatility and information based trends of market prices
- ❖ the ability to respond to time-dependent market liquidity within the order books
- ❖ the ability to accept and/or to exercise market power in responsible manner
- ❖ the risk attitude (speculative vs. risk-adjusted trading) under different market regimes
- ❖ the risk perception of the person under different market regimes

Acquire Competences (II)

- ❖ the competences to assess whether the risk exposure exceeds the given risk limits
- ❖ the competences to reduce the risk in the open positions
- ❖ the competences to increase the risk in the open positions in line with preset risk limits
- ❖ the competences how to adjust positions in order to adhere to risk policies
- ❖ the ability to reflect the own trading performance with respect to risk-return indicators

Cooperation: Social Scientists and Economists

- ❖ **Vision to assess, characterize, measure and improve skills in**
 - ❖ Reading Markets
 - ❖ Refinancing Debts
 - ❖ Managing Open Positions
 - ❖ Managing Wealth
 - ❖ Optimizing Capital Structure
 - ❖ Measuring, Managing and Controlling Risk
- ❖ **for increasing the performance of human capital**
- ❖ **and supporting sustainably a robust and sound economy**

Commonalities and Differences to HEC Business Game

❖ Commonalities

- ❖ Computer based learning and active trading
- ❖ Taking decisions under uncertainty
- ❖ Apply known theories (e.g. macro economics, FX, Energy, business cycle) on new circumstances

❖ Differences

❖ HSG-Trading Room:

- ❖ finance course on bachelor, master and Ph:D. level,
- ❖ focus on commodity markets, derivatives, pricing, price development and price anomalies, risk and trading strategies, exercise of market power

❖ HEC Business Game:

- ❖ general business studies course on bachelor level,
- ❖ development of a business strategy for a company in groups



The Trading Courses at HSG (per January 14, 2016)

❖ **Bachelor's Level** (Autumn 2015)

- ❖ Asset-based Commodity Trading (*Evaluation done*)

❖ **Master's Level** (Spring 2016)

- ❖ Advanced Asset-based Trading (MBF)
- ❖ Equity Analysis and Performance-based Security Trading (MAccFin)

❖ **Doctorate Level** (Autumn 2017)

- ❖ Complex Cross Commodity Derivatives

....thank you for your attention



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