Position / Risk Factor

Risk-based Factor Example: Position

Consider a proprietary trading strategy in which a variety of signals are working.

In the absence of information you would prefer to *not* have a position:

1. If you are long you would prefer to be flat (sell to close)

2. If you are short, you would prefer to be flat (buy to close)

Risk-Based Factor Example: Position

We can again express this the signal as a continuous function:

$$FV = midpoint_j - b_{jF}F_j$$

Where

b_{jF} = loading of the position factor

F_j = risk adjustment factor described in spread units in the range [–0.5..0.5]

- State 1: Long (sell): FV = the bid price = midpoint – 0.5
- State 2: Short (buy): FV = the offer price = midpoint + 0.5
- State 3: 0 position: FV = midpoint + 0
- States between 1 and 2: FV = midpoint + F_j spread units

Risk-Based Factor Example: Position

See Market-Making v2.ipynb

Still To Do

1. Real-time P&L
2. Modulate quote size based on liquidity
3. Hedging – using another instrument to manage risk