

Automated Trading Workshop

Programme 2008

Day Format

09:00 - 09:30 Registration

09:30 - 11:00 Session 1

11:00 - 11:15 Break

11:15 - 13:00 Session 2

13:00 - 14:00 Lunch

14:00 - 15:30 Session 3

15:30 - 15:45 Break

15:45 - 17:00 Session 4

Session 1

Introductory film - 2 minutes

1 - Personal background / market experience

2 - What we will cover in workshop

3 - Trading Systems Background

- What is a trading system?
- Types of trading systems
- The benefits of trading systems
- Market experience can be source of trading system ideas

4 - How do we create and test a system?

- Data
- Strategy
- Coding / Testing
- Analysis of results
- Multiple systems / markets

5 - Data

- Chose market for testing - ie: Crude Oil
- Creating adjusted contracts from individual futures contract data
- Trading adjusted data and costs
- Dividing data into in and out of sample segments
- Data integrity checking code

6 - Example System 1 - Long Term

- Ideas for a long / short trend following system
- Normal distribution - Statistical outliers
- Entry and exit criteria

7 - Writing Example System Code

- How to write a system in programming language
- The conventions of programming syntax
- Functions, variables and loops

8 - Enhancements to Example System

- Importance of money management
- Stop loss - fixed, trailing
- Profit targets - total or partial exit
- Slippage and costs

Session 2

1- Example System 2 - Medium Term

- Outlining the logic of proven system
- Shorter trade duration - 5 days
- Trading frequency 30 trades a year

2 - Writing System Code

- Development of entry and exit criteria
- Addition of filters and effect on performance
- Addition of profit targets and stop losses

3 - Optimisation

- Benefits and pitfalls

- Curve fitting
- Optimisation of test system variables
- Selection of most robust variable sets

4- Example System 2 - Medium Term (contd)

- Position sizing algorithms added
- Fixed fraction, Kelly, Optimal F

5 - Back Testing System

- Performance on out of sample data results examined
- Testing system on other markets
- Analysing results for robustness

Session 3

1 - Portfolio selection

- Chose range of markets for system portfolio
- Is there enough liquidity?

2 - System tests

- Run optimisations of system variables across data
- Chose individual market parameter sets
- Chose average portfolio parameter set

3 - Portfolio Results

- Run system across portfolio for individual parameters
- Run system across portfolio for average parameters
- Select markets that have qualifying performance

4 - Correlation

- Correlation measures discussed
- Correlation of markets
- Correlation of system results

5 - Cross Correlation

- Write code to run cross correlation tests
- Import correlation data to spreadsheet
- Create correlation matrix

6 - Selection of portfolio constituents

- Create portfolios of different levels correlation
- Test and examine portfolio results
- Make final portfolio choice
- Run system on older out of sample data

Session 4

1 - Portfolio Money Management

- Reinvesting profits
- Level of gearing

2 - Portfolio Level Enhancements

- Diversification
- Even out trade entry with range of parameters sets
- Adding complementary trading strategies

3 - Ongoing System Profitability

- chi-square

4 - Trading Practicalities

- Trading costs
- Slippage
- Trading hours
- Market announcements

5 - Psychology

- The right system for you
- Time off
- Sharing the load

6 - Comparative System Performance

- Other indices
- Hedge funds