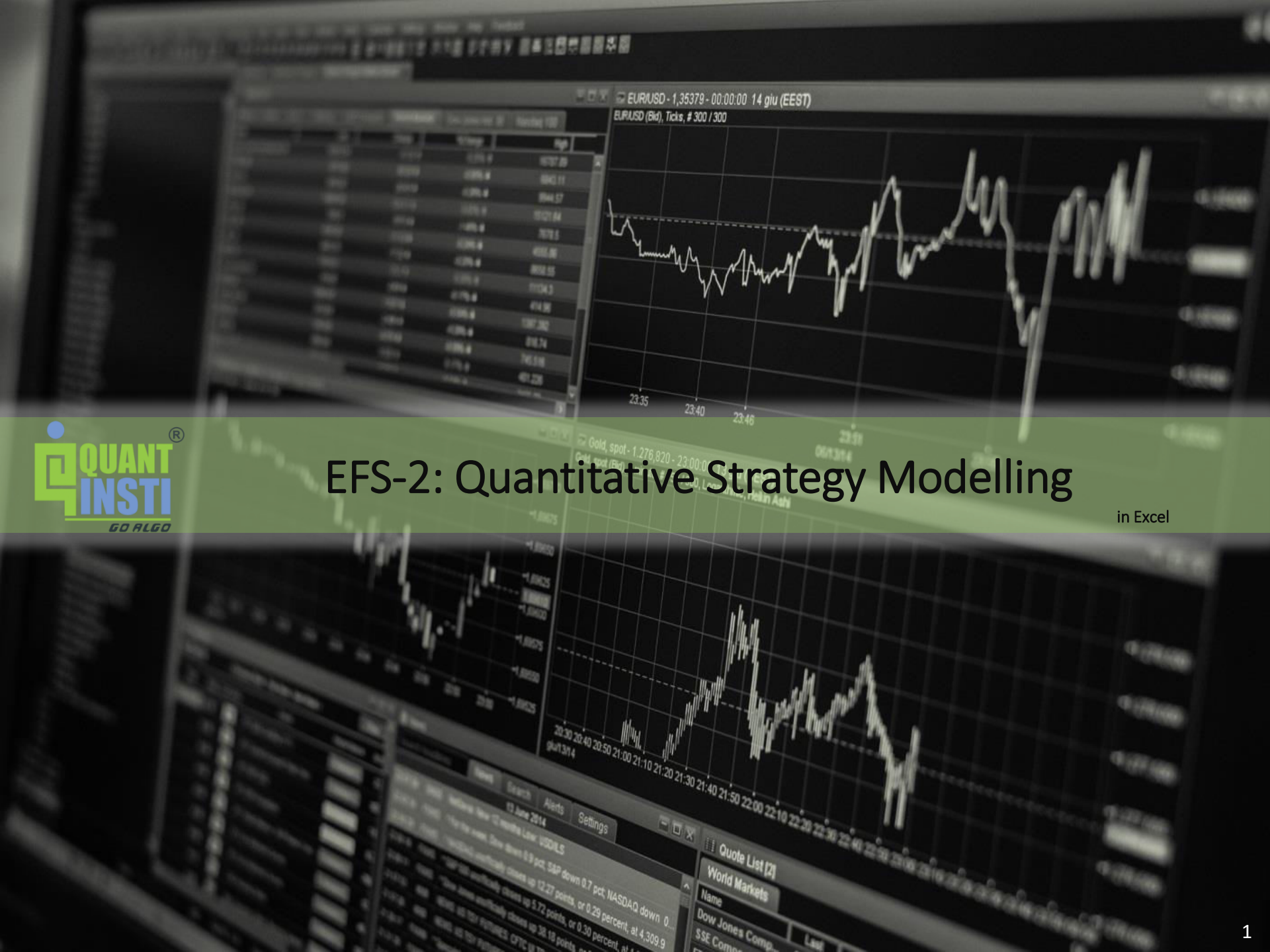

EFS-2: Quantitative Strategy Modelling

in Excel

Agenda

- To model a strategy, which can be extended to various strategy types
- Basic optimization methods
- Limitations
- Next steps

Excel Pre-requisites

Good to know the following formulas:

- COUNT, SUM, MAX, MIN, AND, OR
- IF conditional statements
- COUNTIF, SUMIF
- INDEX or OFFSET

Sample Strategy

A simple break-out strategy

- We initiate a new buy trade if the price goes above ‘x’ candles high
- We initiate a new sell trade if the price goes below ‘y’ candles low
- Exit trade when:
  - Price goes against us by ‘a’ times ATR (Average True Range)
  - Price goes in our favor by ‘b’ times ATR (Average True Range)
- Only take one position at a time. Ignore new signals if there is an ongoing trade
- Fixed position size of 1 ‘quantity’

True Range (TR): MAX(H-L, H-PCC, PCC-L)

$$ATR(i) = \frac{ATR(i-1)*(n-1)+TR(i)}{n}$$

ATR(1) = Average of previous ‘n’ TRs

Tracking Status

Possible cases in the previous status cell:

- No ongoing trade
- A stop loss (SL) was triggered
- A take profit (TP) was triggered

Implication for the current status cell:

- Pick as per the current signal

Possible cases in the previous status cell:

- An ongoing buy trade
- An ongoing sell trade

Implication for the current status cell:

- Check if SL or TP is triggered and proceed accordingly

Basic Optimization

- Data Tables

Knowing the Limitations

- Discrete Data
- Excel

Next Steps

Things that you can now do:

- Change the entry/exit criterions to model different trading strategies
- Mix different methods/signals for entry & exit
- Include scaling up positions
- Introduce end of day square off
- Try out trailing stop loss

Have fun,
model your ideas!