



# Cryptocurrency High-Frequency Liquidity Strategy based on Orderbook Behavior

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## Motivation

- Cryptocurrency market is renowned for its high volatility and fragmented liquidity across different exchanges.
- **Liquidity** plays a crucial role in determining the efficiency and stability of the market.
- Liquidity is **not only a trading consideration but also a crucial element of risk management.**
- Orderbook Behavior which reflects real-time market, also liquidity conditions.



# Motivation

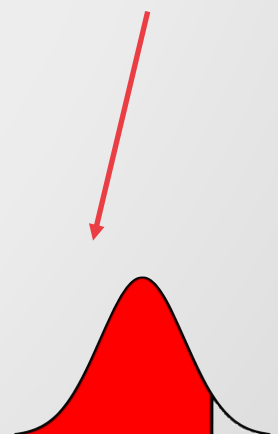
- Goal: Develop a **predictive model for cryptocurrency liquidity** using orderbook data.
- Why the project is important:
  - Improving Market Efficiency
  - Risk Management through Liquidity
  - Reducing Trading Costs



# Motivation

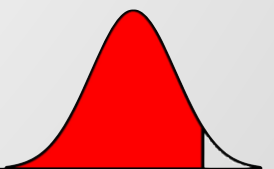
- Motivate your presentation on 3-10 slides
- Attract the audience
- Disclaimer: A short summary of the style guide for presentations

this is a lead picture



# Outline

1. Motivation ✓
2. Styleguide



# Slide Title

- Use

- All

  - ▶  $w_2$

  - ▶  $w_3$




# Logo and Links to Quantinar Courselets

- Use Quantinar icon and name as source 



## Logo and Links to Quantlet/GitHub

- Use Quantlet icon and name as source
- Hyperlink both to GitHub repository  Styleguide
- Change the presentation logo in the master slide (see View/Edit Master Slide, shortcut: Shift-Command-E)





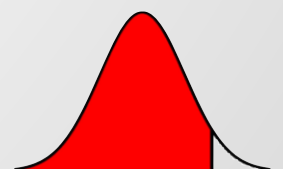
## LvB notations 1

- Use the formula creator within keynote 'Insert/Equation'
- All operators are to be defined by \operatorname{*operatorname*{}}
  - ▶ without operatorname: ~~*argmax<sub>i</sub>f(x<sub>i</sub>)*~~
  - ▶ with operatorname: **argmax<sub>i</sub>f(x<sub>i</sub>)**
- Equations covering multiple lines may be written aligned
- Use bracket sequence  $\{ \{ ( \dots ) \} \}$
- Conventional bracket rules represent and exemption of the rule above. For example:  $Y \sim \mathcal{N}(\mu(X), \sigma(X))$



## LvB notations 2

- Use `^{\top}` to write the transpose symbol:  $x^{\top} x = \| x \|^2$
- Use `\ldots` to write the three dots symbol:  $x \in \{1, \dots, n\}$
- Use `\widehat{\}` and `\widetilde{\}` rather than `\hat{\}`, `\tilde{\}`:  $\widehat{Y}, \widetilde{Y}$
- Write norms via `\|`:  $\| x \|^2$



## LvB notations 3

- ▣ The for convergence may be written with `\mathcal{O}`:  $\mathcal{O}$
- ▣ The operator for exponential terms with Euler's number as the base is defined by `\exp`:  $\exp(1) \approx 2.718$
- ▣ Use `\overset{\mathcal{L}}{\rightarrow}` to write the symbol for convergence in distribution and denote the normal distribution by `\mathcal{N}`, this produces  $X \overset{\mathcal{L}}{\rightarrow} \mathcal{N}(0, \sigma^2)$
- ▣ Use `\overset{\text{as.}}{\sim}` to write the symbol for asymptotic distribution  $X \overset{\text{as.}}{\sim} \chi^2$
- ▣ To define a function, variable etc. use `\overset{\text{def}}{=}`  $f(x) \overset{\text{def}}{=} ax + b$



## LvB notations 4

- Use `\log` for the natural logarithm:  $\log\{\exp(1)\} = 1$
- Use `\mathsf{E}` for expectation:  $\mathsf{E}[X] = \mu$
- Use `\operatorname{P}` to write the symbol for probability:  $\operatorname{P}$
- Use `\operatorname{\mathbf{I}}` for the indicator function:  $\mathbf{I}\{x < 1\}$
- Use `\varepsilon` instead of epsilon:  $\epsilon \rightarrow \varepsilon$



# Tables

- Follow the Cambridge University Press Style
- Round appropriately (as much information as necessary, as little as possible)
- Align decimal points

$d$	10	11	12
10%	2.2886	2.4966	2.6862
5%	2.5268	2.7444	2.9490
1%	3.0339	3.2680	3.4911



# Figures

- Give informative axis labels
- If x- and y-axis are on the same domain, the plot should be square
- Use same color scheme for multiple plots if they show the same content.





# TEN Template

Your Name

Repeat on last slide the lead picture

Your affiliation

[Your Webpage](#)